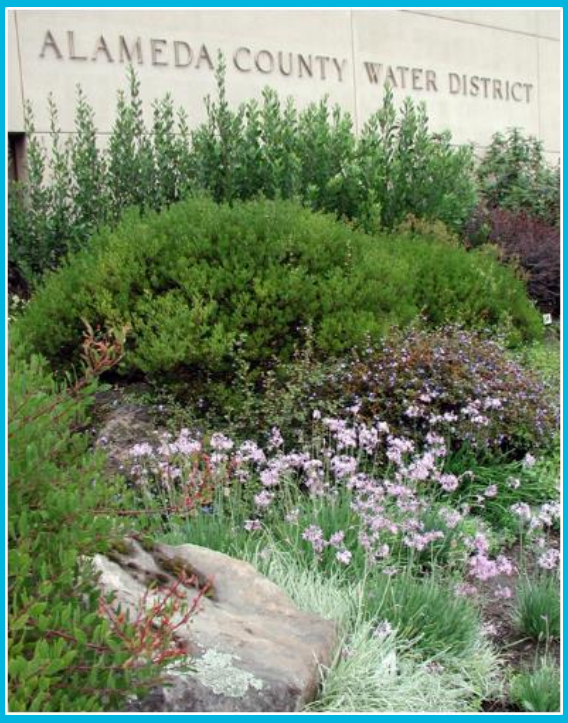
ACWD 2018 Water Rate Update Study Report Appendix B:

ACWD 2015 Water Rate Study Report

ALAMEDA COUNTY
WATER DISTRICT

2015 Water Rate Study Report

March 2015



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March 23, 2015

Shelley Burgett
Manager of Finance
Alameda County Water District
43885 S. Grimmer Blvd.
Fremont, CA 94538

Subject: 2014 Water Rate Study Report

Dear Ms. Burgett,

Raftelis Financial Consultants, Inc. (RFC) is pleased to provide this Water Rate Study Report (Report) for the Alameda County Water District (District or ACWD) to develop water rates that are equitable and in compliance with Proposition 218.

The major objectives of the study include the following:

1. Develop financial plans to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs;
2. Conduct a current cost-of-service analysis for the water services;
3. Develop fair and equitable water rates to be in compliance with Proposition 218 requirements.

The Report summarizes the key findings and recommendations related to the development of the financial plans and the development of the associated water rates.

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

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

Sanjay Gaur
Vice President

Khanh Phan
Senior Consultant

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GLOSSARY

Commonly Used Terms

Terms	Descriptions
2009 Bond	2009 Water System Refunding Revenue Bond
2012 Bond	2012 Revenue Bond
AF	Acre foot / Acre feet, 1 AF = 435.6 CCF
AWWA	American Water Works Association
CCF	Centum cubic feet or 100 cubic feet, 1 CCF = 748 gallons
CIP	Capital Improvement Plan
COS	Cost of Service
CPI	Consumer Price Index
DSC	Drought Surcharge
FPM	Financial Plan Model
FY	Fiscal Year
IRP	Integrated Resource Plan
M1 Manual	"Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices M1" published by AWWA (6^{th} Edition)
MGD	Million gallons per day, 1 MGD = 1,120 AF
O&M	Operations and Maintenance
PAYGO	Pay-As-You-Go or Rate Funded CIP
R&R	Repairs and Replacements
RFC	Raftelis Financial Consultants, Inc.
SFPUC	San Francisco Public Utilities Commission
SFR	Single Family Residential
SWP	State Water Project
WTP	Water Treatment Plant

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1 EXECUTIVE SUMMARY

1.1 BACKGROUND OF THE STUDY

Alameda County Water District (ACWD or District) is currently providing water services to more than 331,000 residents through more than 81,000 water meter connections in the tri-city area which includes the Cities of Fremont, Newark, and Union City. The District operates and maintains over 825 miles of transmission and distribution pipeline system, 12 reservoirs and tanks, and two treatment facilities with total capacity of 21.9 million gallons per day (MGD) and one desalination facility with capacity of 10 MGD and blending facility of 50 MGD.

The District currently has three primary sources of water supply:

- The State Water Project (SWP)
- San Francisco's Regional Water System (SF)
- Local supplies

The ongoing drought, the most severe dry spell in California's 164 year history, was the number one challenge faced by the District during the fiscal year ended June 30, 2014. The District has tackled the drought head-on, with the Board of Directors, the management team, and all employees engaged in proactive efforts to keep the water flowing to customers at the most reasonable cost given the short supply. The District was one of the first water agencies in the State of California to adopt a water shortage emergency ordinance, which includes a goal of achieving 20 percent overall water savings during 2014 and 2015. These savings will be critical in the District's efforts to stretch its water supplies to meet the demands of its community through the remainder of fiscal year (FY) 2015 and to help the District in its preparation for 2016 in the event that drought conditions remain or worsen. Additionally, RFC notes that the District has already taken steps to address a potential extended drought scenario with the adoption of the Drought Surcharge.

To help mitigate decreased revenue and increase water supply cost, the District is taking a variety of measures to manage costs, including:

- $1.5 million in Operating Expense cuts including the elimination of, or holding vacant, a number of temporary and permanent positions;
- Deferral of $20 million in planned capital projects;
- Delay of unfunded liabilities additional payments to OPEB and CalPERS; and
- Issuance of a $30 million bond offering.

While the drought presents challenges, ACWD remains committed to its customers and continues to uphold its environmental and fiscal principles and policies.

In 2013, the District engaged Raftelis Financial Consultants, Inc. (RFC) to conduct a comprehensive Water, Rate Study (Study) to develop water rates. The goals of the Study were to develop rates that: would

maintain financial sufficiency; are consistent with the District's policies; comply with general cost of service principles; and are in compliance with Proposition 218 requirements.

The major objectives of the study include the following:

1. Develop financial plans to ensure financial sufficiency, meet operation and maintenance (O&M) costs, and ensure sufficient funding for capital replacement and refurbishment (R&R) needs;
2. Develop a cost of service analysis for the water services;
3. Develop fair and equitable water rates to be in compliance with Proposition 218 requirements.

This Report provides an overview of the study and includes findings and recommendations for water financial plan and rates.

1.2 FINANCIAL PLAN DEVELOPMENT

1.2.1 Drought Sales Scenarios

During the course of this Study, the financial plan model (FPM) was run numerous times to consider different drought scenarios and different financial outcomes. The scenarios covered included no drought conditions, the drought ending in one year (2015 Drought Only), the drought ending after two years (Medium), and the drought becoming very severe and spanning three years (Extended Dry Period). These scenarios are summarized below.

1.	**No Drought**	No Drought (Normal business as baseline)
2.	**2015 Drought only**	2015 Drought Only with 20% reduction in water supply in FY 2015 only
3.	**Medium**	Medium with 20% reduction in water supply in FY 2015 and FY 2016 and 10% reduction in FY 2017
4.	**Extended Dry Period**	Extended Dry Period with 20% reduction in water supply in FY 2015, 40% reduction in FY 2016, 20% reduction in FY 2017 and 10% reduction in FY 2018

Among these scenarios, the "Medium" scenario was chosen to forecast the District's revenue requirements because it produced conservative estimates without overstating the urgency of the drought conditions. The figures presented in this Report are those from the FPM's Medium scenario.

1.2.2 Reserve Policy

The District currently has an adopted reserve policy for its General Fund (GF) (see Appendix II). Target reserve balances for each fund are established as directed by District staff. Reserve Fund levels for FY 2015 are shown in Table 1-1 below.

Table 1-1: General Fund Reserve Funding Target Levels for FY 2015

Reserve Components	Descriptions	FY 2015
Operations & Maintenance (O&M)	33% of Operating Budget	$26.8M
Emergency and Rate Stabilization		$10M
2009 Debt Service Reserve 2009 Water System Refunding Revenue Bond (2009 Revenue Bond)	100% of 2009 Revenue Bond Annual Debt Service	$2.9M
Other Restricted Reserve	Insurance Risk ($1.67M) + $1.4M Other Restricted	$3.07M
Other Unrestricted Reserve		$2.0M
Capital Reserve	Minimum one year of depreciation	$12.0M
Total General Fund Reserve Target		**$56.8M**

1.2.3 Proposed Financial Plan

Use of the FPM enables the District to set rates and charges to generate sufficient water revenues to meet the District's short-term and long-term obligations to avoid significant rate fluctuations. It also shows the level of revenues that will maintain appropriate reserves and provide adequate debt service coverage. The commodity and fixed service charge are the District's primary source of revenue, comprising about 80% of the District's total revenues. The scenarios presented below have varying levels of fixed service charge and commodity rate for different drought scenarios from no drought to severe extended dry period scenarios. Overall, the FPM evaluated 10 different scenarios for financial sensitivity analysis in preparing for the drought and presented to the District Board in several public workshops. The graphical representation for each of the scenarios summarized in Table 1-2 below is further detailed in Appendix II. Based on the outcome of the Public Workshop on December 8, 2014, the Board selected the "2015 & 2016 Drought #3" scenario as shown in Table 1-2 for the "Medium" drought with a 30% fixed service charge adjustment in FY 2015 and no change to commodity rate (which equates to an overall 8% increase in revenues), an 8% increase in both the service and commodity charges in the remaining years and a $6.9M drought surcharge (DSC) in both FY 2015 and FY 2016. The proposed fixed and commodity revenue adjustments for the Study period are summarized in Table 1-3.

Table 1-2: Evaluated Financial Plan Scenarios

Financial Plan Scenario Descriptions	Water Demand / Supply Scenario	Revenue Adjustments (Fixed / Commodity)			Drought Surcharges (DSC)
		FY 2015	FY 2016	FY 2017 – 2022	
No drought	No Drought	5% / 5%	5% / 5%	8%/8%	$0
2015 Drought Only No DSC	2015 Drought Only	5% / 5%	5% / 5%	8%/8%	$0
2015 Drought Only with DSC #1	2015 Drought Only	5% / 5%	5% / 5%	8%/8%	$6.9M in FY 2015
2015 Drought Only with DSC #2	2015 Drought Only	8% / 8%	8% / 8%	8%/8%	$6.9M in FY 2015
2015 & 2016 Drought #1	Medium	5% / 5%	5% / 5%	8%/8%	$6.9M in FY 2015 & FY 2016
2015 & 2016 Drought #2	Medium	8% / 8%	8% / 8%	8%/8%	$6.9M in FY 2015 & FY 2016
2015 & 2016 Drought #3	Medium	30% / 0%	8% / 8%	8%/8%	$6.9M in FY 2015 & FY 2016
Extended Dry Period #1	Extended Dry Period	8% / 8%	8% / 8%	8%/8%	$6.9M in FY 2015 only
Extended Dry Period #2	Extended Dry Period	8% / 8%	8% / 8%	8%/8%	$6.9M in FY 2015, $35M FY 2016, & $6.9M in FY 2017
Extended Dry Period #3	Extended Dry Period	30% / 0%	8% / 8%	8%/8%	$6.9M in FY 2015, $35M FY 2016, & $6.9M in FY 2017
SELECTED: 2015 & 2016 Drought #3	**Medium**	**30% / 0%**	**8% / 8%**	**8%/8%**	**$6.9M in FY 2015 & FY 2016**

Table 1-3: Proposed Revenue Adjustments

Fiscal Year	Effective Date	Proposed Fixed Revenue Adjustment	Proposed Commodity Revenue Adjustment
2015	May 1	30%	0%
2016	February 1	8%	8%
2017	February 1	8%	8%
2018	February 1	8%	8%
2019	February 1	8%	8%
2020	February 1	8%	8%
2021	February 1	8%	8%
2022	February 1	8%	8%
2023 & beyond	February 1	3%	3%

Under the Medium drought scenario, the proposed revenue adjustments also ensure that the District will meet its bond covenants by maintaining at least a 125% debt coverage as shown in Figure 1-1 even without the 1% tax or the SWP property tax revenues and the General Fund maintains positive cash balances throughout the Study period as shown in Figure 1-2.

Figure 1-1: Projected Water Debt Coverage

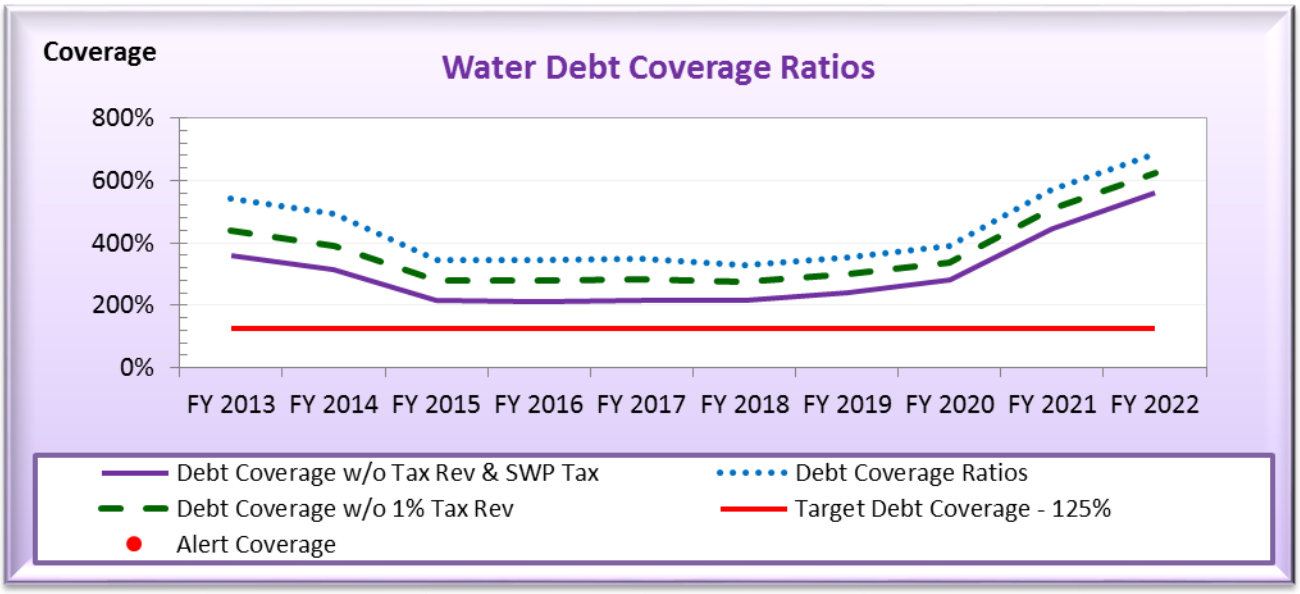
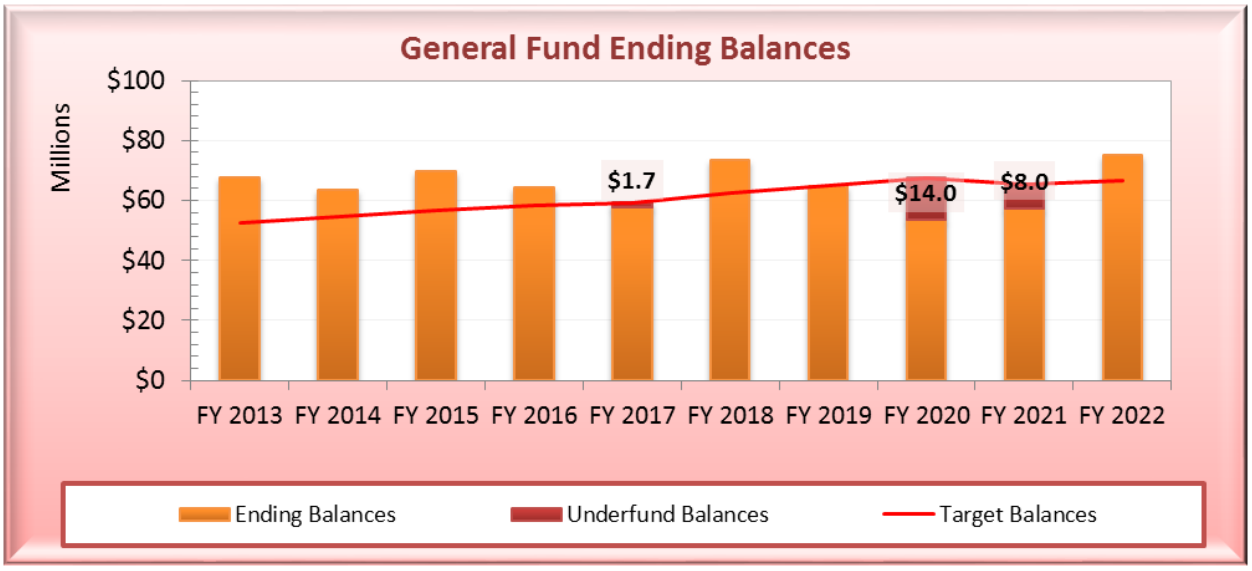


Figure 1-2: Projected General Fund Ending Balances



1.3 COST OF SERVICE ANALYSIS AND RATE DEVELOPMENT

Proposition 218 requires a nexus between the rates charged and the costs of providing service. Based on the proposed financial plan, the cost of service analysis translates this financial requirement into actual rates. The methodology used in this Study is consistent with industry standards established by the American Water Works Association, Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1 (the "M1 Manual"). See Section 5 for detailed cost of service analysis conducted for this Study.

In this Study, RFC evaluated and presented two bi-monthly fixed service charges options to the Board of Directors during the December 2014 Public Workshop. One of the goals when developing a fixed charge is to better align fixed charge revenues with fixed costs and commodity revenues with variable costs. At the conclusion of the December 2014 Public Workshop, the Administrative and Finance Committee (A&F Committee) and the Board discussed proceeding with increasing 30% on the baseline COS fixed service charge without increasing commodity revenue requirements for FY 2015, effective May 2015 as shown in Table 1-4. See Sections 5 and 6 of the Report for details.

Table 1-4: FY 2015 Bi-Monthly Fixed Service Charges and Commodity Rates

Meter Size	Current (2/1/2014)	Realignment After Rev Adjustment	% Change Current to Realignment with Rev Adjustment	$ Change Current to Realignment with Rev Adjustment
5/8	$31.95	$41.54	30%	$9.59
¾	$31.95	$41.54	30%	$9.59
1	$45.82	$64.05	40%	$18.23
1 ½	$80.93	$120.32	49%	$39.39
2	$116.07	$187.84	62%	$71.77
3	$440.13	$401.66	-9%	-$38.47
4	$637.46	$716.76	12%	$79.30
6	$1,538.70	$1,808.37	18%	$269.67
8	$2,253.10	$3,158.81	40%	$905.71
10	$4,026.56	$4,734.31	18%	$707.75

	Current Commodity Rate (2/1/2014)	Proposed Commodity Rate (5/1/2015)
Inside District	$3.373	**$3.373/ccf**
Outside District	$3.878	**$3.878/ccf**

The drought surcharge (Table 1-5), which was adopted in July of 2014, will continue to be in place to mitigate the effects of reduced demand until the provisions of the Drought Surcharge Sunset criterion are met[1]. SFR customers using 16 ccf or less in a bi-monthly billing period are not paying for any drought surcharge, and usage from 17 – 30 ccf are paying $1.48/ccf drought surcharge and $2.00/ccf for any ccf exceeding 30 ccf. Non-SFR and outside District customers are paying uniform drought surcharge at $0.46/ccf. For further details, refer to Appendix IV for the Drought Surcharge Study Report dated July 16, 2014.

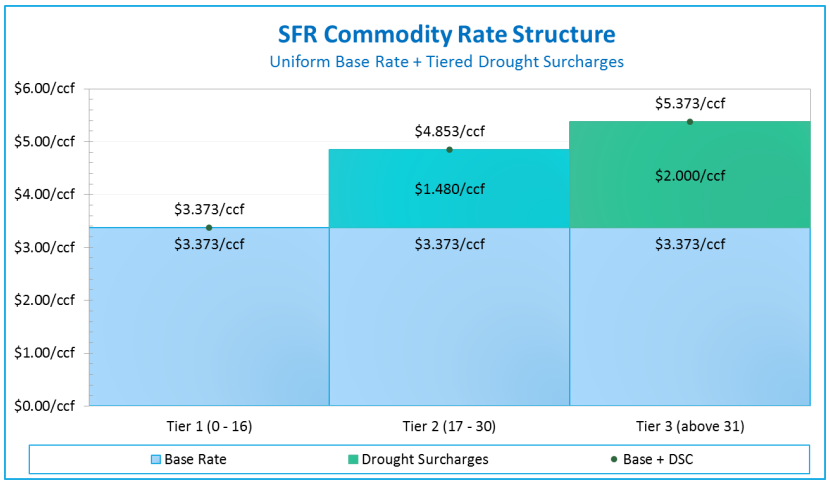
Table 1-5: Drought Surcharges effective July 2014

	Tier Definition ccf / bi-monthly billing period	Drought Surcharges
SFR		
Tier 1	0 – 16 ccf	$0.000/ccf
Tier 2	17 – 30 ccf	$1.480/ccf
Tier 3	Above 30 ccf	$2.000/ccf
Non-SFR	All Usage (Uniform)	$0.460/ccf
Outside District	All Usage (Uniform)	$0.460/ccf

[1] The District has a list of criteria to determine when the drought is officially over.

Figure 1-3 below illustrates the uniform base rate with the tiered DSC.

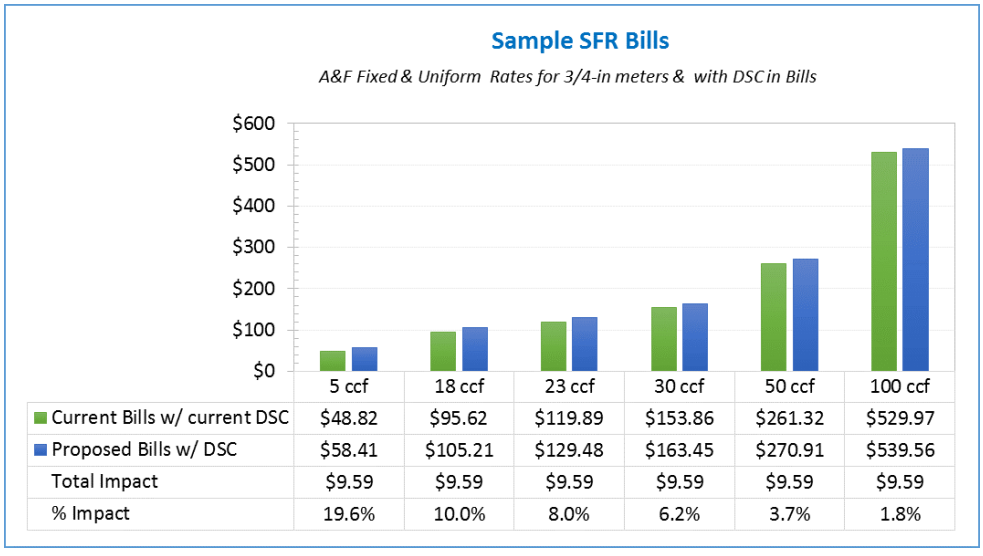
Figure 1-3: FY 2015 Proposed SFR Commodity Rate Structure



1.4 CUSTOMER IMPACT ANALYSIS

If adopted, SFR customer bills at various usage levels are calculated in Figure 1-4 inclusive of tiered DSC until drought conditions have ended. A SFR customer using 23 ccf currently pays $119.89 per billing cycle. Under the proposed revenue adjustments, this total would increase to $129.48, an increase of $9.59 or 8%. Customer impact analyses for other customer classes are shown in Section 7 of this Report.

Figure 1-4: SFR Bills Impacts with DSC at Different Usage Levels



	5 ccf	18 ccf	23 ccf	30 ccf	50 ccf	100 ccf
Current Bills w/ current DSC	$48.82	$95.62	$119.89	$153.86	$261.32	$529.97
Proposed Bills w/ DSC	$58.41	$105.21	$129.48	$163.45	$270.91	$539.56
Total Impact	$9.59	$9.59	$9.59	$9.59	$9.59	$9.59
% Impact	19.6%	10.0%	8.0%	6.2%	3.7%	1.8%

2 INTRODUCTION

2.1 BACKGROUND OF THE STUDY

Alameda County Water District (ACWD or District) is currently providing water services to more than 331,000 residents through more than 81,000 water meter connections in the tri-city area which includes the Cities of Fremont, Newark, and Union City. The District operates and maintains over 825 miles of transmission and distribution pipeline system, 12 reservoirs and tanks, and 2 treatment facilities with total capacity of 21.9 million gallons per day (MGD) and desalination facility with capacity of 10 MGD and blending facility of 50 MGD.

The District currently has three primary sources of water supply:

- The State Water Project (SWP)
- San Francisco's Regional Water System (SF)
- Local supplies

The SWP and SF supplies are imported into the District service area through the South Bay Aqueduct and Hetch-Hetchy Aqueduct, respectively. Local supplies include fresh groundwater from the Niles Cone Groundwater Basin (underlying the District service area), desalinated brackish groundwater from portions of the groundwater basin previously impacted by seawater intrusion, and surface water from the Del Valle Reservoir.

The primary source of recharge for the Niles Cone Groundwater Basin is from percolation of runoff from the Alameda Creek watershed. To a lesser degree, a portion of ACWD's SWP supplies are also used for local groundwater percolation. Infiltration of rainfall and applied water also contribute to local groundwater recharge.

Before being supplied to District's customers, the source water supplies are treated to meet and surpass all state and federal drinking water standards. The District operates two surface Water Treatment Plants (WTP) that treat SWP and local surface water from Del Valle Reservoir. The Newark Desalination Facility treats brackish groundwater to remove salts and other impurities, and the Blending Facility blends San Francisco water with local fresh groundwater (with higher hardness) to provide a blended supply with lower overall hardness.

It is the mission of the District to provide a reliable supply of high quality water at a reasonable price to our customers. To fulfill this mission, the District will:

- Provide prompt, courteous, and responsive customer service.
- Ensure that sound, responsible financial management practices are observed in the conduct of District business.
- Plan, design, and operate facilities efficiently, effectively and safely, bearing in mind the District's responsibility to be a good neighbor and a good steward of the environment.

- Promote ethical behavior in the conduct of District affairs and facilitate the public's involvement in the planning and development of District policy.
- Recruit and retain a qualified, productive workforce and maintain a workplace environment where diversity and excellence are valued and where creativity, teamwork, and open communication are actively encouraged.

The ongoing drought, the most severe dry spell in California's 164 year history, was the number one challenge faced by the District during the fiscal year ended June 30, 2014. The District has tackled the drought head-on, with the Board of Directors, the management team, and all employees engaged in proactive efforts to keep the water flowing to customers at the most reasonable cost given the short supply. The District was one of the first water agencies in the State of California to adopt a water shortage emergency ordinance, which includes a goal of achieving 20 percent overall water savings during 2014 and 2015. These savings will be critical in the District's efforts to stretch its water supplies to meet the demands of its community through the remainder of fiscal year (FY) 2015 and help the District in its preparation for 2016 in the event that drought conditions remain or worsen. Additionally, RFC notes that the District has already taken steps to address a potential extended drought scenario with the adoption of the Drought Surcharge.

The provision of clean, safe, and reliable drinking water is a capital intensive and time intensive operation. To ensure that District continues to fulfill its mission of providing a reliable supply of high quality water, it must provide consistent and on-going infrastructure operations and maintenance, and the import of water must occur.

To help mitigate decreased revenue and increase water supply cost, the District is taking a variety of measures to manage costs, including:

- $1.5 million in Operating Expense cuts including the elimination of or holding vacant a number of temporary and permanent positions;
- Deferral of $20 million in planned capital projects;
- Delay of unfunded liabilities additional payments to OPEB and CalPERS; and
- Issuance of a $30 million bond offering.

While the drought presents challenges, ACWD remains committed to its customers and continues to uphold its environmental and fiscal principles and policies.

In 2013, the District engaged Raftelis Financial Consultants, Inc. (RFC) to conduct a comprehensive Water, Rate Study (Study) to develop water rates to maintain financial sufficiency, and comply with general cost of service principles and with Proposition 218 requirements.

2.2 OBJECTIVES OF THE STUDY

This report was prepared using the principles established by the American Water Works Association. The American Water Works Association "Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices M1 (the "M1 Manual") establishes commonly accepted professional standards for cost of service

studies. The M1 Manual general principles of rate structure design and the objectives of the Study are described below.

According to the M1 Manual, the first step in the ratemaking analysis is to determine the adequate and appropriate funding of a utility. This is referred to as the "revenue requirements" analysis. This analysis considers the short-term and long-term service objectives of the utility over a given planning horizon, including capital facilities and system operations and maintenance, to determine the adequacy of a utility's existing rates to recover its costs and other financial obligations such as meeting debt coverage requirements and maintain healthy and adequate reserves. A number of factors may affect these projections, including the number of customers served, water-use trends, nonrecurring sales, weather, conservation, use restrictions, inflation, interest rates, wholesale contracts, capital finance needs, changes in tax laws, and other changes in operating and economic conditions.

After determining a utility's revenue requirements, a utility's next step is determining the cost of service. Utilizing a public agency's approved budget, financial reports, operating data, and capital improvement plans, a rate study generally categorizes (functionalizes) the costs, expenses, and assets of the water system among major operating functions to determine the cost of service.

After the assets and the costs of operating those assets are properly categorized by function, the rate study allocates those "functionalized costs" to the various customer classes (e.g., single-family residential, multi-family residential and commercial) by determining the characteristics of those classes and the contribution of each to incurred costs such as peaking factors or different delivery costs, service characteristics and demand patterns. Rate design is the final part of the M1 Manual's rate-making procedure and generally uses the revenue requirement and cost of service analysis to determine appropriate rates for each customer class.

The major objectives of the study include the following:

4. Develop financial plans to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs;
5. Develop a cost-of-service analysis for the water services;
6. Develop fair and equitable water rates to be in compliance with Proposition 218 requirements.

This Report provides an overview of the study and includes findings and recommendations for water financial plan and rates.

2.3 LEGAL REQUIREMENTS AND RATE SETTING METHODOLOGY

2.3.1 Legal Requirements

The California Supreme Court has determined that water and sewer service fees are property-related fees.

In accordance with these provisions, a property-related fee must meet all of the following requirements: (1) revenues derived from the fee must not exceed the funds required to provide the property-related service; (2) revenues from the fee must not be used for any purpose other than that for which the fee is

imposed; (3) the amount of a fee imposed upon any parcel or person as an incident of property ownership must not exceed the proportional cost of the service attributable to the parcel; (4) the fee may not be imposed for a service, unless the service is actually used by, or immediately available to, the owner of the property subject to the fee.

For the District's water service fees, this Rate Study was prepared to comply with the requirements of Article XIII D.

2.3.2 Rate Setting Process

Revenue Requirements. The Study used the revenue requirements method for allocating costs. This methodology is consistent with industry standards established by the American Water Works Association, Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1 (the "M1 Manual"). The revenue requirements analysis "compares the revenues of the utility to its operating and capital costs to determine the adequacy of the existing rates to recover the utility's costs." American Water Works Association, Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1 (6th ed. 2012). The revenue requirements are analyzed through the development of a long-term financial plan. Based on the best information currently available, the current financial plan incorporates projected operations and maintenance costs, capital expenditures, debt service, growth, and conservation assumptions to estimate annual revenues.

Cost of Service. After determining a utility's revenue requirements, the next step in the analysis is determining the cost of service. The Study arranged the costs, expenses, and assets of the water system by major operating functions to determine the cost of service. After the assets and the costs of operating those assets were properly categorized by function, the Study classified them and allocated the revenue requirements to the various customer classes (e.g., single-family residential, irrigation, and commercial) by determining the characteristics of those classes and the customer class's contribution to the incurred costs such as peaking factors or different delivery costs, service characteristics and demand patterns. This analysis included a review of such matters as system operations and water usage data—e.g., capacity (peak demand),[2] commodity (average demand),[3] number of customers,[4] customer service and accounting,[5] equivalent meter size, and public fire protection services.[6] The impact that these matters have on system operations determined how the costs were allocated among the various customer classes.

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[2] System capacity is the system's ability to supply water to all delivery points at the time when demanded. It is measured by each customer's water demand at the time of greatest system demand. The time of greatest demand is known as peak demand. Peak demand costs recover the costs of facilities needed to meet the peak use, or demands, placed on the system by each customer class. Both the operating costs and the capital assets related costs incurred to accommodate the peak flows are allocated to each customer class based upon the class's contribution to the peak day event.

[3] Commodity refers to the amount of metered water usage over a specific time period, typically a twelve-month period.

[4] Some operating and administrative costs vary directly with the number of customers.

[5] Some customer classes may require more effort and time to provide accounting services.

[6] This refers to the need to increase the size of mainlines to provide public fire protection requirements.

Rate Design. The final part of the analysis was the rate design. The rate design involved developing a rate structure that proportionately recovers costs from customers. The final rate structure and rate recommendations were designed to fund the utility's long-term projected costs of providing service; proportionally allocate costs to all customers; provide a reasonable and prudent balance of revenue stability while encouraging conservation; and comply with the substantive requirements of Article XIII D.

3 GENERAL ASSUMPTIONS

3.1 INFLATION

The Study period is from Fiscal Year (FY) 2015 to 2022. Various types of assumptions and inputs were incorporated into the Study based on discussions with and/or direction from District staff. These include, the projected number of accounts and annual growth rates in consumption for different customer classes, inflation factors, and other assumptions. The inflation factor assumptions are presented in Table 3-1, below.

Table 3-1: Inflation Factor Assumptions

KEY FACTORS	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
General	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Salary	2.50%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Benefits	11.05%	8.13%	7.90%	7.42%	7.10%	3.58%	3.59%
Utilities	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Water Supply	10.73%	2.59%	6.83%	6.94%	10.52%	-2.27%	3.05%

The general inflation rate of 3 percent is based on a historical Consumer Price Index (CPI) range of 3-3.5 percent. A salary inflation rate of 3 percent is based on District staff estimates and the recent union negotiated agreement. Benefits inflation rate ranges from 3.6 percent to 11.05 percent based on the District's estimates on increasing health insurance costs and other factors such as OPEB and CalPERS liabilities annual funding contributions. A utilities inflation rate of 5 percent is based on District staff estimates.

The District has a portfolio of water supply sources that includes the State Water Project, San Francisco's Regional Water System, and local supplies like groundwater, water storage, and desalination plants. From year to year, the availability of each water supply source can vary depending on availability and drought conditions. For example, during the current drought period, the District is receiving less water than normal from the State Water Project and is therefore more reliant on stored water. The inflation factors for the District's water supply costs shown in Table 3-1 represent the anticipated fluctuations of the District's overall water supply portfolio. More detail on the District's water supply sources is discussed in Section 4.1.3.

3.2 PROJECTED DEMAND AND GROWTH

Table 3-2 shows an estimated account growth rate and account summary over the study period projected by the District based on Planning staff's estimates of future development.

During the course of this Study, the FPM was run numerous times to consider different drought scenarios and different financial outcomes. The scenarios covered included no drought conditions, the drought ending in one year (2015 Drought Only), the drought ending after two years (Medium), and the drought

becoming very severe and spanning three years (Extended Dry Period). These scenarios are summarized below.

5. **No Drought** — No Drought (Normal business as baseline)
6. **2015 Drought only** — 2015 Drought Only with 20% reduction in water supply in FY 2015 only
7. **Medium** — Medium with 20% reduction in water supply in FY 2015 and FY 2016 and 10% reduction in FY 2017
8. **Extended Dry Period** — Extended Dry Period with 20% reduction in water supply in FY 2015, 40% reduction in FY 2016, 20% reduction in FY 2017 and 10% reduction in FY 2018

Among these scenarios, the "Medium" scenario was chosen to forecast the District's revenue requirements because it produced conservative estimates without overstating the urgency of the drought conditions. The figures presented in this Report are those from the FPM's Medium scenario.

Table 3-3 summarizes the projected water demand for corresponding drought scenarios used for the Study.

Table 3-2: Projected Account Growth Rate and Meters Summary

	FY 2014 Actual	FY 2015 Projected	FY 2016 Projected	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected	FY 2021 Projected	FY 2022 Projected
Growth Rate		0.45%	0.54%	0.81%	0.42%	0.43%	0.62%	0.81%	0.78%
5/8	26,925	27,046	27,192	27,412	27,527	27,645	27,816	28,041	28,260
¾	38,758	38,932	39,142	39,459	39,625	39,795	40,042	40,366	40,681
1	10,733	10,781	10,839	10,927	10,973	11,020	11,088	11,178	11,265
1 ½	1,659	1,666	1,675	1,689	1,696	1,703	1,714	1,728	1,741
2	2,693	2,705	2,720	2,742	2,754	2,766	2,783	2,806	2,828
3	208	209	210	212	213	214	215	217	219
4	94	94	95	96	96	96	97	98	99
6	53	53	53	53	53	53	53	53	53
8	23	23	23	23	23	23	23	23	23
10	5	5	5	5	5	5	5	5	5
Total Meters	**81,151**	**81,514**	**81,954**	**82,618**	**82,965**	**83,320**	**83,836**	**84,515**	**85,174**

Table 3-3: Projected Volumetric Water Sales (in MGD) Scenarios Evaluated in the Study

Water Demand Scenarios	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
No Drought	40.52	39.94	40.37	40.70	40.88	41.06	41.31	41.65	41.98
2015 Drought only	40.52	34.17	38.24	38.57	38.75	38.93	39.18	39.52	39.85
Medium	40.52	34.17	34.17	36.36	38.71	38.88	39.15	39.48	39.81
Extended Dry Period	40.52	33.34	25.01	33.34	36.26	38.88	39.15	39.48	39.81
Selected: Medium	**40.52**	**34.17**	**34.17**	**36.36**	**38.71**	**38.88**	**39.15**	**39.48**	**39.81**

3.3 RESERVE POLICY

A reserve policy is a written document that provides a basis for the Agency to cope with unanticipated reductions in revenues, offset fluctuations in costs of providing services, fiscal emergencies such as revenue shortfalls, asset failure, natural disaster, etc. It also provides guidelines for sound financial management with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. Furthermore, it sets funds aside for replacement of capital assets as they age and new innovative capital projects. Additionally, adopting and adhering to a sustainable reserve policy enhances financial management transparency and helps achieve or maintain a more favorable credit rating for future debt issues.

The appropriate amount of reserve and reserve types are determined by a variety of factors, such as the size of the operating budget, the amount of debt, the type of rate structure, frequency of customer billing, and risk of natural disaster. Most reserves can be categorized as one of the following: operations & maintenance (O&M) cash flow, rate stabilization, capital repair and replacement (R&R), and emergency.

O&M Cash Flow – The purpose of an O&M reserve is to provide working capital to support the operation, maintenance and administration of the utility. From a risk management perspective, the O&M reserve supports the District's cash flow needs during normal operations and ensures that operations can continue should there be significant events that impact cash flows. As it is unlikely for a utility to perfectly predict the revenues and revenue requirements for each billing period, a reserve set aside to hedge the risk of monthly negative cash positions is prudent in financial planning. Another factor to consider when creating a cash flow reserve is the frequency of billing. A utility that bills once a month would require less minimum reserves than a utility that bills semi-annually.

Rate Stabilization and Operating Emergency – While it is not typical for utilities to have substantial rate increases in a short period of time, factors such as declining water sales and rapidly increasing water supply costs may result in large rate increases. In order to minimize rate shocks, a rate stabilization reserve could be set up in order to smooth rate increases through gradual increases, as opposed to abrupt and large rate increases. A rate stabilization reserve acts as a buffer to protect customers from experiencing large shifts in their bills.

Capital Emergency – The purpose of an emergency fund is to allow the utility to provide uninterrupted service in light of a fiscal emergency, natural disaster or facility failure. An emergency reserve decreases risk by recognizing the high capital cost of the utilities and setting aside adequate funds to restart the system after an event or replace an essential facility. Critical asset analysis completed by staff provides the basis for the target level of emergency reserve.

Capital R&R – Capital R&R reserves are used to fund future obligations that are necessary for maintaining a reliable infrastructure. Because water, recycled water and wastewater utilities are highly capital-intensive enterprises, it is important to accurately estimate long-term R&R costs and develop a reserve to fund the eventual replacement of the system and new capital projects. The District's utilities have two options in funding R&R projects: the issuance of debt or pay-as-you-go (PAYGO).

The District currently has an adopted reserve policy for its General Fund (GF) (see Appendix II). As directed by District staff, the target reserve balances for each fund are established. Reserve Fund levels for FY 2015 are shown in Table 3-4 below.

Table 3-4: General Fund Reserve Funding Target Levels for FY 2015

Reserve Components	Descriptions	FY 2015
Operations & Maintenance (O&M)	33% of Operating Budget	$26.8M
Emergency and Rate Stabilization		$10M
2009 Debt Service Reserve 2009 Water System Refunding Revenue Bond (2009 Revenue Bond)	100% of 2009 Revenue Bond Annual Debt Service	$2.9M
Other Restricted Reserve	Insurance Risk ($1.67M) + $1.4M Other Restricted	$3.07M
Other Unrestricted Reserve		$2.0M
Capital Reserve	Minimum one year of depreciation	$12.0M
Total General Fund Reserve Target		**$56.8M**

3.4 KEY FINANCIAL INFORMATION

During the course of the Study, RFC and District staff has completed a detailed review of projected revenues, operating expenses, and capital expenditures over the next several years. The Financial Plan Model (FPM) is a comprehensive spreadsheet model of the District's revenues, operating and maintenance expenses, capital expenditures, and reserves over a 25 year period but with a focus on the next several years. These projections are derived from other planning tools and models, including the District's Integrated Resources Plan (IRP), Capital Improvement Plan (CIP), and current two-year budget. The IRP process evaluates a wide range of water supply and water conservation options, as well as land use

projections in the District's service area. This information is used to develop the District's long range water supply strategy necessary to meet projected demands. The CIP includes project schedules and projected costs for facilities identified in the IRP, and other projects to support and maintain system reliability, water quality and environmental compliance. All of these financial tools provide the basis for developing the budget which implements the necessary projects, programs and activities to achieve the District's goals.

The Study utilized the following key financial documents and figures:

1. FY 2014 and FY 2015 Budgets provided by District staff
2. Reserve Policy provided by District staff
3. 25-year CIP provided by District staff
4. Water supply cost projections provided by District staff in August 2014
5. Beginning fund balances as of July 1, 2013 provided by District staff: $63.81M
6. Bi-monthly billing data extracts for all water accounts in FY 2014 (July 2013 to June 2014)

RFC used the District's FY 2014 and FY 2015 Budgets as the baseline for future projections, consistent with best practices. *Final* actuals figures are typically not available at the time the study is conducted. Even if *preliminary* actual figures are available for the most recently completed fiscal year at the time the Study is being conducted, it is not appropriate to use them for the basis of developing rates because they are unconfirmed, are still being revised, have not been made available to the public, and have not been approved by the Board. Actual figures are finalized upon Board approval of the Comprehensive Annual Financial Report (CAFR), which typically occurs three to six months after the fiscal year end.

Proposition 218 requires there be a nexus between the fees for service and the funds required to provide that service. Official budget figures represent the most accurate record of costs incurred to provide the service because they have been finalized, made available to the public, and approved by the agency's governing body. Therefore, budgeted figures represent the strongest nexus between the service provided and the cost to provide that service.

4 FINANCIAL PLAN DEVELOPMENT

4.1 WATER REVENUE REQUIREMENTS

A review of a utility's revenue requirements is a key first step in the rate study process. The review involves an analysis of annual operating revenues under the status quo, operation and maintenance (O&M) expenses, and reserve requirements. This section of the report provides a discussion of the projected revenues, O&M expenses, other reserve funding and revenue adjustments estimated as required to ensure the fiscal sustainability and solvency of the District.

4.1.1 Revenues from Current Water Rates

The current rate structure was last updated in February 2014. All usage, regardless of the customer class, are paying uniform rate of $3.373/ccf for Inside District customers and $3.878/ccf for Outside District customers; Outside District customers include the approximately two dozen customers that reside outside the District's boundaries but receive service from the District. In addition to commodity rates, each customer also pays a bi-monthly fixed charge that is determined by meter size, regardless of the customer class. Table 4-1 details the rates for monthly fixed charges and volumetric charges for each customer class for calendar year 2014 effective February 1, 2014.

Table 4-1: Current Water Rates effective 2/1/2014

	Inside District	Outside District
Bi-Monthly Fixed Service Charges		
5/8	$31.95	$36.74
¾	$31.95	$36.74
1	$45.82	$52.69
1 ½	$80.93	$93.07
2	$116.07	$133.48
3	$440.13	$506.15
4	$637.46	$733.08
6	$1,538.70	$1,769.51
8	$2,253.10	$2,591.07
10	$4,026.56	$4,630.54
Commodity Rates		
Uniform Base Rate	$3.373/ccf	$3.878/ccf

By multiplying the current rates (Table 4-1) by the number of accounts and projected water demand for the Medium scenario shown in Section 3 (Table 3-2 and Table 3-3 respectively), projected revenues from current bi-monthly fixed service charges and commodity rates can be calculated and shown in Table 4-2. Notes that the current rates are effective on February 1, 2014, thus the revenues for FY 2014 are calculated at 5 months (or 2.5 bi-monthly billing periods) at current rates and 7 months (or 3.5 bi-monthly billing periods) at FY 2013 (effective February 1, 2013) rates.

Table 4-2: Projected Revenues (in Million $) from Current Water Rates

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Fixed Charges	$19.29	$20.14	$20.24	$20.40	$20.48	$20.56	$20.69	$20.85	$21.01
Volumetric Charges	$64.13	$56.22	$56.22	$59.83	$63.69	$63.98	$64.41	$64.96	$65.50
Total Rev from Current Rates	**$83.42**	**$76.36**	**$76.47**	**$80.23**	**$84.17**	**$84.55**	**$85.10**	**$85.81**	**$86.51**

4.1.2 Miscellaneous Revenues

In addition to revenue from rates, the District also receives miscellaneous revenues from different sources such as property tax, other services charges (such as turn on and turn off fees), interest revenues etc. to offset the water operating costs. Total miscellaneous revenues range from $13.20M in FY 2018 to $24.14M in FY 2015 for the Study period, including projected Drought Surcharges of $6.9M per year for FY 2015 and FY 2016, as shown in Table 4-3.

Table 4-3: Projected Miscellaneous Revenues (in Million $)

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
GW Replenishment Rev	$0.32	$0.32	$0.32	$0.33	$0.33	$0.33	$0.33	$0.33	$0.34
State Water Contract Tax	$3.52	$4.07	$4.26	$4.35	$4.38	$4.38	$4.37	$4.40	$4.41
Ad Valorem Property Tax	$4.88	$4.14	$4.16	$4.19	$4.21	$4.23	$4.25	$4.29	$4.32
Interest Revenues	$0.30	$0.67	$0.67	$0.61	$0.67	$0.71	$0.59	$0.55	$0.66
Customer Jobs Revenue	$3.18	$2.10	$2.25	$2.25	$2.25	$2.25	$2.25	$2.25	$2.25
Other Revenues	$3.29	$5.95	$1.52	$1.48	$1.37	$1.38	$2.30	$2.32	$1.41
Drought Surcharges Revenues	$0.00	$6.90	$6.90	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total	**$15.48**	**$24.14**	**$20.08**	**$13.21**	**$13.20**	**$13.27**	**$14.10**	**$14.14**	**$13.39**

4.1.3 Water O&M Expenses

4.1.3.1 Water Supply Costs

As discussed in Section 1.1 of the Report, the District currently has three primary sources of water supply:

- The State Water Project (SWP)
- San Francisco's Regional Water System (SF)

- Local supplies

These sources of water have varying amounts of availability and costs. Based on projections and inputs from District staff, the respective sources of water, per unit price, and expected purchase quantities are shown in Table 4-4 below.

The current water supply costs are summarized in the FY 2015 column in Table 4-4. A total of 8,602 AF is acquired from SFPUC is an annual take or pay contract. Next, the District uses a matching amount of 8,602 AF of groundwater and additional 8,400 AF from the desalination plant. The 5,800 AF typically acquired from Lake Del Valle has been suspended during drought conditions and isn't predicted to come available again until FY 2018. Furthermore, the total of 4,200 AF received from the SWP is significantly less than what the SWP typically provides. The reduction of SWP water is backfilled by the Semi-tropic Take Tiers 1 and 2 in the amount of 5,987 AF and 6,261 AF, respectively. The Semi-tropic Take is SWP water stored by the District to improve water reliability.

The AF quantities for each source are then multiplied by the corresponding unit price. The summation of price and quantity of each source is the District's "total all-in water supply costs" for the given fiscal year. Note that depending on drought conditions, the availability of certain water sources may be limited which can drastically affect water supply costs from year to year.

Table 4-4: Projected Purchased Water Supply Costs

Descriptions	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Water Demand (in MGD)	40.52 MGD	34.17 MGD	34.17 MGD	36.36 MGD	38.71 MGD	38.88 MGD	39.15 MGD	39.48 MGD	39.81 MGD
Water Demand (in ccf)	19,768,573	16,669,362	16,670,586	17,739,026	18,883,737	18,970,647	19,098,347	19,261,405	19,420,803
Water loss	9%	9%	9%	9%	9%	9%	9%	9%	9%
Total Production (in ccf)	21,723,707	18,317,980	18,319,326	19,493,435	20,751,359	20,846,865	20,987,195	21,166,379	21,341,542
Total Production (in AF)	49,871	42,052	42,055	44,751	47,639	47,858	48,180	48,591	48,993
Water Supply to Meet Water Demand (in AF)									
SFPUC - Min	8,602	8,602	8,602	8,602	8,602	8,602	8,602	8,602	8,602
Groundwater - Min	8,602	8,602	8,602	8,602	8,602	8,602	8,602	8,602	8,602
Desal Water - Min	8,470	8,400	8,467	8,467	8,470	8,470	8,470	8,470	8,470
Lake Del Valle	5,800	0	0	0	5,800	5,800	5,800	5,800	5,800
SWP	18,398	4,200	13,860	13,860	16,165	16,385	16,707	17,118	17,520
Semi-tropic Take Tier 1	0	5,987	2,524	5,220	0	0	0	0	0
Semi-tropic Take Tier 2	0	6,261	0	0	0	0	0	0	0
SWP Purchase for Semi-tropic Storage									
Semi-tropic Put Tier 1	0	0	0	0	9,335	9,115	8,793	0	0
Semi-tropic Put Tier 2	0	0	0	0	0	0	0	0	0
Water Supply Unit Cost									
SFPUC - Min	$1,067.02	$1,276.05	$1,502.55	$1,506.91	$1,594.01	$1,820.51	$2,243.06	$2,133.15	$2,218.47
Groundwater - Min	$100.49	$105.52	$110.79	$116.33	$122.15	$128.26	$134.67	$141.40	$148.47
Desal Water - Min	$132.68	$139.31	$146.27	$153.59	$161.27	$169.33	$177.80	$186.69	$196.02
Lake Del Valle	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
SWP	$63.29	$58.01	$58.01	$58.80	$55.97	$57.27	$57.15	$59.01	$57.83
Semi-tropic Take Tier 1	-$18.71	-$19.27	-$19.85	-$20.44	-$21.06	-$21.69	-$22.34	-$23.01	-$23.70
Semi-tropic Take Tier 2	$144.20	$148.52	$152.98	$157.57	$162.29	$167.16	$172.18	$177.34	$182.66
Desal Water - to Max	$132.68	$139.31	$146.27	$153.59	$161.27	$169.33	$177.80	$186.69	$196.02
SFPUC - Max Limit	$1,067.02	$1,276.05	$1,502.55	$1,506.91	$1,594.01	$1,820.51	$2,243.06	$2,133.15	$2,218.47
Groundwater - Max	$100.49	$105.52	$110.79	$116.33	$122.15	$128.26	$134.67	$141.40	$148.47
Future Water Supply	$3,278.18	$3,376.53	$3,477.82	$3,582.16	$3,689.62	$3,800.31	$3,914.32	$4,031.75	$4,152.70
Semi-tropic Put Tier 1	$69.63	$71.72	$73.87	$76.09	$78.37	$80.72	$83.14	$85.64	$88.21
Semi-tropic Put Tier 2	$150.58	$155.10	$159.75	$164.54	$169.48	$174.56	$179.80	$185.19	$190.75
All-In Water Supply Cost by Sources									
SFPUC	***$11,814,512***	***$13,641,836***	***$15,605,190***	***$15,661,129***	***$16,429,025***	***$18,396,863***	***$22,051,466***	***$21,119,816***	***$21,867,982***
Fixed	$2,343,784	$2,343,784	$2,343,784	$2,343,784	$2,343,784	$2,343,784	$2,343,784	$2,343,784	$2,343,784
Min	$9,178,087	$10,976,584	$12,924,928	$12,962,410	$13,711,000	$15,659,333	$19,293,864	$18,348,465	$19,082,404
Max	$0	$0	$0	$0	$0	$0	$0	$0	$0
Drought Surcharge	$0	$0	$0	$0	$0	$0	$0	$0	$0
Blending Cost	$292,641	$321,468	$336,478	$354,935	$374,241	$393,745	$413,818	$427,566	$441,794
SWP or SBA	***$12,452,919***	***$13,508,172***	***$15,642,876***	***$16,352,801***	***$14,580,092***	***$14,979,664***	***$15,375,457***	***$15,746,078***	***$16,096,937***
Fixed	$5,882,754	$5,754,553	$6,811,379	$6,945,865	$6,910,653	$6,883,136	$6,840,493	$6,841,425	$6,864,895
Variable	$1,164,327	$243,659	$803,999	$815,021	$904,743	$938,281	$954,819	$1,010,109	$1,013,268
Treatment Cost	$5,405,838	$7,509,961	$8,027,498	$8,591,916	$6,764,695	$7,158,247	$7,580,145	$7,894,544	$8,218,774
Groundwater	***$1,157,045***	***$1,229,135***	***$1,289,528***	***$1,355,638***	***$1,424,930***	***$1,496,969***	***$1,572,202***	***$1,643,870***	***$1,718,913***
Min	$864,404	$907,667	$953,050	$1,000,703	$1,050,689	$1,103,223	$1,158,384	$1,216,304	$1,277,119
Blending Cost	$292,641	$321,468	$336,478	$354,935	$374,241	$393,745	$413,818	$427,566	$441,794
Desal Water	***$1,748,703***	***$1,796,761***	***$1,903,193***	***$2,015,541***	***$2,135,149***	***$2,242,153***	***$2,354,408***	***$2,460,114***	***$2,570,624***
Operation of Desalination Facility	$624,942	$626,564	$664,685	$715,108	$769,211	$807,918	$848,461	$878,870	$910,318
Min	$1,123,761	$1,170,197	$1,238,507	$1,300,433	$1,365,938	$1,434,235	$1,505,947	$1,581,244	$1,660,306
Lake Del Valle	***$1,704,239***	***$0***	***$0***	***$0***	***$2,427,117***	***$2,533,952***	***$2,631,558***	***$2,674,847***	***$2,720,790***
Water Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0
Treatment Cost	$1,704,239	$0	$0	$0	$2,427,117	$2,533,952	$2,631,558	$2,674,847	$2,720,790
Semi-tropic	***$927,000***	***$1,769,389***	***$933,353***	***$906,254***	***$1,774,900***	***$1,810,449***	***$1,837,978***	***$1,140,093***	***$1,174,296***
Fixed	$927,000	$954,810	$983,454	$1,012,958	$1,043,347	$1,074,647	$1,106,886	$1,140,093	$1,174,296
Take	$0	$814,579	-$50,101	-$106,703	$0	$0	$0	$0	$0
Total All-in Water Supply Costs	**$29,804,418**	**$31,945,294**	**$35,374,140**	**$36,291,363**	**$38,771,212**	**$41,460,049**	**$45,823,068**	**$44,784,818**	**$46,149,542**
		7.18%	**10.73%**	**2.59%**	**6.83%**	**6.94%**	**10.52%**	**-2.27%**	**3.05%**

4.1.3.2 Water O&M Expenses

Using the District's FY 2015 budget values and inflation factors that were assigned to each line item (see Table 3-1), future O&M costs can be determined. Table 4-5 summarizes budgeted and projected O&M expenses during the Study period.

Table 4-5: Budgeted and Projected Water O&M Expenses (in Million $)

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
All-in Water Supply Costs	$29.80	$31.95	$35.37	$36.29	$38.77	$41.46	$45.82	$44.78	$46.15
Other O&M Costs	$29.67	$33.47	$32.85	$34.91	$37.08	$39.13	$41.26	$42.67	$44.13
Customer Accounts	$2.03	$1.64	$1.82	$1.87	$1.93	$1.99	$2.05	$2.11	$2.17
Administrative & General	$12.96	$14.23	$16.17	$17.64	$19.19	$20.75	$22.37	$23.20	$24.06
Net Revised Budget Cuts	$0.00	$0.00	-$0.32	-$1.52	-$1.52	-$1.52	-$1.52	-$1.52	-$1.52
OPEB & CalPERS Additional Funding	$0.00	$0.00	$0.00	$0.00	$3.00	$4.00	$4.00	$5.00	$5.00
Total O&M	**$74.46**	**$81.28**	**$85.89**	**$89.19**	**$98.44**	**$105.81**	**$113.97**	**$116.23**	**$119.98**

4.1.4 Debt Service Obligation

The District is currently obligated to annual debt service payments for two revenue bonds:

- 2009 Water System Refunding Revenue Bond (2009 Bond) and
- 2012 Revenue Bond (2012 Bond).

The annual debt service schedule for each is shown in Table 4-6.

Table 4-6: Current Annual Debt Service Schedule (in Million $)

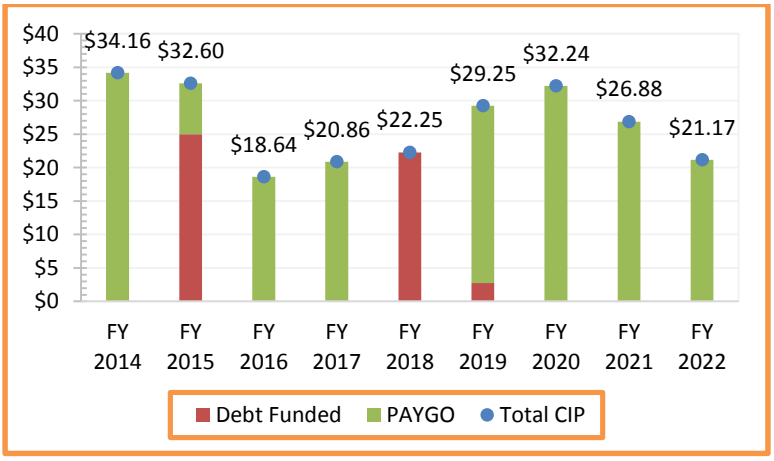
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
2012 Bond	$1.89	$1.89	$1.89	$1.89	$1.89	$1.89	$1.88	$3.91	$3.85
2009 Bond	$2.87	$2.87	$2.86	$2.87	$2.86	$2.86	$2.87	$0.00	$0.00
Total Current Debt Service	**$4.76**	**$4.76**	**$4.76**	**$4.76**	**$4.75**	**$4.75**	**$4.75**	**$3.91**	**$3.85**

The District is planning to issue two new bonds to fund a total of $50M of capital expenditures. The District is currently in the process of issuing the first bond for FY 2015 in the amount of approximately $25.5M to fund $25M capital expenditures (after interest and issuance costs are considered). The second debt issue of approximately $25.5M is planned for FY 2018 to fund another $25M of capital expenditures for FY 2018 and FY 2019. The projected annual debt service for each new bond is $1.475M assuming a 30 year repayment term, a 4 percent interest rate, and 2 percent issuance cost for both new bond issues.

4.1.5 Capital Expenditures

The issuance of the new debt in combination with PAYGO funding will be used to finance the District's capital projects. Figure 4-1 summarizes the projected capital expenditures during the Study period as provided by the District. The two bond issuances are denoted by the red bars in FYs 2015, 2018, and 2019.

Figure 4-1: Projected Capital Expenditures (in Million $) and Funding Sources



4.2 WATER FINANCIAL PLAN

Use of the FPM enables the District to set rates and charges to generate sufficient water revenues to meet the District's short- and long-term obligations to avoid significant rate fluctuations. It also shows the level of revenues that will maintain appropriate reserves and provide adequate debt service coverage. The commodity and fixed service charge are the District's primary source of revenue, comprising about 80% of the District's total source of revenues. The scenarios presented below have varying levels of fixed service charge and commodity rate for different drought scenarios from no drought to severe extended dry period scenarios. Overall, the FPM evaluated 10 different scenarios for financial sensitivity analysis in preparing for the drought.

When selecting a FPM scenario it's important to prepare for adverse water supply scenarios without overly impacting the existing customer base. In the event of a one year drought (FY 2015 only), a 5% revenue adjustment may be enough to meet the District's financial obligations such as reserve target and debt coverage obligation. However, if the drought becomes prolonged and worsens (Extended Dry Period scenario), two 8% revenue adjustments and $6.9M in drought surcharge revenue will not be enough to meet the District's obligations. In other words, if the District pursues only a 5% revenue adjustment and the drought becomes prolonged, then there will need to be hefty revenue adjustments in the following year coupled with a large drought surcharge to meet all of the District's obligations.

The graphical representation for each of the scenarios summarized in Table 4-7 below is further detailed in Appendix II. Upon considering each of the alternatives, the "2015 & 2016 Drought #3" scenario was selected by the District Board during the December 8, 2014 Public Workshop, with a 30% fixed service

charge adjustment in FY 2015 and no change to the commodity rate (equivalent to overall 8% increase in revenues for FY 2015) and 8% increase in both the service and commodity charges in the remaining years and a $6.9M drought surcharge in both FY 2015 and FY 2016.

Table 4-7: Evaluated Financial Plan Scenarios

Financial Plan Scenario Descriptions	Water Demand / Supply Scenario	Revenue Adjustments (Fixed / Commodity)			Drought Surcharges (DSC)
		FY 2015	FY 2016	FY 2017 – 2022	
No drought	No Drought	5% / 5%	5% / 5%	8%/8%	$0
2015 Drought Only No DSC	2015 Drought Only	5% / 5%	5% / 5%	8%/8%	$0
2015 Drought Only with DSC #1	2015 Drought Only	5% / 5%	5% / 5%	8%/8%	$6.9M in FY 2015
2015 Drought Only with DSC #2	2015 Drought Only	8% / 8%	8% / 8%	8%/8%	$6.9M in FY 2015
2015 & 2016 Drought #1	Medium	5% / 5%	5% / 5%	8%/8%	$6.9M in FY 2015 & FY 2016
2015 & 2016 Drought #2	Medium	8% / 8%	8% / 8%	8%/8%	$6.9M in FY 2015 & FY 2016
2015 & 2016 Drought #3	Medium	30% / 0%	8% / 8%	8%/8%	$6.9M in FY 2015 & FY 2016
Extended Dry Period #1	Extended Dry Period	8% / 8%	8% / 8%	8%/8%	$6.9M in FY 2015 only
Extended Dry Period #2	Extended Dry Period	8% / 8%	8% / 8%	8%/8%	$6.9M in FY 2015, $35M FY 2016, & $6.9M in FY 2017
Extended Dry Period #3	Extended Dry Period	30% / 0%	8% / 8%	8%/8%	$6.9M in FY 2015, $35M FY 2016, & $6.9M in FY 2017
SELECTED: 2015 & 2016 Drought #3	**Medium**	**30% / 0%**	**8% / 8%**	**8%/8%**	**$6.9M in FY 2015 & FY 2016**

4.2.1 Status Quo Water Financial Plan

Table 4-8 displays the pro forma of the District's General Fund under current rates over the Study period under Medium Drought Scenario without any revenue adjustment. All projections shown in the table are based upon the District's current rate structure and do not include any rate adjustments.

Under the "status-quo" scenario, the General Fund will face negative net income starting FY 2018. Revenues generated from rates and other miscellaneous revenues are inadequate to sufficiently recover operating expenses, capital expenditure and debt obligation throughout the Study period shown by

negative net cash balance in Table 4-8. Starting in FY 2016, debt coverage is fallen below the target 125 percent required by the Official Statement of the 2009 and 2012 Bonds. The District is unable to maintain fiscal sustainability and solvency under the current rates.

Table 4-8: Status Quo Financial Plan under Medium Drought Scenario

	FY 2014 Budgeted	FY 2015 Budgeted	FY 2016 Projected	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected	FY 2021 Projected	FY 2022 Projected
REVENUES									
Revenues from Current Rates	$83,415,719	$76,356,950	$76,466,553	$80,228,377	$84,169,986	$84,545,630	$85,098,788	$85,810,632	$86,505,251
Revenues Adjustments	$0	$0	$0	$0	$0	$0	$0	$0	$0
Groundwater Replenishment Revenues	$315,682	$321,000	$322,733	$325,348	$326,714	$328,119	$330,153	$332,827	$335,424
State Water Contract Tax	$3,515,533	$4,072,700	$4,264,612	$4,346,096	$4,376,622	$4,379,994	$4,365,375	$4,396,859	$4,411,771
Ad Valorem Property Tax (1%)	$4,884,758	$4,135,500	$4,157,832	$4,191,510	$4,209,114	$4,227,214	$4,253,422	$4,287,875	$4,321,321
Interest revenues	$304,286	$661,053	$616,621	$430,164	$283,009	$22,837	-$484,277	-$1,021,220	-$1,530,454
Customer Jobs Revenue	$3,176,286	$2,097,500	$2,250,000	$2,250,000	$2,250,000	$2,250,000	$2,250,000	$2,250,000	$2,250,000
Other Revenues	$3,248,053	$5,915,201	$1,487,967	$1,451,681	$1,338,981	$1,344,739	$2,273,576	$2,284,536	$1,374,675
Residential SL	$37,414	$30,000	$30,162	$30,406	$30,534	$30,665	$30,855	$31,105	$31,348
Projected Drought Surcharges Rev (effective July)	$0	$6,900,000	$6,900,000	$0	$0	$0	$0	$0	$0
TOTAL REVENUES	**$98,897,731**	**$100,489,904**	**$96,496,480**	**$93,253,582**	**$96,984,961**	**$97,129,197**	**$98,117,892**	**$98,372,615**	**$97,699,336**
EXPENSES									
Water Related Supply Costs	$29,804,418	$31,945,294	$35,374,140	$36,291,363	$38,771,212	$41,460,049	$45,823,068	$44,784,818	$46,149,542
Net Revised Budget Cuts	$0	$0	-$324,000	-$1,524,000	-$1,524,000	-$1,524,000	-$1,524,000	-$1,524,000	-$1,524,000
OPEB Additional Funding	$0	$0	$0	$0	$3,000,000	$4,000,000	$4,000,000	$5,000,000	$5,000,000
Other O&M Expenses	$44,656,322	$49,332,906	$50,835,120	$54,420,419	$58,193,677	$61,877,403	$65,672,243	$67,970,906	$70,353,954
TOTAL EXPENSES	**$74,460,740**	**$81,278,200**	**$85,885,260**	**$89,187,782**	**$98,440,889**	**$105,813,452**	**$113,971,311**	**$116,231,724**	**$119,979,496**
NET REVENUES	**$24,436,991**	**$19,211,704**	**$10,611,220**	**$4,065,800**	**-$1,455,928**	**-$8,684,254**	**-$15,853,419**	**-$17,859,109**	**-$22,280,160**
DEBT									
Proposed Debt Issue	$0	$25,510,204	$0	$0	$25,510,204	$0	$0	$0	$0
Issuance Expenses	$0	$510,204	$0	$0	$510,204	$0	$0	$0	$0
Debt Service Reserve	$0	$0	$0	$0	$0	$0	$0	$0	$0
Debt Proceeds to Restricted Bond Proceed Fund	$0	$25,000,000	$0	$0	$25,000,000	$0	$0	$0	$0
GF CIP Expenditures	**$34,160,300**	**$32,598,700**	**$18,644,658**	**$20,857,221**	**$22,247,933**	**$29,246,802**	**$32,238,624**	**$26,880,143**	**$21,167,344**
PayGo	$20,071,180	$7,598,700	$18,644,658	$20,857,221	$0	$26,494,735	$32,238,624	$26,880,143	$21,167,344
Existing Debt Financing	$14,089,120	$0	$0	$0	$0	$0	$0	$0	$0
New Debt Financing	$0	$25,000,000	$0	$0	$22,247,933	$2,752,067	$0	$0	$0
DEBT SERVICE									
Existing Debt Service	$4,759,881	$4,759,006	$4,756,481	$4,759,506	$4,750,381	$4,748,056	$4,750,756	$3,905,381	$3,853,631
New Debt Service	$0	$1,475,258	$1,475,258	$1,475,258	$2,950,515	$2,950,515	$2,950,515	$2,950,515	$2,950,515
TOTAL DEBT SERVICE	**$4,759,881**	**$6,234,264**	**$6,231,739**	**$6,234,764**	**$7,700,897**	**$7,698,572**	**$7,701,272**	**$6,855,897**	**$6,804,147**
NET CASH BALANCES	**-$394,070**	**$5,378,741**	**-$14,265,178**	**-$23,026,185**	**-$9,156,825**	**-$42,877,561**	**-$55,793,315**	**-$51,595,148**	**-$50,251,650**
Beginning GF Balances	$63,810,004	$63,415,934	$68,794,675	$54,529,497	$31,503,312	$22,346,487	-$20,531,074	-$76,324,389	-$127,919,537
Ending GF Balances	**$63,415,934**	**$68,794,675**	**$54,529,497**	**$31,503,312**	**$22,346,487**	**-$20,531,074**	**-$76,324,389**	**-$127,919,537**	**-$178,171,187**
Target GF Balances	$54,508,494	$56,759,881	$58,275,336	$59,368,793	$62,419,193	$64,851,014	$67,547,408	$65,426,469	$66,663,234
Debt Coverage Ratios	**491%**	**330%**	**204%**	**89%**	**2%**	**-91%**	**-184%**	**-240%**	**-311%**
Target Debt Coverage Ratios	125%	125%	125%	125%	125%	125%	125%	125%	125%

4.2.2 Proposed Water Financial Plan

Based on the outcome of the Public Workshop on Jan 8, 2015, the Board selected the "2015 & 2016 Drought #3" scenario as shown in Table 4-7. The proposed fixed and commodity revenue adjustments are summarized in Table 4-9.

Table 4-9: Proposed Revenue Adjustments

Fiscal Year	Effective Date	Proposed Fixed Revenue Adjustment	Proposed Commodity Revenue Adjustment
2015	May 1	30%	0%
2016	February 1	8%	8%
2017	February 1	8%	8%
2018	February 1	8%	8%
2019	February 1	8%	8%
2020	February 1	8%	8%
2021	February 1	8%	8%
2022	February 1	8%	8%
2023 & beyond	February 1	3%	3%

Under the Medium drought scenario, the General Fund maintains positive cash balances throughout the Study period. The line item detail of the pro forma with the proposed revenue adjustments is shown in Table 4-10. Despite the proposed revenue adjustments, there are a few instances where the ending General Fund balance drops below target levels. As shown in Figure 4-3, the General Fund balance dips below target levels in FYs 2017, 2020, and 2021. This is caused by large capital expenditures in those same years. It is worth noting that the General Fund target levels are quickly restored in the following fiscal year.

The proposed revenue adjustments also ensure that the District will meet its bond covenants by maintaining at least a 125% debt coverage. As shown in Figure 4-2, the District exceeds the debt coverage requirements even without the 1% tax or the SWP property tax revenues.

Table 4-10: Proposed Water Financial Plan

	FY 2014 *Budgeted*	FY 2015 *Budgeted*	FY 2016 *Projected*	FY 2017 *Projected*	FY 2018 *Projected*	FY 2019 *Projected*	FY 2020 *Projected*	FY 2021 *Projected*	FY 2022 *Projected*
REVENUES									
Revenues from Current Rates	$83,415,719	$76,356,950	$76,466,553	$80,228,377	$84,169,986	$84,545,630	$85,098,788	$85,810,632	$86,505,251
Revenues Adjustments	$0	$1,006,860	$8,824,112	$16,136,756	$24,684,356	$33,538,264	$43,261,121	$53,972,615	$65,676,917
Groundwater Replenishment Revenues	$315,682	$321,000	$322,733	$325,348	$326,714	$328,119	$330,153	$332,827	$335,424
State Water Contract Tax	$3,515,533	$4,072,700	$4,264,612	$4,346,096	$4,376,622	$4,379,994	$4,365,375	$4,396,859	$4,411,771
Ad Valorem Property Tax (1%)	$4,884,758	$4,135,500	$4,157,832	$4,191,510	$4,209,114	$4,227,214	$4,253,422	$4,287,875	$4,321,321
Interest revenues	$304,286	$666,113	$671,133	$610,656	$670,446	$706,744	$592,429	$554,920	$662,781
Customer Jobs Revenue	$3,176,286	$2,097,500	$2,250,000	$2,250,000	$2,250,000	$2,250,000	$2,250,000	$2,250,000	$2,250,000
Other Revenues	$3,248,053	$5,915,201	$1,487,967	$1,451,681	$1,338,981	$1,344,739	$2,273,576	$2,284,536	$1,374,675
Residential SL	$37,414	$30,000	$30,162	$30,406	$30,534	$30,665	$30,855	$31,105	$31,348
Projected Drought Surcharges Rev (effective July)	$0	$6,900,000	$6,900,000	$0	$0	$0	$0	$0	$0
TOTAL REVENUES	**$98,897,731**	**$101,501,824**	**$105,375,104**	**$109,570,829**	**$122,056,754**	**$131,351,369**	**$142,455,720**	**$153,921,369**	**$165,569,487**
EXPENSES									
Water Related Supply Costs	$29,804,418	$31,945,294	$35,374,140	$36,291,363	$38,771,212	$41,460,049	$45,823,068	$44,784,818	$46,149,542
Net Revised Budget Cuts	$0	$0	-$324,000	-$1,524,000	-$1,524,000	-$1,524,000	-$1,524,000	-$1,524,000	-$1,524,000
OPEB Additional Funding	$0	$0	$0	$0	$3,000,000	$4,000,000	$4,000,000	$5,000,000	$5,000,000
Other O&M Expenses	$44,656,322	$49,332,906	$50,835,120	$54,420,419	$58,193,677	$61,877,403	$65,672,243	$67,970,906	$70,353,954
TOTAL EXPENSES	**$74,460,740**	**$81,278,200**	**$85,885,260**	**$89,187,782**	**$98,440,889**	**$105,813,452**	**$113,971,311**	**$116,231,724**	**$119,979,496**
NET REVENUES	**$24,436,991**	**$20,223,624**	**$19,489,844**	**$20,383,047**	**$23,615,865**	**$25,537,917**	**$28,484,409**	**$37,689,646**	**$45,589,991**
DEBT									
Proposed Debt Issue	$0	$25,510,204	$0	$0	$25,510,204	$0	$0	$0	$0
Issuance Expenses	$0	$510,204	$0	$0	$510,204	$0	$0	$0	$0
Debt Service Reserve	$0	$0	$0	$0	$0	$0	$0	$0	$0
Debt Proceeds to Restricted Bond Proceed Fund	$0	$25,000,000	$0	$0	$25,000,000	$0	$0	$0	$0
GF CIP Expenditures	**$34,160,300**	**$32,598,700**	**$18,644,658**	**$20,857,221**	**$22,247,933**	**$29,246,802**	**$32,238,624**	**$26,880,143**	**$21,167,344**
PayGo	$20,071,180	$7,598,700	$18,644,658	$20,857,221	$0	$26,494,735	$32,238,624	$26,880,143	$21,167,344
Existing Debt Financing	$14,089,120	$0	$0	$0	$0	$0	$0	$0	$0
New Debt Financing	$0	$25,000,000	$0	$0	$22,247,933	$2,752,067	$0	$0	$0
DEBT SERVICE									
Existing Debt Service	$4,759,881	$4,759,006	$4,756,481	$4,759,506	$4,750,381	$4,748,056	$4,750,756	$3,905,381	$3,853,631
New Debt Service	$0	$1,475,258	$1,475,258	$1,475,258	$2,950,515	$2,950,515	$2,950,515	$2,950,515	$2,950,515
TOTAL DEBT SERVICE	**$4,759,881**	**$6,234,264**	**$6,231,739**	**$6,234,764**	**$7,700,897**	**$7,698,572**	**$7,701,272**	**$6,855,897**	**$6,804,147**
NET CASH BALANCES	**-$394,070**	**$6,390,660**	**-$5,386,554**	**-$6,708,938**	**$15,914,969**	**-$8,655,390**	**-$11,455,487**	**$3,953,606**	**$17,618,501**
Beginning GF Balances	$63,810,004	$63,415,934	$69,806,594	$64,420,040	$57,711,103	$73,626,071	$64,970,681	$53,515,195	$57,468,801
Ending GF Balances	**$63,415,934**	**$69,806,594**	**$64,420,040**	**$57,711,103**	**$73,626,071**	**$64,970,681**	**$53,515,195**	**$57,468,801**	**$75,087,302**
Target GF Balances	$54,508,494	$56,759,881	$58,275,336	$59,368,793	$62,419,193	$64,851,014	$67,547,408	$65,426,469	$66,663,234
Debt Coverage Ratios	**491%**	**346%**	**347%**	**351%**	**328%**	**353%**	**391%**	**570%**	**687%**
Target Debt Coverage Ratios	125%	125%	125%	125%	125%	125%	125%	125%	125%

Figure 4-2: Projected Water Debt Coverage

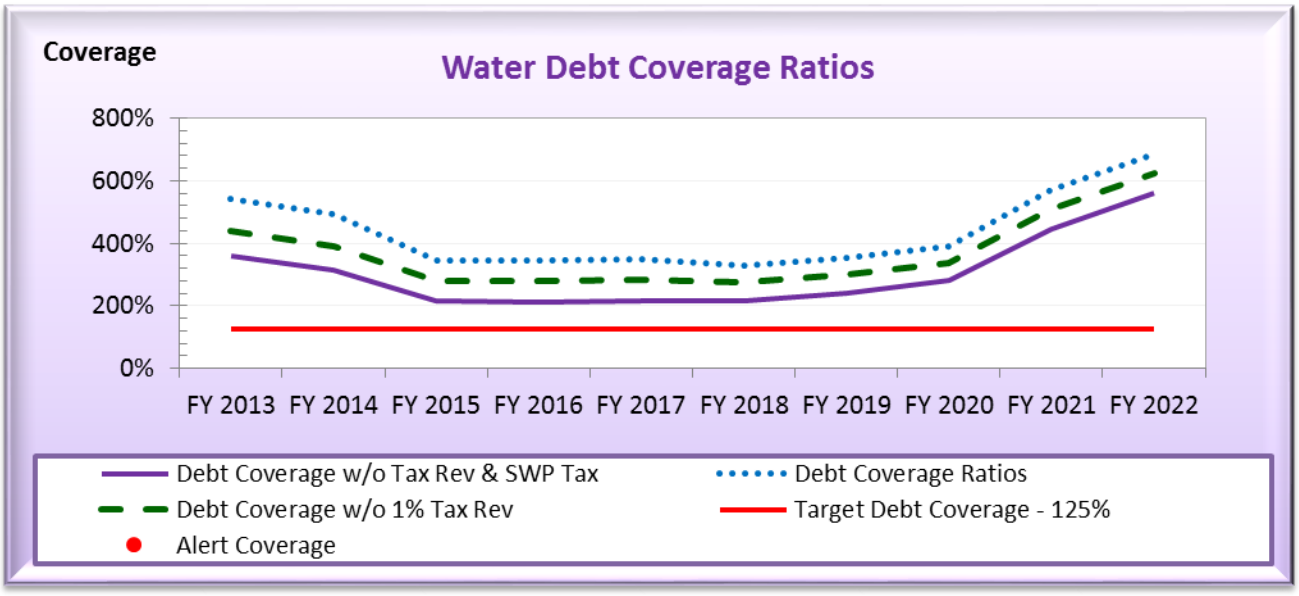
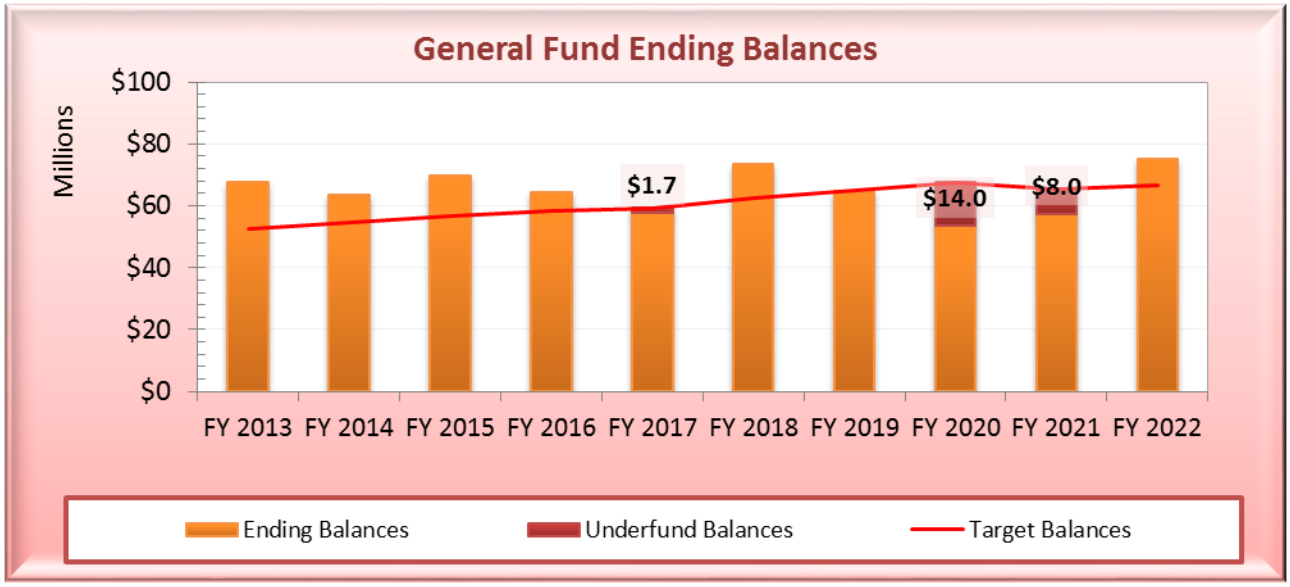


Figure 4-3: Projected General Fund Ending Balances



5 COST OF SERVICE ANALYSIS

5.1 COST OF SERVICE ANALYSIS (COS)

Proposition 218 requires a nexus between the rates charged and the costs of providing service. Based on the proposed financial plan, the cost of service analysis translates this financial requirement into actual rates. The first step in the cost of service analysis is to determine how much revenue is required to be collected from rates. The methodology used is based upon the premise that the utility must generate annual revenues adequate to meet its estimated annual expenses. As part of the cost of service analysis, several adjustments are made to the appropriate cost elements to ensure adequate collection of revenues by determining the annual revenues needed from rates. Revenues from sources other than water rates and charges (e.g., revenues from miscellaneous services) are deducted.

A COS analysis is best performed using a test year that represents typical revenues for the District. The impact of the drought in FY 2015 caused significant revenue adjustments in 2015 and may not be an ideal candidate for the COS analysis. Therefore, the selected test year for the COS analysis is FY 2014, prior to any revenue adjustment for FY 2015. The financial plan shows the revenues for the test year FY 2014 under current rates effective February 2014; since rates are effective in February 2014, this amounts to 2.5 bi-monthly billing periods of the fiscal year, but the figures have been annualized for this analysis as shown Table 5-1 below.

Table 5-1: Annualized Water Revenue Requirement

ANNUALIZED REVENUE REQUIREMENTS	
Water Supply Costs	$29,804,418
Other O&M	$44,656,322
Debt Service	$4,759,881
Rate Funded Capital Expenditure	$20,071,180
Reserve Funding	$2,915,542
Total Revenue Requirements	***$102,207,347***
LESS: OTHER REVENUES	
Groundwater Replenishment Revenue	$315,682
1% Tax Allocation	$4,884,758
State Water Contract Tax	$3,515,533
Interest revenues	$304,286
Customer Jobs Revenue	$3,176,286
Other Revenues	$3,248,053
Residential SL	$37,414
Total Other Revenues	***$15,482,012***
NET REVENUE REQUIREMENTS FROM RATES	**$86,725,335**

According AWWA M1 Manual, the costs incurred in a water utility are generally responsive to the specific service requirements or cost drivers imposed on the system by its customers. Each of the various water utility facilities are designed and sized to meet one or more of these cost drivers, and the capital costs incurred in the construction/installation of these facilities as well as the O&M expenses incurred in running the system are, in turn, linked to these service requirements. The principal service requirements that drive costs include the annual volume of water consumed, the peak water demands incurred, the number of customers in the system, and the number of fire services required to maintain adequate fire protection. Accordingly, these service requirements are the basis for the selection of the cost categories or cost components used in the second step in the cost-of-service allocation process.

The AWWA recommends two methods for classifying costs among various customers: (1) the Base-Extra Capacity method in which costs are allocated to the different customer categories proportionate to their use of the water system; and (2) the Commodity-Demand method in which costs are proportionately allocated to each customer category based on their peak demand. Although the two methods vary in the way in which costs are allocated, both result in rates designed to recover the reasonable cost of service during periods of both average and peak demands. This Study uses the Base-Extra Capacity method, which is widely used in the water industry to serve retail customers.

The second step in the cost of service analysis is to functionalize the revenue requirements into cost components. This analysis employs the "Base-Extra Capacity" method, under which water utility costs of service are assigned to basic functional cost components including: water supply costs; base costs (fixed costs incurred to meet average demand); extra capacity or peaking costs (fixed water system costs to meet maximum day and maximum hour, or peaking, demand); and conservation, meter service and customer-service related costs as described in the M1 Manual. Base costs include fixed water supply costs, operations and maintenance costs, capital costs under average load conditions, a portion of operations and maintenance costs associated with storage, treatment, pumping and distributions facilities, and certain water capital cost investments. Extra capacity costs are costs associated with meeting water demands that exceed average (base) levels of use by system customers. These costs are incurred because of water use variations and peak demands of customers. Both base and peaking costs are considered fixed costs along with billing and customer service costs, fire protection and meter service costs. Customer costs are costs associated with serving customers, such as meter reading, billing, customer service, etc. Direct fire protection costs are related to the costs that apply solely to the fire protection function of the water system, both public and private, such as fire hydrants and related branch mains and valves, and the additional capacity required in the system to accommodate fire flow in case of an emergency.

Table 5-2 summarizes the characteristics of the District's water system for FY 2013-14 determined by the District's Engineering staff. The Average Daily Flow is the volume of a water delivered to the system over the course of a year divided by 365 days, expressed here in gallons per minute. The Peak Day Demand is the largest volume of water delivered to the system in a single day. Similarly, the Peak Hour Demand is the maximum volume of water delivered to the system in a single hour. The Max Day peaking factor, which is the ratio of Peak Day Demand over Average Daily Flow, is 1.65 and Max Hour peaking factor, or

Peak Hour Demand over Average Daily Flow, is 2.47. These ratios are used to determine the appropriate percentage allocation of total O&M and capital costs towards peaking, as shown in Appendix III, Table 8-1 and Table 8-2.

Table 5-2: FY 2013-14 Water System Characteristics and Peaking Factors

	Water System
Average Daily Flow	29,939 GPM
Peak Day Demand	49,399 GPM
Peak Hour Demand	74,098 GPM
Peaking Factors	
Max Day	1.65
Max Hour	2.47

The required revenue to be recovered from rates of $86.725M is allocated according to the categories in Table 5-3. Water supply offsets include revenues from State Water contract tax ($3.515M) and Groundwater replenishment revenues ($316K) as shown in Table 4-3. Revenue offsets include Ad Valorem property tax ($4.885M) and interest revenues ($304K) as shown in Table 4-3. For further detail please see Appendix III in Section 8, which shows the step-by-step allocations.

Table 5-3: Allocated Water System Cost

	Water System Costs
Water Supply Variable Cost	$13,653,842
Water Supply Offsets	-$3,831,215
Base	$52,307,636
Peaking	$22,875,928
Conservation	$920,000
Revenue Offsets	-$5,189,044
Meters	$3,077,491
Billing & Customer Service	$2,910,698
Total	**$86,725,335**

5.1.1 Monthly Fixed Service Charges

In this Study, RFC evaluated two bi-monthly fixed service charges options (Table 5-5), Baseline COS and Revised COS Options. Both of these options for fixed charges were presented to the Board of Directors during the December 2014 Public Workshop.

One of the goals when developing a fixed charge is to better align fixed charge revenues with fixed cost and commodity revenues with variable costs. Table 5-4 below summarizes the District's fixed and commodity revenues with their corresponding costs.

Table 5-4: Comparison of Fixed and Variable Costs and Revenues

	Revenues	Costs
Fixed	23%	80%
Commodity/Variable	77%	20%

Several Board Members have expressed the desire to better align the percentage of the fixed component of revenue more closely with percentage of fixed costs. To further remedy this, the current rate proposal is to increase the District's fixed service charge revenues by 30% with no increase in the commodity rate. While the proposed service charge increase is a sizable 30%, it only yields an overall 8% increase in total revenue. This proposed increase in the service charge will result in a more balanced distribution, with the fixed service charge revenue being 30% of overall revenue and the commodity rate revenue being 70% of overall revenue.

At the conclusion of the December 2014 Public Workshop, the Administrative and Finance Committee (A&F Committee) and the Board discussed proceeding with increasing 30% on the baseline COS fixed service charge without increasing commodity revenue requirements for FY 2015, effective May 2015 (A&F COS in Table 5-5). The three fixed charge options are summarized in Table 5-5 below.

Table 5-5: Evaluated Monthly Fixed Charges Options

Fixed Charge Options / Revenue Adjustment	Baseline COS (23% Fixed / 77% variable) 5% or 8% on Both Fixed and Commodity	Revised COS (**30% Fixed / 70% Variable**) 5% or 8% on Both Fixed and Commodity	A&F COS Baseline COS + 30% increase on Fixed 0% increase on Commodity
Total % Revenues from Fixed Charges	**23%**	**30%**	**29%**
+ Pros	• Higher conservation price signal	• Enhances revenues stability during volatile water demand	• Enhances revenues stability during volatile water demand
– Cons	• Subject to revenue volatility during drought and conservation	• Impacts small users	• Impacts small users

According to AWWA M1 Manual, cost-of-service approach to setting water rates results in the distribution of costs to each customer or customer class based on the costs that each incurs. A dual set of fees—fixed and variable—is an extension of this cost causation theory. For example, a utility incurs some costs associated with serving customers irrespective of the amount or rate of water they use, such as billing and customer service costs. These types of costs are referred to as customer-related costs and typically are costs that would be recovered through a fixed charge. These costs are usually recovered on a per-customer basis or some other non-consumptive basis. Regardless of the level of a customer's consumption, a customer will be charged this minimum amount in each bill. Utilities invest in and continue to maintain facilities to provide capacity to meet all levels of desired consumption including the peak demand plus fire protection, and these costs must be recovered regardless of the amount of water used during a given period. Thus, capacity or peaking costs along with base costs are generally considered as fixed water system costs. It is ideal that agencies recover 100% of the fixed costs in the fixed charges, however, it foregoes the affordability for essential use and impacts heavily small users. To balance between affordability and revenue stability, it is a common practice that a portion of the base costs and peaking costs are recovered in the fixed charges along with the customer-related costs and meter-related costs.

The most common method for levying fixed charges is by meter size. Meter size is a proxy for the estimated demand that each customer places on the water system. The District's base meter is most commonly a ¾-inch meter. The ratio at which the meter charge increases is typically a function of either meter investment (estimated cost) or the meter's safe operating capacity. For example, based on the AWWA meter capacity ratios, a customer that has a 2-inch meter has the capacity equivalency of 5.33 ¾-inch meters. (A 2-inch meter has a safe operating capacity of 160 gallons per minute (gpm) compared to a ¾-inch meter which has a safe operating capacity of 30 gpm as listed in Table B-1 in AWWA M1 Manual).

Billing and customer service costs related to meter reading, billing and collections are distributed among customers based on the total number of bills rendered in a test year, which is FY 2014 for this Study. Meter service costs, costs related to maintenance costs related to customer meters and services, are distributed to customers in proportion to estimated costs for meters and services installed. Capacity costs, costs related to capital costs related to customer meters and services, are distributed in proportion to meter demand capacity as provided by AWWA M1. According to the AWWA M1 Manual, distribution of meter service costs and capacity costs by equivalent meter and service ratios recognizes that meter and service costs vary, depending on considerations such as the size of service pipe, materials used, locations of meters and other local characteristics for various size meters as compared to ¾-inch meters and services.

The components of water system costs are recovered through either fixed service revenues, commodity revenues, or a combination of both. As shown in Table 5-6 below, the entirety of the water supply variable costs, water offset and revenue offset is recovered from commodity revenues. On the other hand, meter cost and billing & customer service are entirely recovered from fixed service revenues. Base and peaking costs are recovered from both commodity and fixed service revenues. For these two shared cost components, based on the District Board's policy discussed and agreed during the December 2014 Public

Workshop, the commodity revenues are responsible for 80.6% of the costs and the fixed service revenues is responsible for 19.4%.

Table 5-6: Water System Costs Allocation to Fixed Service and Commodity Revenues

	Water System Costs	Fixed Service Revenues	Commodity Revenues
Water Supply Variable Cost	$13,653,842		$13,653,842
Water Supply Offset	-$3,831,215		-$3,831,215
Base	$52,307,636	$10,163,374	$42,144,262
Peaking	$22,875,928	$4,444,793	$18,431,136
Conservation	$920,000		$920,000
Revenue Offsets	-$5,189,044		-$5,189,044
Meters	$3,077,491	$3,077,491	
Billing & Customer Service	$2,910,698	$2,910,698	
Total	**$86,725,335**	**$20,596,355**	**$66,128,981**

In order to create parity across the various meter sizes, each meter size is assigned a factor relative to a 5/8" meter, which has a value of 1. Note that the customer service factor does not escalate with higher meter sizes, since it is assumed that customer service costs are constant regardless of meter size. However, the meter service factor and capacity factor do escalate as meter sizes increase. Table 5-7 summarizes the Equivalent Meter Units (EMU) for each fixed cost component.

Table 5-7: Summary of Meters, Meter Ratios and Equivalent Meter Units

		Equivalent Meter Ratios			Equivalent Meter Units (EMU) per Year		
Meter Size	Number of Meters	Customer Service	Meter Service[7]	Capacity[6]	Customer Service	Meter Service	Capacity
5/8	26,925	1.00	1.00	1.00	161,550	161,550	161,550
¾	38,758	1.00	1.00	1.00	232,548	232,548	232,548
1	10,733	1.00	1.67	1.67	64,398	107,330	107,330
1 ½	1,659	1.00	3.33	3.33	9,954	33,180	33,180
2	2,693	1.00	5.33	5.33	16,158	86,176	86,176
3	208	1.00	11.67	11.67	1,248	14,560	14,560
4	94	1.00	21.00	21.00	564	11,844	11,844
6	53	1.00	53.33	53.33	318	16,960	16,960
8	23	1.00	93.33	93.33	138	12,880	12,880
10	5	1.00	140.00	140.00	30	4,200	4,200
Total	**81,151**	**486,906 Bills**	**681,228 EMU**	**681,228 EMU**	**486,906**	**681,228**	**681,228**

[7] Meter Service + Capacity – AWWA meter capacity ratios (from Table B-1 in AWWA M1 Manual)

Bi-monthly fixed service charge cost components include: customer service – uniform for all accounts; meter service and capacity – maintenance and capital costs related to meters, a portion of base, peaking and fire protection related costs increase by meter capacity ratios. To keep the revenue structure similar to current level and to minimize changes to ¾-inch meter, 19.4% of base and peaking costs are used along with billing and customer service and meter service costs. The revenues to be collected from bi-monthly fixed service charges before revenue adjustment in FY 2015 is $20.6M, resulting to $31.95 bi-monthly fixed service charges for ¾-inch meters. The unit rate for each component for the test year, is shown in Table 5-8.

Table 5-8: Components for Bi-Monthly Fixed Service Charges before Revenue Adjustment

	Revenue Requirements	Unit of Service (EMU / year)	Unit Rate ($/Equiv 5/8" & ¾-inch Meter)
Billing & Customer Service	$2,910,698	486,906 Bills	**$5.98**
Meter Service (Meter service cost)	$3,077,491	681,228 EMU	**$4.52**
Capacity (base + peaking cost in fixed revenues)	$14,608,167	681,228 EMU	**$21.45**
Total	**$20,596,355**		**$31.95**

The realigned bi-monthly fixed service charges calculated in Table 5-9 are built from adding up the monthly service charge components – billing & customer service, meter service, and capacity – in Table 5-8 above, and considering their corresponding meter ratios shown in Table 5-7. The fixed service charges for each meter type presented in Table 5-9 have been realigned to reflect the current cost of service, which takes into consideration the District's infrastructure investments that have been made over the past decade since the last comprehensive cost of service type study.

Table 5-9: Realignment of Bi-monthly Fixed Service Charges before Revenue Adjustment

Meter Size	Customer Service	Meter Service	Capacity	Realignment of Fixed Service Charges before Revenue Adjustment
5/8	$5.98	$4.52	$21.45	**$31.95**
¾	$5.98	$4.52	$21.45	**$31.95**
1	$5.98	$7.54	$35.75	**$49.27**
1 ½	$5.98	$15.07	$71.50	**$92.55**
2	$5.98	$24.11	$114.40	**$144.49**
3	$5.98	$52.74	$250.25	**$308.97**
4	$5.98	$94.92	$450.45	**$551.35**
6	$5.98	$241.07	$1,144.00	**$1,391.05**
8	$5.98	$421.87	$2,002.00	**$2,429.85**
10	$5.98	$632.80	$3,003.00	**$3,641.78**

Once the bi-monthly service charges have been realigned, the 30% revenue adjustment as proposed by the Board is then applied. Table 5-10 below shows the current fixed charge, the realigned charge before any revenue adjustment, and then the fixed charge with after realignment and the revenue adjustment applied.

Table 5-10: FY 2015 Bi-Monthly Fixed Service Charges

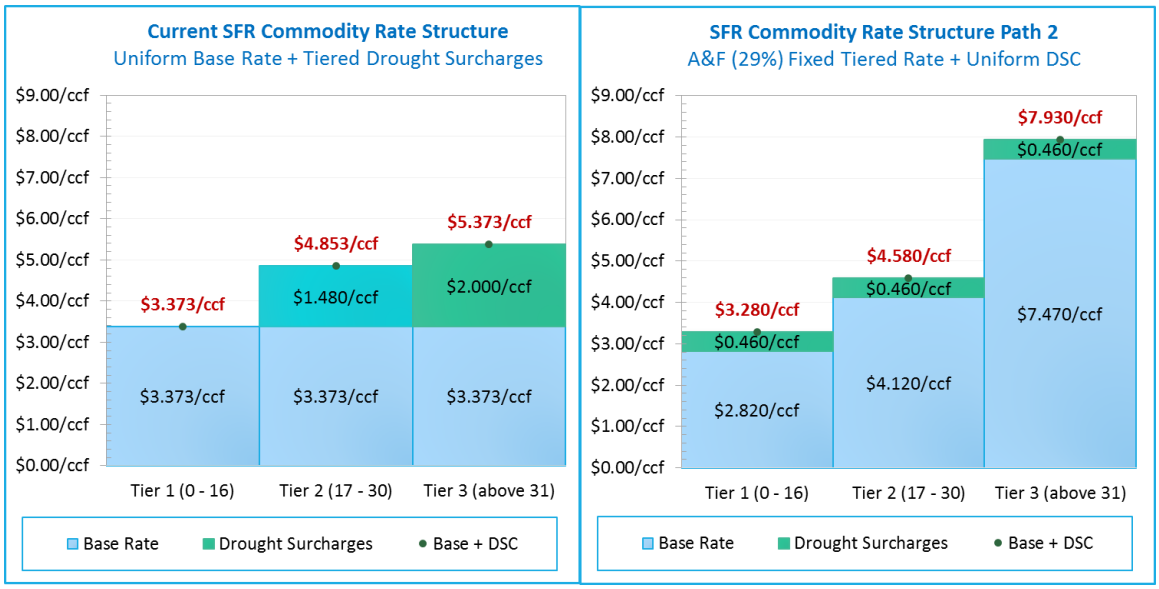
Meter Size	Current	Realignment Before Rev Adjustment	Realignment After Rev Adjustment	% Change Current to Realignment with Rev Adjustment	$ Change Current to Realignment with Rev Adjustment
5/8	$31.95	$31.95	$41.54	30%	$9.59
¾	$31.95	$31.95	$41.54	30%	$9.59
1	$45.82	$49.27	$64.05	40%	$18.23
1 ½	$80.93	$92.55	$120.32	49%	$39.39
2	$116.07	$144.49	$187.84	62%	$71.77
3	$440.13	$308.97	$401.66	-9%	-$38.47
4	$637.46	$551.35	$716.76	12%	$79.30
6	$1,538.70	$1,391.05	$1,808.37	18%	$269.67
8	$2,253.10	$2,429.85	$3,158.81	40%	$905.71
10	$4,026.56	$3,641.78	$4,734.31	18%	$707.75

6 WATER COMMODITY RATES

As part of the Study, RFC evaluated two commodity rate options for Single Family Residential (SFR) customers. The two options included:

- Uniform base rate with a tiered DSC (as illustrated in the left chart of Figure 6-1)
- Tiered Base Rate with a uniform DSC (as illustrated in the right chart of Figure 6-1)

Figure 6-1: Illustrations of SFR Commodity Rate Options



Per Board direction, RFC went onto further evaluate the uniform base rate with a tiered DSC option as it presents the least amount of change to the customer. The District will reevaluate a tiered base structure once the drought conditions have ended.

6.1 WATER COMMODITY BASE RATES COMPONENTS

In meeting Proposition 218 requirements, RFC conducted an updated, detailed cost of service (COS) analysis and identified three different rate components for the water volumetric rates, including Water Supply, Delivery, Peaking, Conservation and Revenue Offsets. Each of the COS rate components is described in

Table 6-1, below.

Table 6-1: Descriptions of Proposed Water Volumetric Rate Components

Rate Components	Description
Water Supply	To recover water supply costs using the following supply allocation: 1. Inside District: Blended water supply costs of available water supply sources with the Water Supply offset from Groundwater Replenishment Revenues ($315K) and State Water Contract Tax ($3.5M) 2. Outside District: Blended water supply costs of available water supply sources without the Water Supply Offset
Delivery	To recover the remaining of base costs (costs to meet average demand)
Peaking	To recover the remaining of peaking costs (costs to meet peak demand)
Conservation	To recover the District's conservation program costs
Revenue Offsets	To offset remaining water system costs from miscellaneous non-operating revenues

During normal, non-drought operating conditions, the District has the following available water supply sources with the corresponding variable unit costs as shown in Table 6-2. The blended water supply cost unit rate is calculated below using the weighted average unit rate of the water supply used to meet the non-drought demand, also shown in Table 6-2. The District receives revenue from Groundwater Replenishment Tax ($316K) and State Water Contract Tax ($3.515M) for a total Water supply offset of $3.831M; this translates into a $0.176/ccf offset which is applicable to Inside District usage only. Outside District customers should pay for the true cost of water before any revenue offsets, as Inside District customers made the initial investment on the water system and pay towards property tax. In addition, the District historically supplies slightly more of SFPUC Water to meet the outside District demand. Thus the Outside District water supply rate is determined at $0.766/ccf, slightly higher than the Inside District rate. Supply costs with and without the water supply offset are shown in Table 6-2 below.

Table 6-2: Blended Water Supply Unit Rate

Water Supply Sources	Quantity Available	Unit Cost	Quantity Used to Meet Demand	Unit Rate (including water loss)
SFPUC - Min[8]	8,602 AF	$1,276/AF	8,602 AF	$3.220/ccf
Groundwater - Min	8,602 AF	$106/AF	8,602 AF	$0.267/ccf
Desal Water - Min[9]	8,470 AF	$139/AF	8,470 AF	$0.352/ccf
Lake Del Valle	5,800 AF	$0/AF	5,800 AF	$0.000/ccf
SWP	25,500 AF	$58/AF	18,365 AF	$0.147/ccf
Semi-tropic Take Tier 1	5,987 AF	-$19/AF	0 AF	-$0.049/ccf
Semi-tropic Take Tier 2	7,513 AF	$149/AF	0 AF	$0.375/ccf
Desal Water - to Max	5,530 AF	$139/AF	0 AF	$0.352/ccf
SFPUC - Max Limit[10]	6,809 AF	$1,276/AF	0 AF	$3.220/ccf
Groundwater - Max	6,809 AF	$106/AF	0 AF	$0.267/ccf
Future Water Supply		$3,377/AF	0 AF	$8.519/ccf
Blended Water Supply			**49,838 AF**	
Blended Water Supply for Inside District				**$0.717/ccf**
With Water Supply Offset[11]				**$0.176/ccf**
Blended Rate with Offset for Inside District				**$0.523/ccf**

The delivery, peaking and conservation rate components are calculated in Table 6-3. The delivery and peaking rates are to recover the remaining of base and peaking costs[12], respectively. The District identifies $920K as conservation program costs, translates into $0.047/ccf.

Table 6-3: Delivery, Peaking and Conservation Rates Calculations

	Revenue Requirements	Unit of Service	Unit Rate
Delivery (remaining of base costs)	$42,144,262	19,768,521 ccf	**$2.132 / ccf**
Peaking (remaining of peaking costs)	$18,431,136	19,768,521 ccf	**$0.933 / ccf**
Conservation	$920,000	19,768,521 ccf	**$0.047 / ccf**

[8] The District is in contract with SFPUC to purchase a minimum of 8,602 AF annually (take-or-pay contract)
[9] The minimum operating capacity of desalination plant under normal condition
[10] The District can purchase additional 6,809 AF above the minimum 8,602AF from SFPUC. This purchasing power is exercising only as needed.
[11] WS Revenues = $3.83M / 49,838 AF = $76.87 / AF or $0.176/ccf
[12] 19.4% of base costs is recovered in bi-monthly fixed service charges, 80.6% is recovered in the delivery component

Revenues from 1% Tax Allocation (aka Ad Valorem Property Tax) and interest revenues, totaled to be $5.19M are applied to all inside District usage as revenue offset to provide affordability for essential use (shown in Table 6-4). Outside District customers do not contribute to the collected property tax, thus, no revenue offset is allocated for outside District customers.

Table 6-4: Revenue Offset Rate Calculations for Inside District Customers

	Revenue Requirements	Unit of Service	Unit Rate
Revenue Offset	-$5,189,044	19,755,592 ccf	**-$0.262/ ccf**

Per Board direction, the commodity base rates are proposed to be unchanged. No other revenue adjustments are proposed aside from the revised changes to the bi-monthly fixed chargers. The water commodity base rate for inside and outside district customers by rate components are shown in Table 6-5. The calculated rates are also the proposed rates, effective May 2015, without any additional revenue adjustment.

Table 6-5: Water Commodity Base Rates for FY 2015

	Current Rate (2/1/2014)	Proposed Rate (5/1/2015)	Water Supply	Delivery	Peaking	Conservation	Revenue Offset
Inside District	$3.373	**$3.373/ccf**	$0.523	$2.132	$0.933	$0.047	-$0.262
Outside District	$3.878	**$3.878/ccf**	$0.766	$2.132	$0.933	$0.047	$0.000

6.2 DROUGHT SURCHARGES

In response to dwindling water resources throughout the State of California and the resulting 20% mandated water use reduction, the District instituted a drought surcharge to help recover the cost of lowered revenue and higher supply costs. Staffing was also needed to handle high volumes of customer calls and to support conservation efforts.

The drought surcharge, which was adopted in July of 2014, will continue to be in place to mitigate the effects of reduced demand until the provisions of the Drought Surcharge Sunset criterion are met[13]. SFR customers using 16 ccf or less in a bi-monthly billing period is not paying for any drought surcharge, and usage from 17 – 30 ccf is paying $1.48/ccf drought surcharge and $2.00/ccf for any ccf exceeding 30 ccf. Non-SFR and outside District customers are paying uniform drought surcharge at $0.46/ccf. Table 6-6

[13] The District has a list of criteria to determine when the drought is officially over.

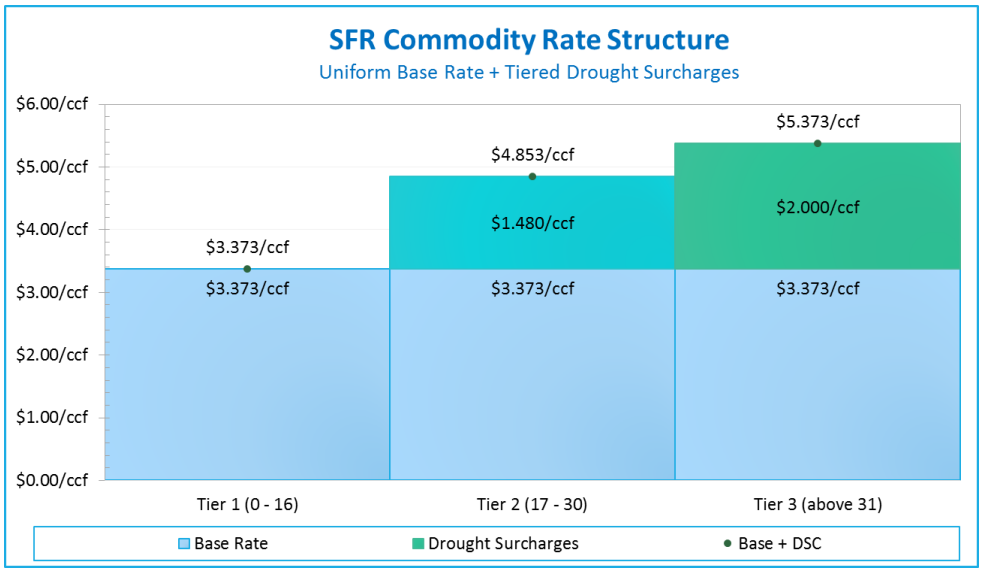
summarizes the drought surcharges currently in effect. For further details, refer to Appendix IV for the Drought Surcharge Study Report dated July 16, 2014.

Table 6-6: Drought Surcharges effective July 2014

	Tier Definition ccf / bi-monthly billing period	Drought Surcharges
SFR		
Tier 1	0 – 16 ccf	$0.000/ccf
Tier 2	17 – 30 ccf	$1.480/ccf
Tier 3	Above 30 ccf	$2.000/ccf
Non-SFR	All Usage (Uniform)	$0.460/ccf
Outside District	All Usage (Uniform)	$0.460/ccf

Figure 6-2 below illustrates the uniform base rate with the tiered DSC. Every SFR customer pays a uniform commodity rate of $3.373/ccf regardless of usage. When usage surpasses 17 ccf, the DSC of $1.48/ccf comes into effect, for a total of $4.853/ccf. Once usage surpasses 31 ccf, the highest DSC tier of $2.00/ccf comes into effect, for a total of $5.373/ccf. As stated earlier, once the drought is declared over based on District Board adopted "Sunset Criteria," the DSC will be discontinued.

Figure 6-2: FY 2015 Proposed SFR Commodity Rate Structure



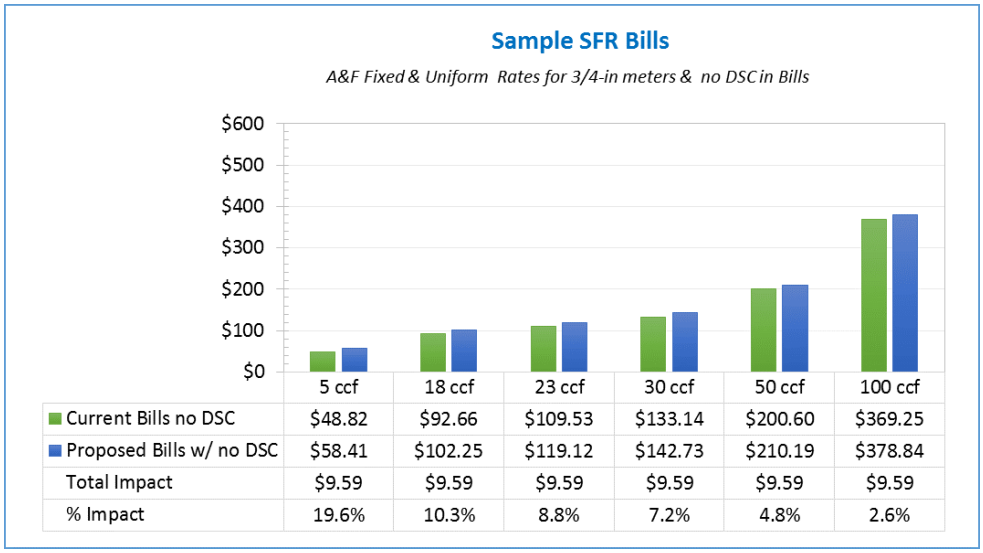
7 CUSTOMER IMPACT ANALYSIS

7.1 SINGLE FAMILY RESIDENTIAL (SFR) ANALYSIS

As discussed in Section 4.2, the DSC will be in effect until the drought is over. Figures 7-1 and 7-2 illustrate customer bill impacts under both non-drought conditions and drought conditions, respectively. Under both drought and non-drought conditions SFR customers will experience less than a $10 increase per billing cycle as a result of the revenue adjustment; this amounts to less than $5 per month. Note that the drought surcharge only becomes effective for use above 17 ccf. Therefore, the "5 ccf" column for both Figure 7-1 (without DSC) and Figure (with DSC) are identical.

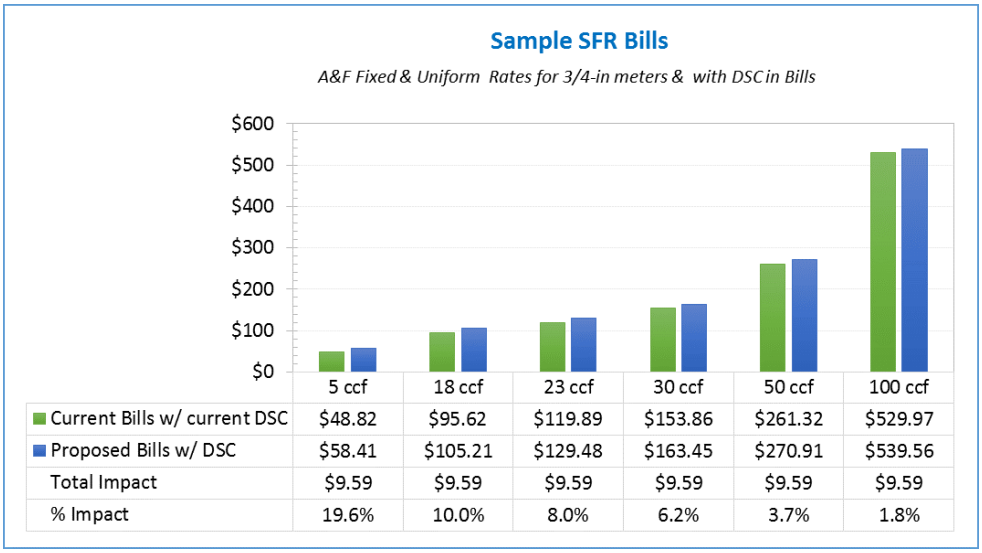
If adopted, SFR customer bills at various usage levels are calculated in Figure 7-2 inclusive of tiered DSC until drought conditions have ended. Referring to Figure 7-2 below, a SFR customer using 23 ccf currently pays $119.89 per billing cycle. Under the proposed revenue adjustments, this total would increase to $129.48, an increase of $9.59 or 8%. If the drought were to end and the DSC were to be discontinued, that same SFR customer using 23 ccf would pay $109.53 (see Figure 7-1) per bi-monthly billing cycle. With the proposed revenue adjustments, their bi-monthly bill would increase to $119.12, an increase of $9.59 or 8.8%.

Figure 7-1: SFR Bills Impacts without DSC at Different Usage Levels



	5 ccf	18 ccf	23 ccf	30 ccf	50 ccf	100 ccf
Current Bills no DSC	$48.82	$92.66	$109.53	$133.14	$200.60	$369.25
Proposed Bills w/ no DSC	$58.41	$102.25	$119.12	$142.73	$210.19	$378.84
Total Impact	$9.59	$9.59	$9.59	$9.59	$9.59	$9.59
% Impact	19.6%	10.3%	8.8%	7.2%	4.8%	2.6%

Figure 7-2: SFR Bills Impacts with DSC at Different Usage Levels



	5 ccf	18 ccf	23 ccf	30 ccf	50 ccf	100 ccf
Current Bills w/ current DSC	$48.82	$95.62	$119.89	$153.86	$261.32	$529.97
Proposed Bills w/ DSC	$58.41	$105.21	$129.48	$163.45	$270.91	$539.56
Total Impact	$9.59	$9.59	$9.59	$9.59	$9.59	$9.59
% Impact	19.6%	10.0%	8.0%	6.2%	3.7%	1.8%

While ¾" meters comprise the majority of SFR residential customers (87%), there are other meter sizes within the SFR customer class. Impacts of the proposed revenue adjustment for the other SFR meter sizes are summarized in Table 7-1. To calculate customer impacts, the average bi-monthly ccf usage for each meter size was used. The customer impacts with and without DSC are presented below. SFR customers with 1 inch meters using 26 ccf on average per bi-monthly billing period will see increase of $18.23 in their bi-monthly bills (or 12.3% increase on current bills with DSC).

Table 7-1: SFR Customer Impact by Meter Size

Meter Size	% of SFR Accounts	Average Bi-monthly Usage By Meter Size	Total Current Bills	Total Proposed Bills	Total Impact	% Impact
Bills without DSC						
¾ or less	86.86%	23 ccf	$109.53	$119.12	**$9.59**	**8.8%**
1	10.11%	26 ccf	$133.52	$151.75	**$18.23**	**13.7%**
1 1/2	2.99%	33 ccf	$192.24	$231.62	**$39.39**	**20.5%**
Bills with DSC						
¾ or less	86.86%	23 ccf	$119.89	$129.48	**$9.59**	**8.0%**
1	10.11%	26 ccf	$148.32	$166.55	**$18.23**	**12.3%**
1 1/2	2.99%	33 ccf	$218.96	$258.34	**$39.39**	**18.0%**

7.2 NON-SFR CUSTOMER IMPACT ANALYSIS

Similar to Table 7-1 above, Table 7-2 and Table 7-3 show the bill impacts for non-SFR customers without and with DSC, respectively. To calculate customer impacts, the average bi-monthly ccf usage for each

meter size was used. As an example, a non-SFR customer with 2" meter uses an average of 278 ccf per billing cycle. Under the proposed revenue adjustments, excluding DSC, this customer would experience an increase to their bill of $71.77, or 6.8%. Table 7-3 shows the same data set but with the inclusion of the DSC.

Table 7-2: Non-SFR Customer Impacts by Meter Size without DSC

Meter Size	% of Non-SFR Accounts	Average Bi-monthly Usage By Meter Size	Total Current Bills (no DSC)	Total Proposed Bills (no DSC)	Total Impact	% Impact
¾ or less	23.39%	27 ccf	$123.02	$132.61	**$9.58**	**7.8%**
1	17.38%	67 ccf	$271.81	$290.04	**$18.23**	**6.7%**
1 1/2	20.14%	160 ccf	$620.61	$660.00	**$39.39**	**6.3%**
2	33.96%	278 ccf	$1,053.76	$1,125.53	**$71.77**	**6.8%**
3	2.64%	759 ccf	$3,000.24	$2,961.77	**-$38.47**	**-1.3%**
4	1.34%	1,402 ccf	$5,366.41	$5,445.70	**$79.30**	**1.5%**
6	0.74%	1,699 ccf	$7,269.43	$7,539.09	**$269.67**	**3.7%**
8	0.38%	2,098 ccf	$9,329.65	$10,235.36	**$905.71**	**9.7%**
10	0.04%	3,416 ccf	$15,548.73	$16,256.48	**$707.75**	**4.6%**

Table 7-3: Non-SFR Customer Impacts by Meter Size with DSC

Meter Size	% of Non-SFR Accounts	Average Bi-monthly Usage By Meter Size	Total Current Bills (w/ DSC)	Total Proposed Bills (w/ DSC)	Total Impact	% Impact
¾ or less	23.39%	27 ccf	$135.44	$145.03	**$9.59**	**7.1%**
1	17.38%	67 ccf	$302.63	$320.86	**$18.23**	**6.0%**
1 1/2	20.14%	160 ccf	$694.21	$733.60	**$39.39**	**5.7%**
2	33.96%	278 ccf	$1,181.64	$1,253.41	**$71.77**	**6.1%**
3	2.64%	759 ccf	$3,349.38	$3,310.91	**-$38.47**	**-1.1%**
4	1.34%	1,402 ccf	$6,011.33	$6,090.62	**$79.30**	**1.3%**
6	0.74%	1,699 ccf	$8,050.97	$8,320.63	**$269.67**	**3.3%**
8	0.38%	2,098 ccf	$10,294.73	$11,200.44	**$905.71**	**8.8%**
10	0.04%	3,416 ccf	$17,120.09	$17,827.84	**$707.75**	**4.1%**

7.3 OUTSIDE DISTRICT CUSTOMER IMPACT ANALYSIS

Similar to Tables 7-1 to 7-3 above, Table 7-4 and Table 7-5 show the bill impacts for Outside District customers without and with DSC, respectively. As an example, an Outside District customer with 2" meter uses an average of 278 ccf per billing cycle. Under the proposed revenue adjustments, excluding DSC (Table 7-4), this customer would experience an increase to their bill of $54.36, or 4.5%. Table 7-5 shows the same data set but with the inclusion of the DSC.

Table 7-4: Outside Customer Impacts by Meter Size without DSC

Meter Size	Average Bi-monthly Usage By Meter Size	Total Current Bills (no DSC)	Total Proposed Bills (no DSC)	Total Impact	% Impact
¾ or less	27 ccf	$141.45	$146.25	**$4.80**	**3.4%**
1	67 ccf	$312.52	$323.88	**$11.36**	**3.6%**
1 1/2	160 ccf	$713.55	$740.80	**$27.25**	**3.8%**
2	278 ccf	$1,211.56	$1,265.92	**$54.36**	**4.5%**

Table 7-5: Outside District Customer Impacts by Meter Size with DSC

Meter Size	Average Bi-monthly Usage By Meter Size	Total Current Bills (w/ DSC)	Total Proposed Bills (w/ DSC)	Total Impact	% Impact
¾ or less	27 ccf	$153.87	$158.67	**$4.80**	**3.1%**
1	67 ccf	$343.34	$354.70	**$11.36**	**3.3%**
1 1/2	160 ccf	$787.15	$814.40	**$27.25**	**3.5%**
2	278 ccf	$1,339.44	$1,393.80	**$54.36**	**4.1%**

8 APPENDICES

8.1 APPENDIX I – CURRENT RESERVE POLICY

RESOLUTION NO. 13-057

OF BOARD OF DIRECTORS OF ALAMEDA COUNTY WATER DISTRICT
APPROVING STATEMENT OF RESERVE FUND POLICY

WHEREAS, The Alameda County Water District maintains several reserve funds in the course of conducting business to ensure that sufficient resources are available to meet the district's operating, capital and debt service obligations; and

WHEREAS, a reserve fund policy has been developed to demonstrate the District's commitment to fiscal responsibility and prudent financial planning; and

WHEREAS, staff reviewed the current reserve fund policy and recommends updating the policy to incorporate the latest best practices for public agency reserve fund policies, such as guidelines and recommendations issued by the California State Auditor, Association of California Water Agencies, and California Special District's Association; and

WHEREAS, the District has evaluated and updated its reserve fund policy to more specifically define the purpose, funding level, and conditions for use of each of the District's established restricted and designated reserve funds.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of ALAMEDA COUNTY WATER DISTRICT that the Statement of Reserve Fund Policy as documented in Exhibit A, attached hereto and incorporated herein as though fully set forth, is hereby approved as the reserve fund policy of the ALAMEDA COUNTY WATER DISTRICT.

PASSED AND ADOPTED this 14th day of November, 2013, by the following vote:

AYES: Directors Sethy, Huang, Koller, Weed, and Gunther
NOES: None
ABSENT: None

/s/ JAMES G. GUNTHER
James G. Gunther, President
Board of Directors
Alameda County Water District

ATTEST:

/s/ ANDREW WARREN
Andrew Warren, Assistant District Secretary
Alameda County Water District
(Seal)

APPROVED AS TO FORM:

/s/ PATRICK T. MIYAKI
Patrick T. Miyaki, Attorney
Alameda County Water District

EXHIBIT A

ALAMEDA COUNTY WATER DISTRICT
Statement of Reserve Fund Policy
(November 14, 2013)

POLICY

A key element of prudent financial planning is to ensure that sufficient funding is available for current operating, capital, and debt service cost needs. Another critical aspect of fiscal responsibility is to not only anticipate and prepare for future funding requirements for ongoing operations and maintenance expenses and capital expenditures, but also to prepare for unforeseen disasters and other unforeseen events. In addition, reserves need to be maintained when defined by statute, court determinations, contractual agreements or bond resolutions. The Alameda County Water District will at all times strive to have sufficient funding available to meet its operating, capital, debt service cost and any other obligations.

Reserve funds will be accumulated and managed in a manner which allows the District to fund costs consistent with the Capital Improvement Plan, the Long Range Financial Planning Model and the Integrated Resource Management Plan while avoiding significant rate fluctuations due to changes in cash flow requirements. The District will maintain a cash reserve position that may be utilized to fund unexpected fluctuations in revenues and operating and capital expenditures. In addition, annual net revenue levels will be maintained to ensure that the Debt Service Coverage Ratio stays at or above the target rate of 2.0 while also adequately funding all cash reserves at their designated minimums and targets. Staff will review with the Board of Directors, during the annual rate review, the level of reserve funds needed.

DEFINITIONS

The District maintains two types of reserve funds:

Restricted Reserves

Restricted reserves are reserves that are restricted by an outside source, such as by statute, court or contract.

Designated Reserves

Designated reserves are reserves that are established and set aside to be used for a specific, Board designated purpose.

RESTRICTED RESERVES

Debt Service Reserve

The Debt Service Reserve is a Restricted Reserve which is governed by legal bond covenants. Bond covenants require that the Debt Service Reserve be maintained at a level sufficient to fund maximum annual debt service payments. The Debt Service Reserve funds are held by the bond trustee during the term of the bonds and are to be used in the event that the District is unable to meet its required semi-annual debt service obligation.

Facilities Improvement Fund Reserve

The Facilities Improvement Fund Reserve is a Restricted Reserve, required by California Government Code Section 66013, for the purposes of depositing Facilities Connection Charges from customers and then utilizing the funds to help pay for the growth related component of capital projects in the District's Capital Improvement Program. The Facilities Connection Charge amount is reviewed annually and has a cost basis calculated on the cost of growth capital in the 25 Year Capital Improvement Plan.

Management Retirement Bonus Reserve

The Management Retirement Bonus Reserve is a Restricted Reserve established by the Board of Directors to fund the actuarial value of the total estimated remaining amount of future bonuses for any current employees that meet the eligibility requirements of the Management Retirement Bonus program. This program was established for employees hired on or before December 31, 2000. Employees hired on or after January 1, 2001 are not eligible.

DESIGNATED RESERVES

Operations & Maintenance (O&M) and Capital Reserve

The O&M and Capital Reserve is a Designated Reserve which has been established by the Board of Directors to maintain a level of funding to meet the daily cash needs for ongoing operations and maintenance of the system plus enough cash for funding "pay-go" capital expenditures. The District's main source of funding for capital improvements is from cash reserves. These capital improvements are to meet regulatory requirements, system reliability and future demand in the District and are included in the 25 Year Capital Improvement Program and Long Range Financial Planning Model, both of which are reviewed by the Board of Directors each fiscal year. Cash flow and adequate cash reserve levels are analyzed annually within the Long Range Financial Planning Model using a rolling 10 year cash flow model.

The O&M and Capital Reserve have an established minimum target of 4 months operating and maintenance expense plus one year of the 50 year average historical cost of capital replacement. The 50 year annual average historical cost currently has a calculated level of $12,000,000. This total minimum level of operating and maintenance and capital cash reserves is to ensure that there is enough reserves maintained to help minimize the risk from year to year of not having enough cash in reserve to fund unanticipated swings in operating and "pay-go" capital expenditures.

Funds for planned capital projects may temporarily accumulate due to unanticipated timing issues and will be banked for paying capital expenditures as the expenses are incurred. However, as mentioned previously, the funding in the Operations & Maintenance and Capital Reserve will be reviewed annually using the Long Range

Financial Planning Model. Funding will be maintained at a level consistent with the 10 year cash flow modeling that prevents undue accumulations of funds but provides for a level of adequate funding that will preserve the District's financial health by maintaining cash reserve funds at the prudent levels proscribed in this document and ensures a debt service coverage of at least 2.0 while enabling the stabilization of rate increases.

Emergency / Rate Stabilization Reserve

The Emergency/Rate Stabilization Reserve is a Designated Reserve which, at the direction of the Board of Directors, is to be maintained at a target level of $10,000,000. This is the calculated additional amount of funds needed to purchase water in a year of adverse water conditions. The Emergency/Rate Stabilization Reserve is to be used only with the authorization of the Board of Directors in the event of an unforeseen event such as a natural disaster, water shortage situation or other unanticipated adverse situation.

Self Insurance Reserve

The Self Insurance Reserve is a Designated Reserve which initially will be maintained at a level equal to the highest amount paid for claims and/or expected losses in any one fiscal year under the District's Property and Liability Insurance Program during the past five years and under the Worker's Compensation Program during the past ten years. In subsequent years, the reserve balance will be adjusted based on actuarially determined reserves for future claims. Funds in the Self Insurance Reserve will be used exclusively for payment of unanticipated losses that are under the high deductible limits under each Program. Funding for this reserve will be from cost savings realized from higher level deductibles and resulting lower premiums, including discounts and premium savings from lower Worker's Compensation loss experiences. The status of the Self Insurance Reserve will be reviewed quarterly with Administrative and Finance Committee or annually with the Board of Directors upon renewal of the Programs.

RESERVE POLICY REVIEW

The provisions of this Reserve Policy will be reviewed by the Board of Directors on a biennial basis in conjunction with the review and approval of the District's two year budget.

8.2 APPENDIX II – PRESENTATIONS FOR PUBLIC WORSKHOPS

8.2.1 November 2014 Public Workshop

Financial Planning and Water Rate Structure Discussion

BOARD WORKSHOP

NOVEMBER 6, 2014

Alameda County Water District

RAFTELIS FINANCIAL CONSULTANTS, INC.

Agenda

Financial Plan Development

Cost of Service Analysis and Water Rate Design

Rate Options – Preliminary Results

Policy Decision from the Board

- Revenue Requirements – How much revenues to collect to meet O&M, Capital and other obligations?
- What rate structure to be implemented in April 2015?
  - Uniform base rate for SFR? Inclining base rate for SFR?
- How should drought surcharges be collected?
  - Uniform? Tiered for SFR?

Rate Study 101

Concept	Explanation
Revenue Requirements	Required overall cash to meet operating, reserve and coverage ratio requirements
Cost of Service Study	Allocating costs to different categories and meter sizes
Rate Design Overview	Drought surcharge and base rates in uniform or tiered formats

11/6/14 ACWD – FINANCIAL PLANNING AND WATER RATE STRUCTURE DISCUSSION 3

Financial Plan Development

Scenarios to be Evaluated

1. No Drought
2. 2015 Drought Only
3. Medium
4. Extended Dry Period

Water Supply Scenarios

Water Supply	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Non Drought	Average	Average	Average	Average	Average
Drought 2015 Only	20% Reduction	Average	Average	Average	Average
Medium	20% Reduction	10% Reduction	10% Reduction	Average	Average
Extended Dry Period	20% Reduction	40% Reduction	20% Reduction	10% Reduction	Average

Base Assumptions

Two debt issuances
- $25M in FY 2015 and in FY 2018

Unfunded liabilities accelerated payments delayed
- Annual Funding:
  - FY 2015 – 2017: $0
  - FY 2018: $3M
  - FY 2019-2020: $4M
  - FY 2021-2022: $5M
  - FY 2023-2024: $6M
  - FY 2025-2026: $7M

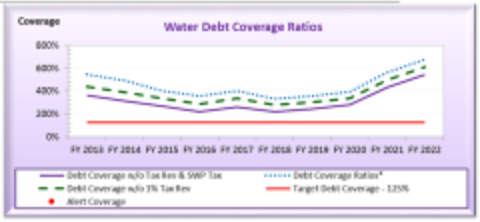
Deferral of $20 million in capital projects

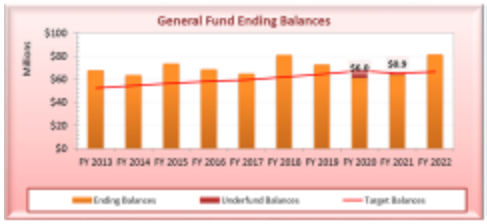
Elimination of or holding vacant a number of temporary and permanent positions

No change in Property tax (Status Quo)
- 56% of SWP Costs (Fixed & Variable)

No Drought

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	5%	5%	8%	3%
Commodity	5%	5%	8%	3%

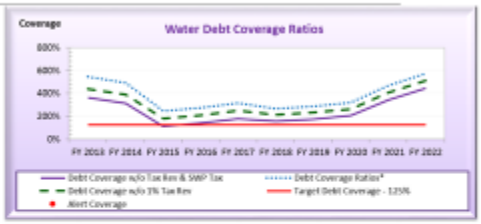


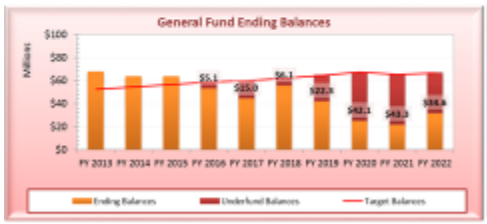


2015 Drought Only

Without Drought Surcharge

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	5%	5%	8%	3%
Commodity	5%	5%	8%	3%

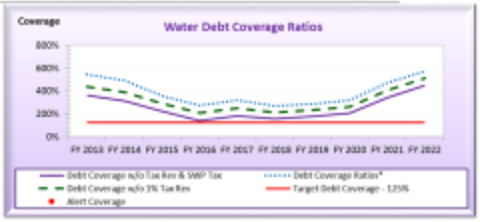


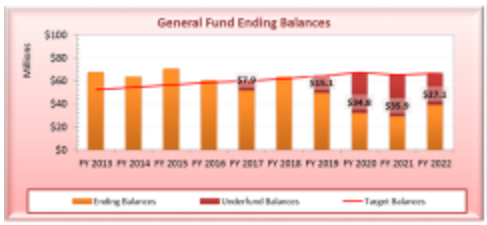


2015 Drought Only

With Drought Surcharge $6.9 M only in FY 2015

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	5%	5%	8%	3%
Commodity	5%	5%	8%	3%

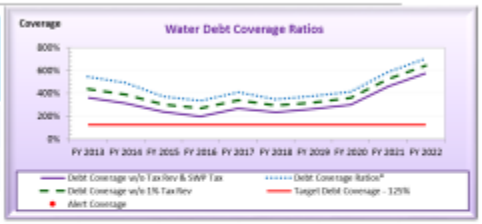


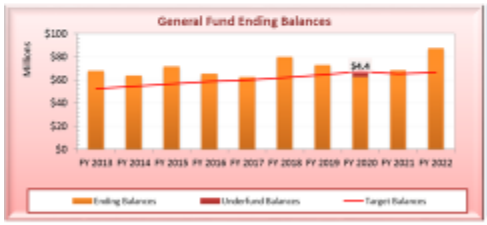


2015 Drought Only

With Drought Surcharge $6.9 M only in FY 2015

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	8%	8%	8%	3%
Commodity	8%	8%	8%	3%

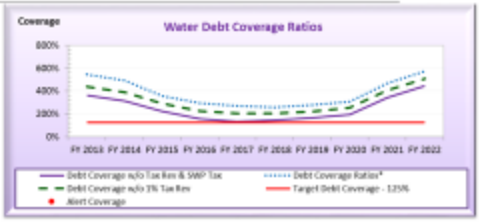


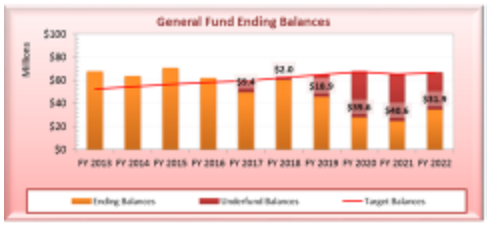


2015 and 2016 Drought (Medium)

With Drought Surcharges $6.9 M in FY 2015 and FY 2016

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	5%	5%	8%	3%
Commodity	5%	5%	8%	3%

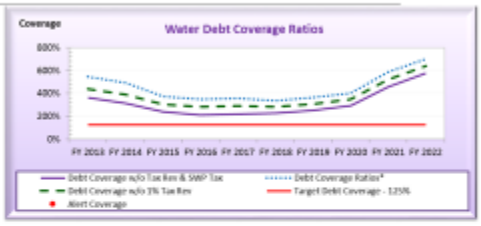


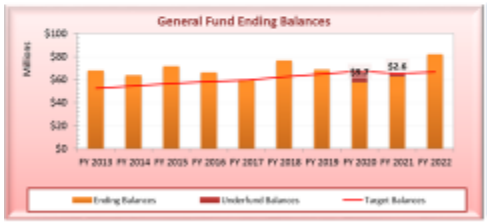


2015 and 2016 Drought (Medium)

With Drought Surcharge $6.9 M in FY 2015 and FY 2016

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	8%	8%	8%	3%
Commodity	8%	8%	8%	3%

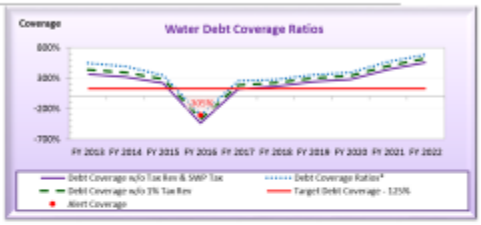


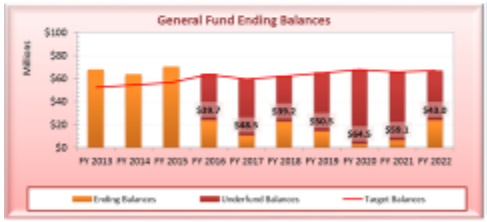


Extended Dry Period

With Drought Surcharge $6.9 M in FY 2015 Only

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	8%	8%	8%	3%
Commodity	8%	8%	8%	3%

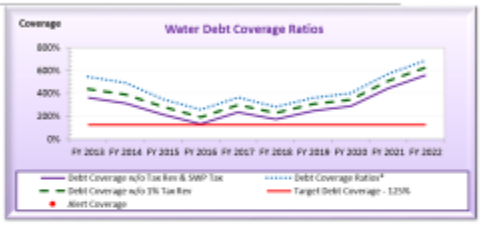


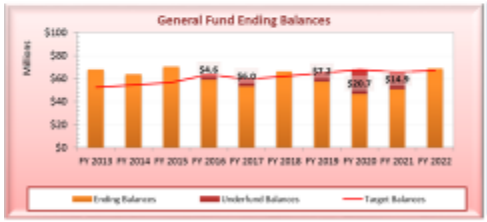


Extended Dry Period

With Drought Surcharges $6.9 M in FY 2015, $35 M in FY 2016, $6.9 M in FY 2017

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	8%	8%	8%	3%
Commodity	8%	8%	8%	3%





Cost of Service Analysis and Water Rate Design

Basic Tiers

Tiers Definition	Non-Drought	Drought	Current Drought Surcharge	Comments
Tier 1 – Essential (Indoor)	0 – 18	0 – 16	No	4 people X 55 gpcd X 90% Consistent with Drought Ordinance
Tier 2 – Efficient (Outdoor)	19 – 30	17 – 30	Yes	Average outdoor water use
Tier 3 – Above Average Use	31 +	31 +	Yes	Peak summer use

Proportionality Requirements on Rates

Prop 218 requirements

- Proportionality between tier prices & cost of service
- Examples
  - Cost of water supply
  - Conservation program costs
  - Potential new sources of supply
  - Peaking cost of capital

Cost of Service Allocation

Cost of Service Allocation

No Revenue Adjustment (Current Revenues from Rates)

Cost Components	Non-Drought	
Water Supply	$13,653,842	16%
WS Offset	-$3,831,215	-4%
Base	$52,307,636	60%
Peaking	$22,875,928	26%
Conservation	$920,000	1%
Revenue Offsets	-$5,189,044	-6%
Meters	$3,077,491	4%
Billing & CS	$2,910,698	3%
Total	**$86,725,335**	**100%**

Justification of Commodity Rates

Components of Commodity Rates

Water Supply	Delivery Cost	Conservation	Peaking Costs
Purchased water costs & supplemental (or Penalty) water costs	Remaining costs of delivering water to customers (District's cost)	Water conservation program costs	Costs associated with meeting peak demand

Commodity Rates

	Delivery	Peaking (by peaking factors)	Conservation	Revenue Offsets
SFR – Tier 1	X	X		XX
SFR – Tier 2	X	XX		
SFR – Tier 3	X	XXX	X	
Non-SFR – Uniform	X	XX	X	XX
Outside District	X	XX	X	

Peaking Factors by Tiers and Customer Class

FY 2014 Usage Characteristics	Max (Sep – Oct)	Min (Mar – Apr)	Peaking Factors (Max / Min)	Normalized Peaking Factors
SFR – Tier 1	2,673 AF	2,204 AF	1.21	0.67
SFR – Tier 2	1,001 AF	304 AF	3.29	1.81
SFR – Tier 3	1,069 AF	145 AF	7.39	4.07
Non-SFR – Uniform	5,566 AF	3,029 AF	1.84	1.01
Non-SFR (Outside)	7 AF	2 AF	2.95	1.63
Total	**10,310 AF**	**5,682 AF**	**1.81**	**1.00**

Commodity Rates

No Drought, No Revenue Adjustment for FY 2015, 30% Fixed Option

Commodity	Projected Sales	Water Supply	Delivery	Peaking	Conservation	Rev Offset	Revised COS	Current
SFR								
Tier 1	6,521,378 ccf	$0.530	$1.950	$0.480	$0.000	-$0.38	**$2.580/ccf**	$3.373/ccf
Tier 2	1,709,132 ccf	$0.530	$1.950	$1.320	$0.000	$0.00	**$3.800/ccf**	$3.373/ccf
Tier 3	1,352,057 ccf	$1.430*	$1.950	$2.970	$0.330	$0.00	**$6.680/ccf**	$3.373/ccf
Non-SFR	10,173,025 ccf	$0.530	$1.950	$0.740	$0.050	-$0.26	**$3.010/ccf**	$3.373/ccf
Non-SFR (Outside)	12,929 ccf	$0.720	$1.950	$0.740	$0.050	$0.00	**$3.460/ccf**	$3.373/ccf

**Water Supply Rate in Tier 3 assumes direct SFPUC purchase (above contractual minimum) once every three year → 33% Direct SFPUC ($3.22) + 67% Blended ($0.53) = $1.43 / ccf*

Justification of Fixed Charges

Components of Fixed Charges

Billing & Customer Service	Meter & Service Costs	Capacity Related Costs
Costs associated with meter readings, billings, & customer service	Part of the costs of delivering water to customers & meter maintenance costs	Part of costs associated with meeting potential peak demand

Rate Options

Currently, the District collects 23% of the revenue from the fixed charges

Rate Options:

1. 30% Fixed Charges / 70% Commodity
2. 70% Fixed Charges / 30% Commodity
3. 95% Fixed Charges / 5% Commodity
   - Reflects 100% District fixed costs

Fixed Service Charge Options

No Revenue Adjustments for FY 2015

Fixed Charges Options	Current	Option 1 30% Fixed 70% Variable	Option 2 70% Fixed 30% Variable	Option 3 95% Fixed 5% Variable
5/8	$31.95	$39.75	$90.52	$120.87
3/4	$31.95	$39.75	$90.52	$120.87
1	$45.82	$62.27	$146.89	$197.47
1 1/2 F	$45.82	$62.27	$146.89	$197.47
1 1/2	$80.93	$118.55	$287.79	$388.95
2	$116.07	$186.09	$456.87	$618.73
3	$440.13	$399.97	$992.29	$1,346.37
4	$637.46	$715.15	$1,781.32	$2,418.67
6	$1,538.70	$1,807.05	$4,514.79	$6,133.45
8	$2,253.10	$3,157.85	$7,896.39	$10,729.05
10	$4,026.56	$4,733.78	$11,841.58	$16,090.58

Rate Options: Commodity

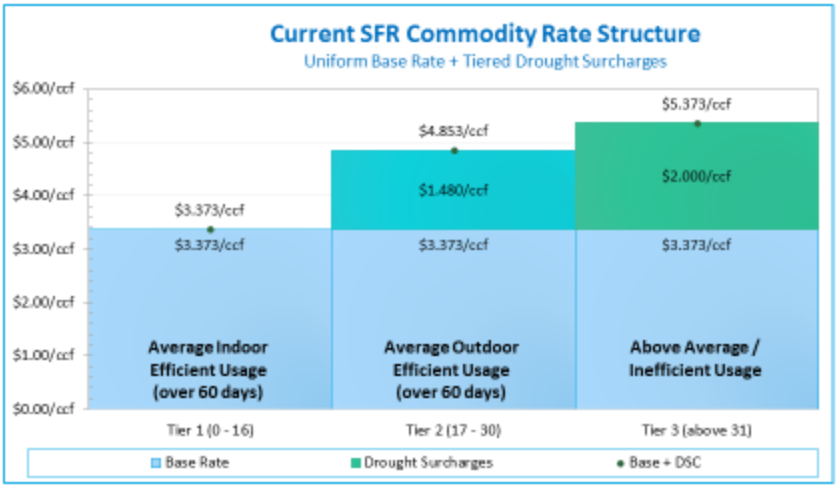
No Drought, No Revenue Adjustment for FY 2015

Commodity Rates	Current	Option 1 30% Fixed 70% Variable	Option 2 70% Fixed 30% Variable	Option 3 95% Fixed 5% Variable
SFR				
Tier 1	$3.373/ccf	$2.580/ccf	$1.060/ccf	$0.150/ccf
Tier 2	$3.373/ccf	$3.800/ccf	$1.760/ccf	$0.530/ccf
Tier 3	$3.373/ccf	$6.680/ccf	$3.600/ccf	$1.760/ccf
Non-SFR	$3.373/ccf	$3.010/ccf	$1.330/ccf	$0.320/ccf
Non-SFR (Outside)	$3.373/ccf	$3.460/ccf	$1.780/ccf	$0.770/ccf

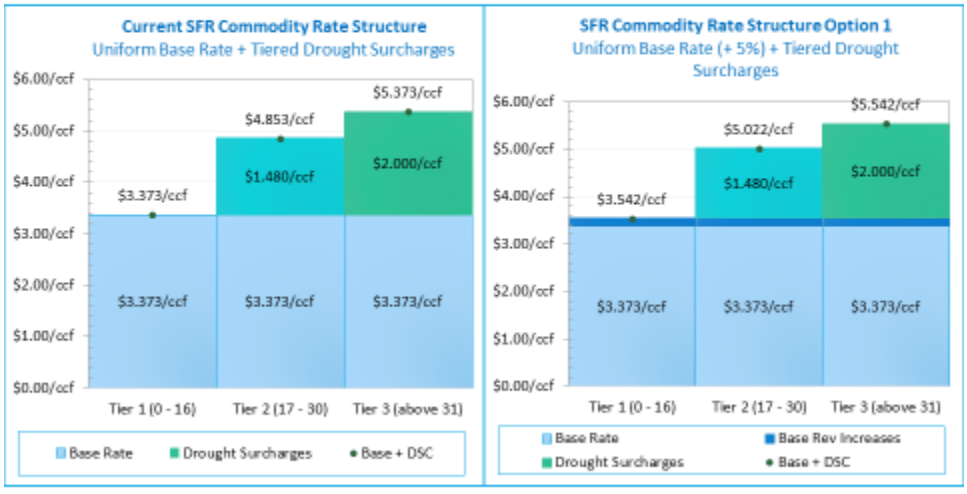
Transition Options

1. UNIFORM BASE + TIERED SURCHARGES -> TIERED RATES
2. COS TIERED BASE + UNIFORM SURCHARGES -> TIERED RATES

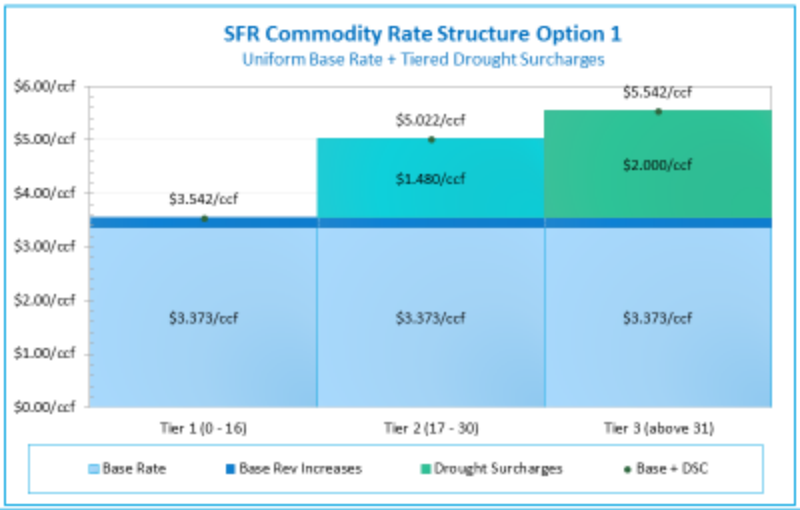
Current SFR Commodity Rate Structure
Uniform Base Rate and Tiered Surcharges



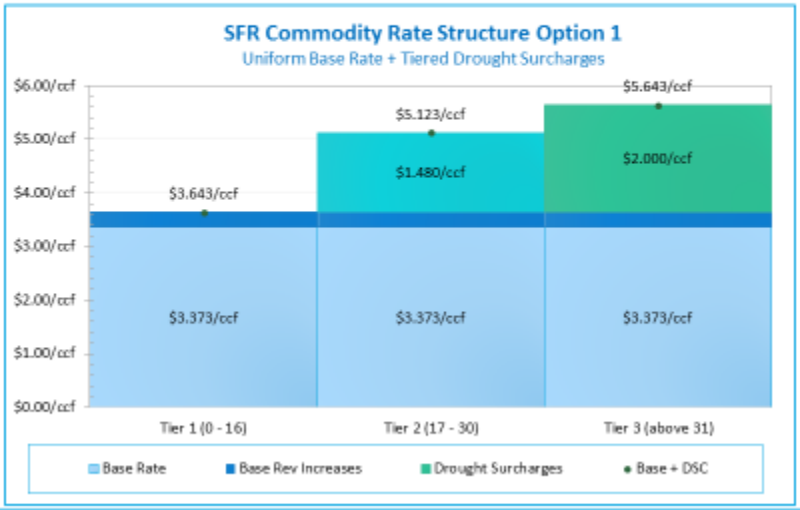
SFR Commodity Rate Structure Options
Uniform Base Rate and Tiered Surcharges



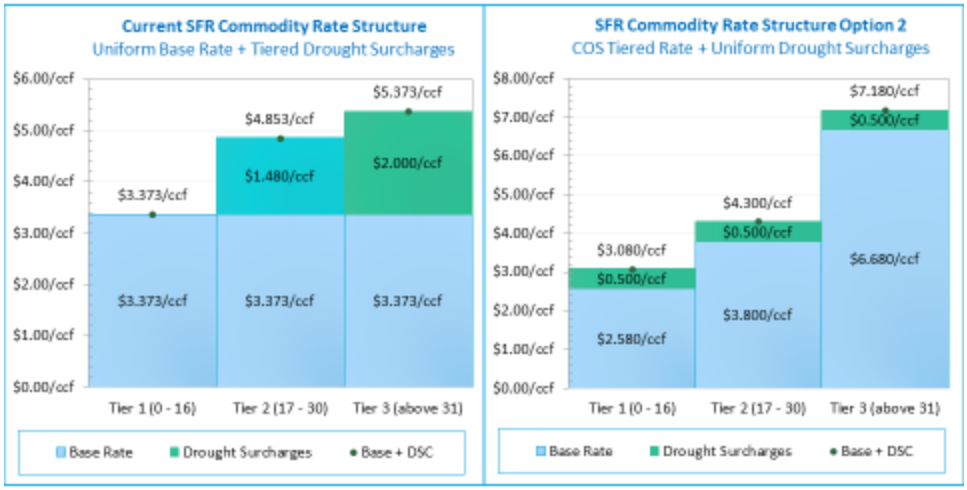
SFR Commodity Rates with Uniform Base + 5% and Tiered Format Drought Surcharges



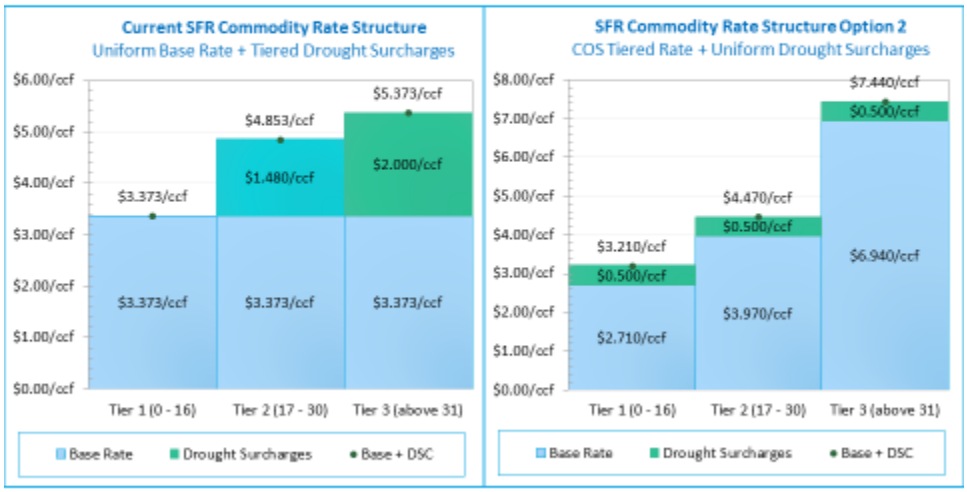
SFR Commodity Rates with Uniform Base + 8% and Tiered Format Drought Surcharges



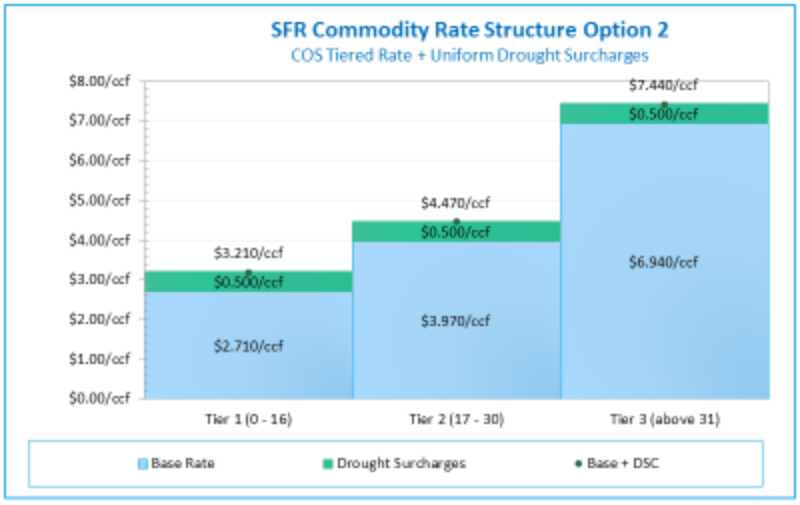
SFR Commodity Rate Structure Options
COS Tiered Base Rate and Surcharges



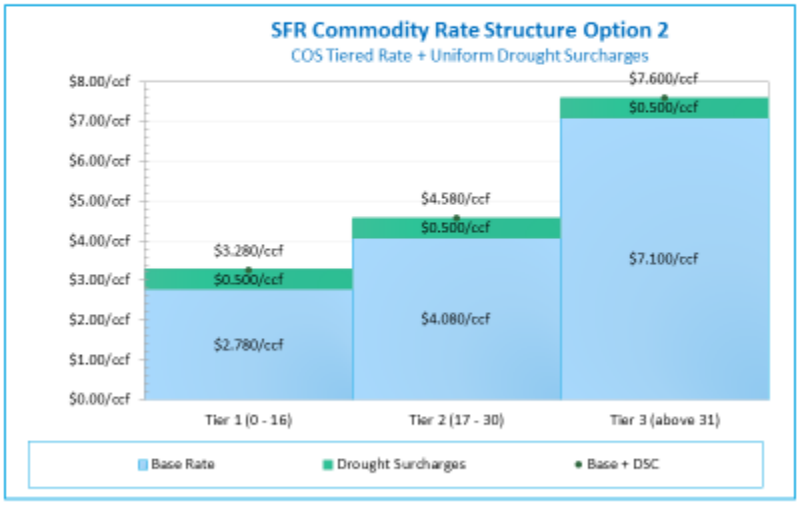
SFR Commodity Rate Structure Options
COS Tiered Base Rate and Surcharges



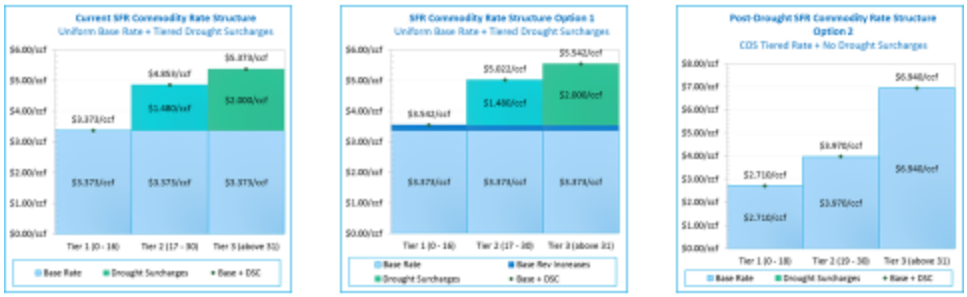
SFR Commodity Rates + 5% with COS Tiered Base and Uniform Drought Surcharges



SFR Commodity Rates + 8% with COS Tiered Base and Uniform Drought Surcharges

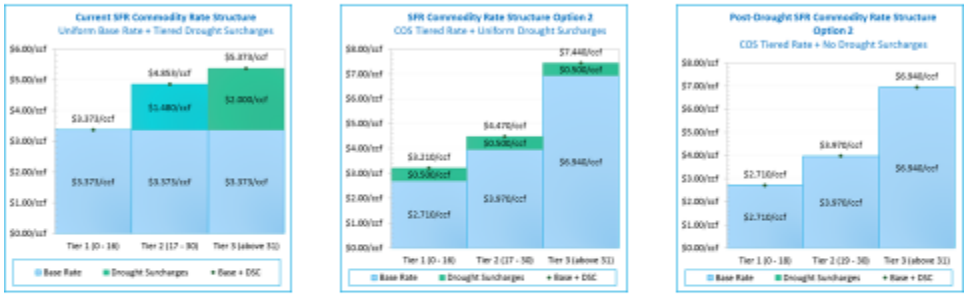


SFR Commodity Rate Structure Pre and Post Drought Path 1 Transition Option



Current → FY 2015 → Post-Drought

SFR Commodity Rate Structure Pre and Post Drought Path 2 Transition Option



Current → FY 2015 → Post-Drought

SFR Commodity Rate Structure Pre and Post Drought Path Transition Option Pros & Cons

Path 1: Current => Uniform Base Rate Increase => Cost of Service Base Tiered Rates

- + **PROS:**
  - + Simpler to understand and administer (short term)
  - + Transitions spread out over time
  - + More time to educate public on new tiered rate structure
- – **CONS:**
  - – Delayed implementation of new tiered rates structure

Path 2: Current => COS Base Rates + Uniform Drought Surcharge=> COS Base Tiered

- + **PROS:**
  - + Implements new tiered rate structure
  - + Refines application of the drought surcharges
  - + Smooth transition to tiered rates during non-drought period
- – **CONS:**
  - – More complicated, changes in both base and drought surcharges
  - – Public education and acceptance more challenging

Policy Decision from the Board

- Revenue Requirements – How much revenues to collect to meet O&M, Capital and other obligations?
- What rate structure to be implemented in April 2015?
  - Uniform base rate for SFR? Inclining base rate for SFR?
- How should drought surcharges be collected?
  - Uniform? Tiered for SFR?

Discussion

8.2.2 December 2014 Public Workshop

Policy Decisions from the Board

- How much revenues to collect to meet O&M, Capital and other obligations? (Rev Requirements)
  1. 5% or 8% on both Fixed and Commodity
  2. 30% on Fixed and 0% on Commodity (7.9% Overall Rev Increase) (A&F Committee Recommendation)
- How much revenues to be collected from fixed service charges? (Fixed Charge Options)
  1. A&F Fixed: 29% Fixed / 71% Commodity (A&F Committee Recommendation)
  2. Revised Fixed: 30% Fixed / 70% Commodity
- What rate structure to be implemented in May 2015? (Transition Drought Rate Paths)
  1. Uniform base + Tiered surcharges -> Tiered rates
  2. Tiered Base + Uniform Surcharges -> Tiered rates

Financial Plan Development

Scenarios to be Evaluated

1. No Drought
2. 2015 Drought Only
3. Medium
4. Extended Dry Period

Water Supply Scenarios

Water Supply	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Non Drought	Average	Average	Average	Average	Average
Drought 2015 Only	20% Reduction	Average	Average	Average	Average
Medium	20% Reduction	20% Reduction	10% Reduction	Average	Average
Extended Dry Period	20% Reduction	40% Reduction	20% Reduction	10% Reduction	Average

Base Assumptions

Two debt issuances
- $25M in FY 2015 and in FY 2018

Unfunded liabilities accelerated payments delayed
- Annual Funding:
  - FY 2015 – 2017: $0
  - FY 2018: $3M
  - FY 2019-2020: $4M
  - FY 2021-2022: $5M
  - FY 2023-2024: $6M
  - FY 2025-2026: $7M

Deferral of $20 million in capital projects

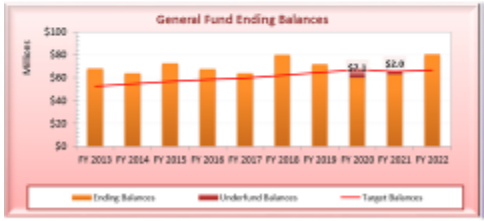
Elimination of or holding vacant a number of temporary and permanent positions

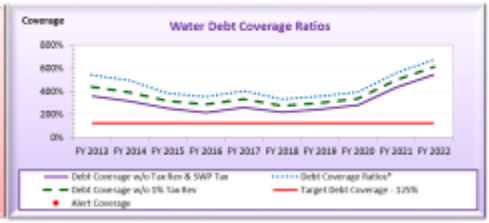
No change in Property tax (Status Quo)
- 56% of SWP Costs (Fixed & Variable)

Rate effective date: **May 1, 2015** and every **Feb 1** for FY 2016 and beyond

No Drought

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	5%	5%	8%	3%
Commodity	5%	5%	8%	3%

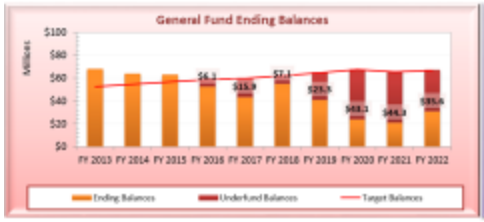


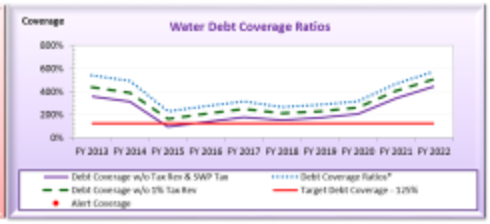


2015 Drought Only

Without Drought Surcharge

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	5%	5%	8%	3%
Commodity	5%	5%	8%	3%

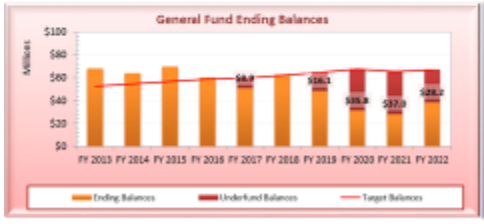


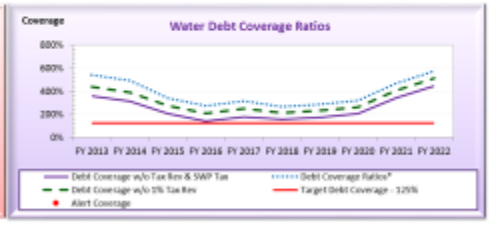


2015 Drought Only

With Drought Surcharge $6.9 M only in FY 2015

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	5%	5%	8%	3%
Commodity	5%	5%	8%	3%

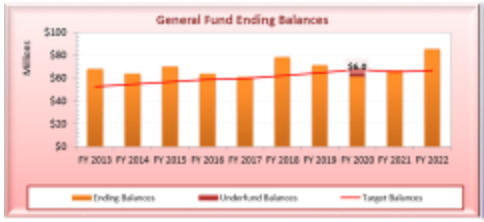


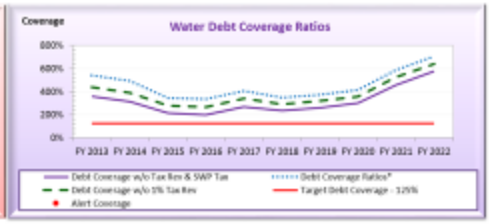


2015 Drought Only

With Drought Surcharge $6.9 M only in FY 2015

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	8%	8%	8%	3%
Commodity	8%	8%	8%	3%

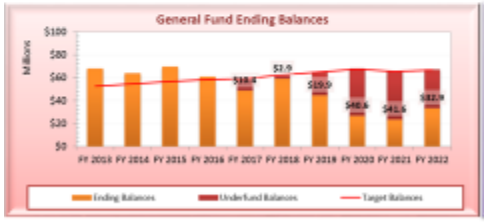


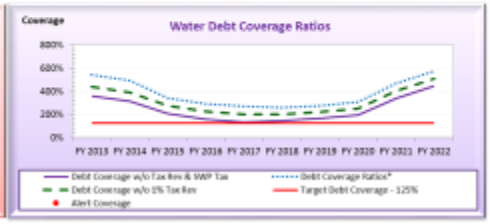


2015 and 2016 Drought (Medium)

With Drought Surcharges $6.9 M in FY 2015 and FY 2016

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	5%	5%	8%	3%
Commodity	5%	5%	8%	3%

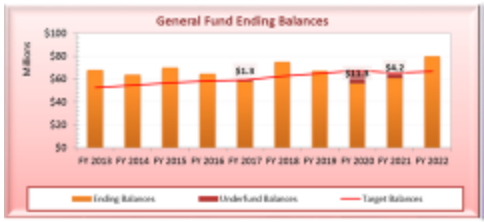


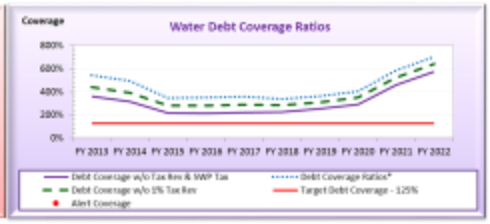


2015 and 2016 Drought (Medium)

With Drought Surcharges $6.9 M in FY 2015 and FY 2016

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	8%	8%	8%	3%
Commodity	8%	8%	8%	3%

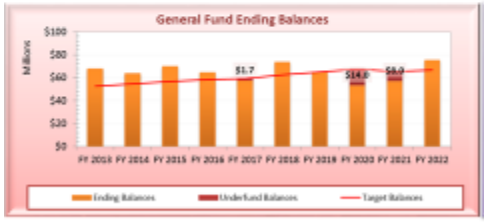


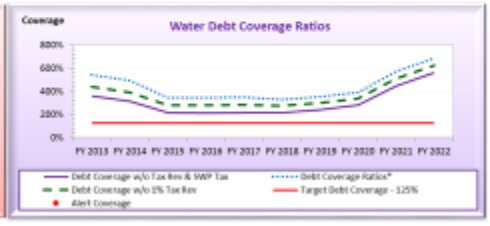


2015 and 2016 Drought (Medium)

With Drought Surcharges $6.9 M in FY 2015 and FY 2016

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	30%	8%	8%	3%
Commodity	0%	8%	8%	3%

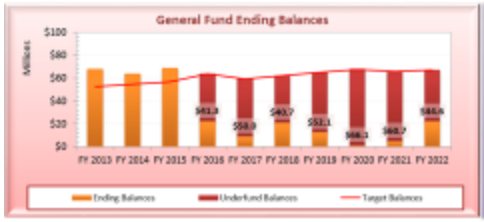


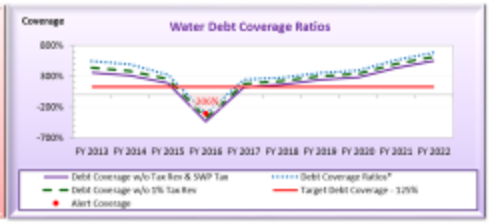


Extended Dry Period

With Drought Surcharge $6.9 M in FY 2015 Only

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	8%	8%	8%	3%
Commodity	8%	8%	8%	3%

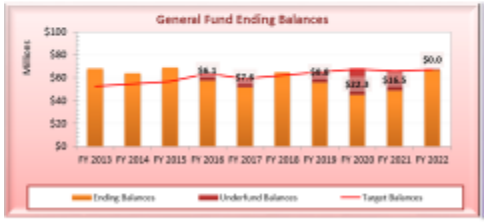


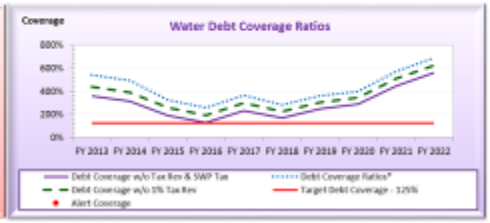


Extended Dry Period

With Drought Surcharges $6.9 M in FY 2015, $35 M in FY 2016, $6.9 M in FY 2017

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	8%	8%	8%	3%
Commodity	8%	8%	8%	3%

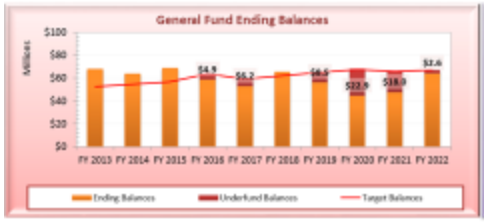


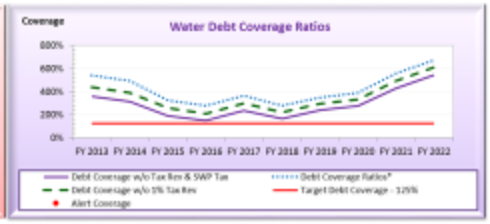


Extended Dry Period

With Drought Surcharges $6.9 M in FY 2015, **$35 M** in FY 2016, $6.9 M in FY 2017

Revenue Adjustments	FY 2015	FY 2016	FY 2017 - 2022	FY 2023 & after
Fixed	30%	8%	8%	3%
Commodity	0%	8%	8%	3%





Cost of Service Analysis and Water Rate Design

Cost of Service Allocation

Justification of Fixed Charges

Components of Fixed Charges

Billing & Customer Service	Meter & Service Costs	Capacity Related Costs
Costs associated with meter readings, billings, & customer service	Part of the costs of delivering water to customers & meter maintenance costs	Part of costs associated with meeting potential peak demand

Fixed Service Charge Options

Currently, the District collects 23% of the revenue from the fixed charges

Options:

1. **A&F Fixed**: 29% Fixed / 71% Commodity
2. **Revised Fixed**: 30% Fixed Charges / 70% Commodity

Fixed Service Charges Options
(with No Revenue Adjustment)

Fixed Charges Options	Current	Current Cost of Service (23%)	Revised Fixed (30%)
5/8	$31.95	$31.95	$39.75
3/4	$31.95	$31.95	$39.75
1	$45.82	$49.27	$62.27
1 1/2 F	$45.82	$49.27	$62.27
1 1/2	$80.93	$92.55	$118.55
2	$116.07	$144.49	$186.09
3	$440.13	$308.97	$399.97
4	$637.46	$551.35	$715.15
6	$1,538.70	$1,391.05	$1,807.05
8	$2,253.10	$2,429.85	$3,157.85
10	$4,026.56	$3,641.78	$4,733.78
Uniform Base Rate (Inside)	$3.373/ccf	$3.373/ccf	$3.103/ccf
Uniform Base Rate (Outside)	$3.878/ccf	$3.828/ccf	$3.559/ccf

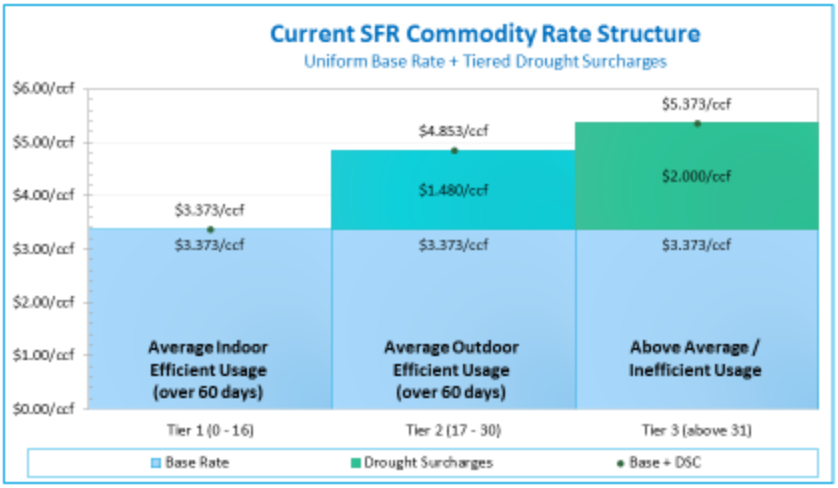
Fixed Service Charges Options
(with Revenue Adjustments)

Fixed Charges Options	Current	Revised Fixed (5% Rev Adj)	Revised Fixed (8% Rev Adj)	A&F Fixed (30% Fixed Rev Adj)
5/8	$31.95	$41.74	$42.93	$41.54
3/4	$31.95	$41.74	$42.93	$41.54
1	$45.82	$65.39	$67.26	$64.05
1 1/2 F	$45.82	$65.39	$67.26	$64.05
1 1/2	$80.93	$124.48	$128.04	$120.32
2	$116.07	$195.40	$200.98	$187.84
3	$440.13	$419.97	$431.97	$401.66
4	$637.46	$750.91	$772.37	$716.76
6	$1,538.70	$1,897.41	$1,951.62	$1,808.37
8	$2,253.10	$3,315.75	$3,410.48	$3,158.81
10	$4,026.56	$4,970.47	$5,112.49	$4,734.31
Uniform Base Rate (Inside)	$3.373/ccf	$3.259/ccf	$3.352/ccf	$3.373/ccf
Uniform Base Rate (Outside)	$3.878/ccf	$3.737/ccf	$3.844/ccf	$3.828/ccf

Basic Tiers

Tiers Definition	Non-Drought	Drought	Current Drought Surcharge	Comments
Tier 1 – Essential (Indoor)	0 – 18	0 – 16	No	4 people X 55 gpcd X 90% Consistent with Drought Ordinance
Tier 2 – Efficient (Outdoor)	19 – 30	17 – 30	Yes	Average outdoor water use
Tier 3 – Above Average Use	31 +	31 +	Yes	Peak summer use

Current SFR Commodity Rate Structure
Uniform Base Rate and Tiered Surcharges



Justification of Commodity Rates

Components of Commodity Rates

Water Supply	Delivery Cost	Conservation	Peaking Costs	Rev Offset
Purchased water costs & supplemental (or penalty) water costs	Remaining costs of delivering water to customers (District's cost)	Water conservation program costs	Costs associated with meeting peak demand	Non-operating revenue used to offset revenue requirements to provide affordability

SFR Tiered Rates

	Water Supply	Delivery	Peaking	Conservation	Revenue Offset
Tier 1	Blended	x	x		x
Tier 2	Blended	x	xx		
Tier 3	50% SFPUC 50% Groundwater	x	xxx	x	

Water Supply Rates

- Blended Rate: $0.53 / ccf with GW and SWP credit
- SFPUC Rate: $3.22 / ccf for FY 2015
- Tier 3 (50% SFPUC / 50% GW) = $1.75 / ccf for FY 2015

A&F Fixed Charges

(29% Fixed / 71% Commodity) Recommended by A&F Committee

Transition Drought Rate Paths

1. UNIFORM BASE + TIERED SURCHARGES -> TIERED RATES
2. TIERED BASE + UNIFORM SURCHARGES -> TIERED RATES

A&F Fixed Service Charges

29% Fixed / 71% Commodity – Recommended by A&F Committee

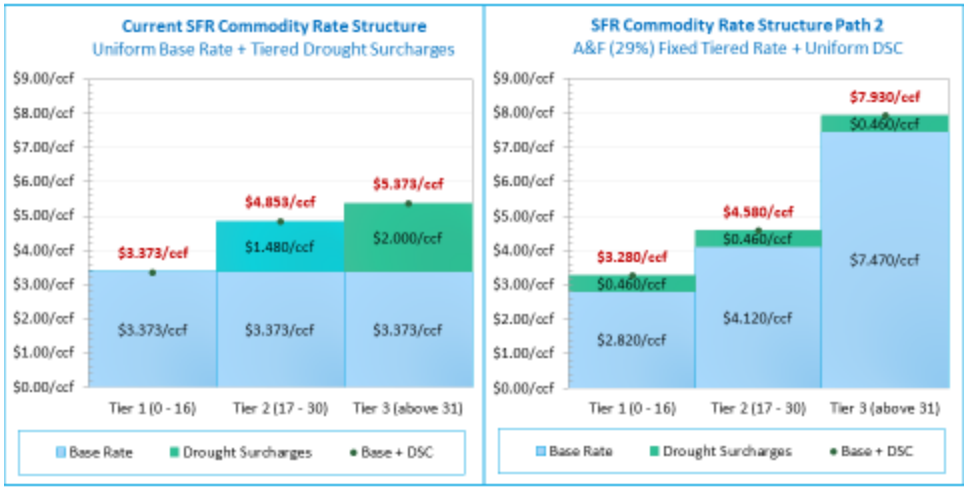
Fixed Charges Options	Current	A&F Fixed (30% Fixed Rev Adj)
5/8	$31.95	$41.54
3/4	$31.95	$41.54
1	$45.82	$64.05
1 1/2 F	$45.82	$64.05
1 1/2	$80.93	$120.32
2	$116.07	$187.84
3	$440.13	$401.66
4	$637.46	$716.76
6	$1,538.70	$1,808.37
8	$2,253.10	$3,158.81
10	$4,026.56	$4,734.31
Uniform Base Rate (Inside)	$3.373/ccf	$3.373/ccf
Uniform Base Rate (Outside)	$3.878/ccf	$3.828/ccf

Transition Commodity Base Rates

(with A&F Fixed Service Charges)

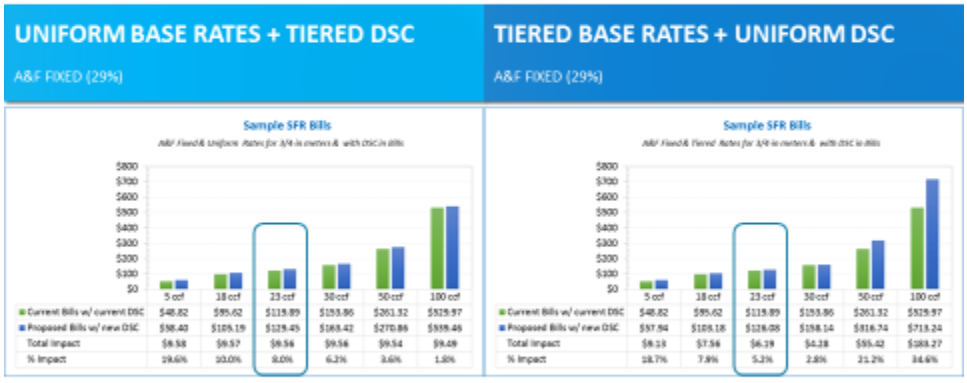
	Current	Path 1: Uniform	Path 2: Tiered
SFR Tier 1	$3.373/ccf	**$3.373/ccf**	**$2.820/ccf**
SFR Tier 2	$3.373/ccf	**$3.373/ccf**	**$4.120/ccf**
SFR Tier 3	$3.373/ccf	**$3.373/ccf**	**$7.470/ccf**
Non-SFR	$3.373/ccf	**$3.373/ccf**	**$3.270/ccf**
Outside District	$3.878/ccf	**$3.828/ccf**	**$3.720/ccf**

SFR Commodity Rate Structure Path 2
Tiered Base Rate and Uniform Surcharges

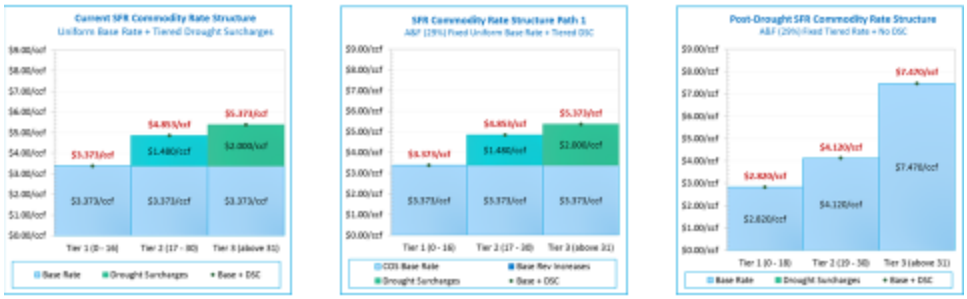


Customer Impacts

A&F Fixed Service Charge Rate Option (29% Fixed – Recom. by A&F Committee)

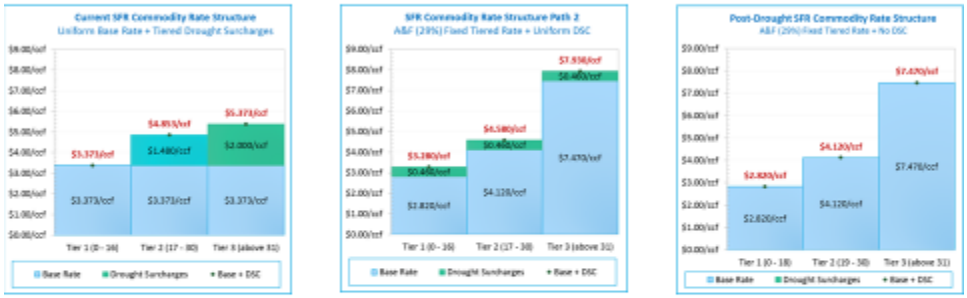


SFR Commodity Rate Structure Pre and Post Drought Path 1 Transition Option



Current → FY 2015 (May 2015) → Post-Drought Before FY 2016 rate increases

SFR Commodity Rate Structure Pre and Post Drought Path 2 Transition Option



Current → FY 2015 (May 2015) → Post-Drought Before FY 2016 rate increases

Revised Fixed Charges

30% Fixed / 70% Commodity
+ 5% or 8% Revenue Adjustments

Transition Drought Rate Paths

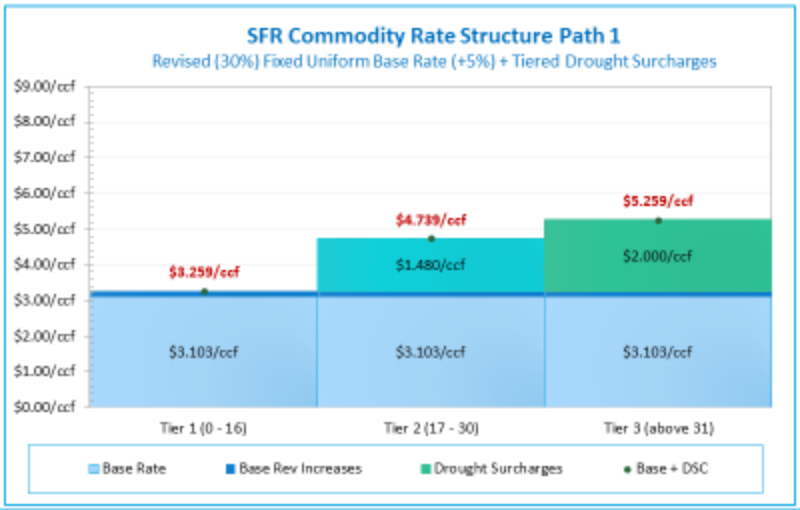
1. UNIFORM BASE + TIERED SURCHARGES -> TIERED RATES
2. TIERED BASE + UNIFORM SURCHARGES -> TIERED RATES

Revised Fixed Service Charges

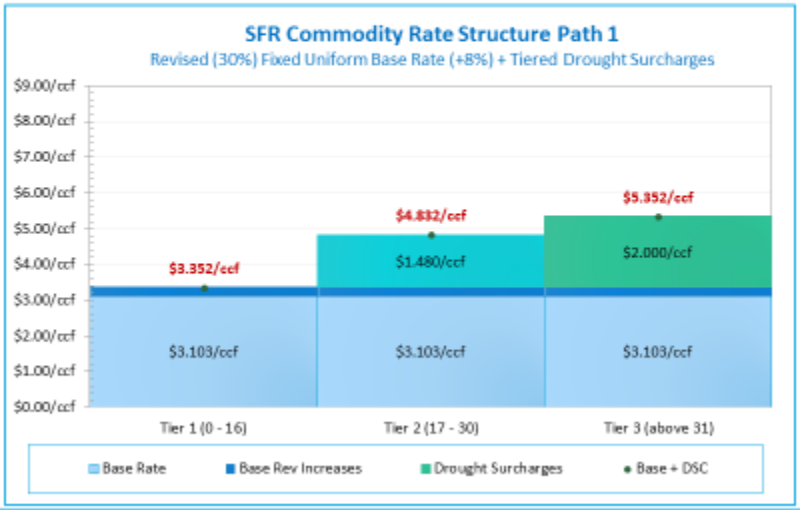
30% Fixed / 70% Commodity

Fixed Charges Options	Current	Revised Fixed W/o Rev Adjustment	Revised Fixed W/ 5% Rev Adjmt	Revised Fixed W/ 8% Rev Adjmt
5/8	$31.95	$39.75	$41.74	$42.93
3/4	$31.95	$39.75	$41.74	$42.93
1	$45.82	$62.27	$65.39	$67.26
1 1/2 F	$45.82	$62.27	$65.39	$67.26
1 1/2	$80.93	$118.55	$124.48	$128.04
2	$116.07	$186.09	$195.40	$200.98
3	$440.13	$399.97	$419.97	$431.97
4	$637.46	$715.15	$750.91	$772.37
6	$1,538.70	$1,807.05	$1,897.41	$1,951.62
8	$2,253.10	$3,157.85	$3,315.75	$3,410.48
10	$4,026.56	$4,733.78	$4,970.47	$5,112.49
Uniform Base Rate (Inside)	$3.373/ccf	$3.103/ccf	$3.259/ccf	$3.352/ccf
Uniform Base Rate (Outside)	$3.878/ccf	$3.559/ccf	$3.737/ccf	$3.844/ccf

SFR Commodity Rates with Uniform Base + 5% and Tiered Drought Surcharges



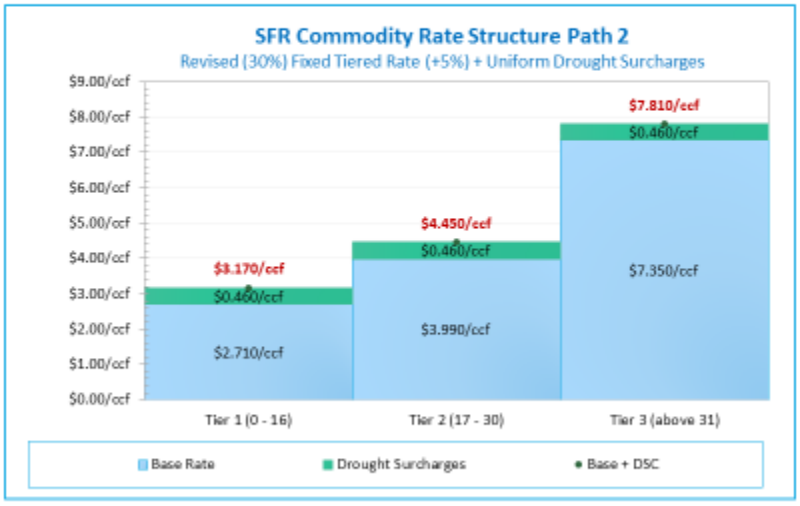
SFR Commodity Rates with Uniform Base + 8% and Tiered Drought Surcharges



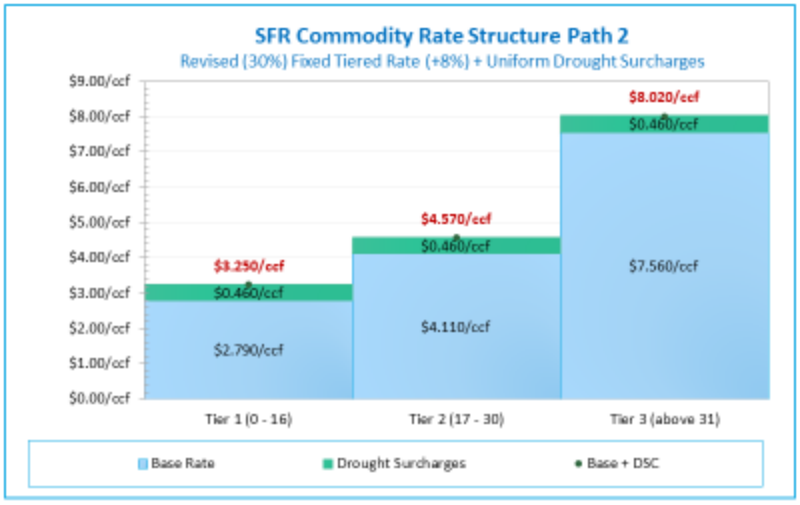
Path 2 Tiered Rate Options

	Current	0% Rev Adjmt	5% Rev Adjmt	8% Rev Adjmt
SFR Tier 1	$3.373/ccf	$2.580/ccf	$2.710/ccf	$2.790/ccf
SFR Tier 2	$3.373/ccf	$3.800/ccf	$3.990/ccf	$4.110/ccf
SFR Tier 3	$3.373/ccf	$7.000/ccf	$7.350/ccf	$7.560/ccf
Non-SFR	$3.373/ccf	$3.010/ccf	$3.170/ccf	$3.260/ccf
Outside District	$3.878/ccf	$3.460/ccf	$3.640/ccf	$3.740/ccf

SFR Commodity Rates + 5% with Tiered Base and Uniform Drought Surcharges



SFR Commodity Rates + 8% with Tiered Base and Uniform Drought Surcharges

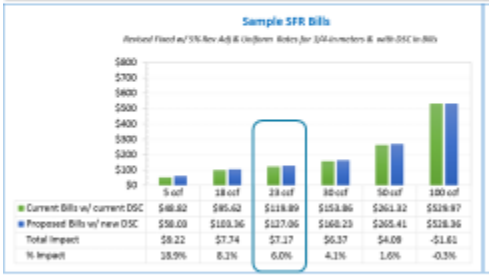


Customer Impacts

with 5% Revenue Adjustment w/ Revised Fixed (30%) Charges

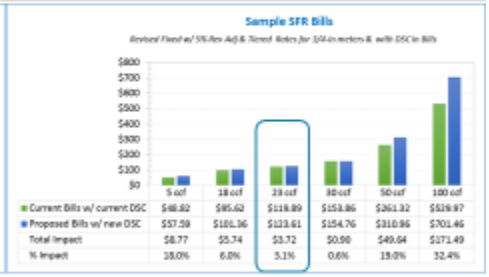
UNIFORM BASE RATES + TIERED DSC

REVISED FIXED (30%) + 5% REVENUE ADJUSTMENT



TIERED BASE RATES + UNIFORM DSC

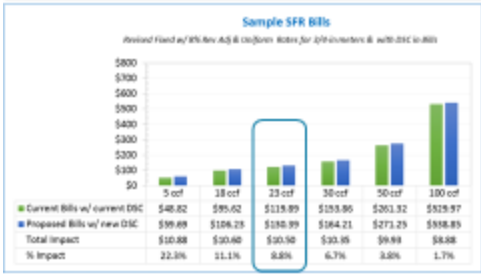
REVISED FIXED (30%) + 5% REVENUE ADJUSTMENT

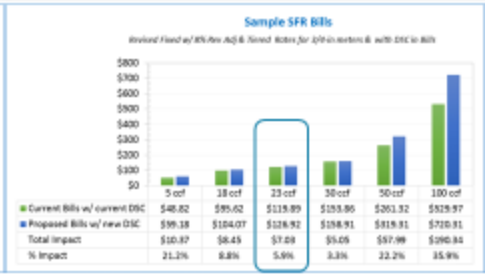


Customer Impacts

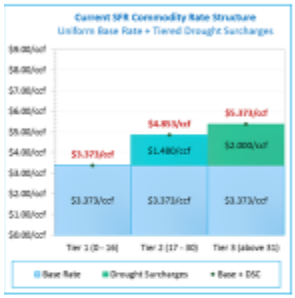
with 8% Revenue Adjustment w/ Revised Fixed (30%) Charges

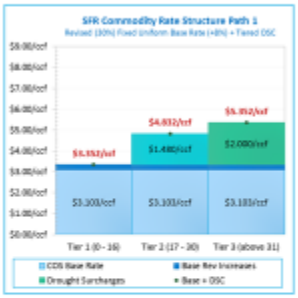
UNIFORM BASE RATES + TIERED DSC	TIERED BASE RATES + UNIFORM DSC
REVISED FIXED (30%) + 8% REVENUE ADJUSTMENT	REVISED FIXED (30%) + 8% REVENUE ADJUSTMENT

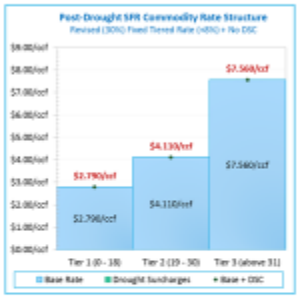




SFR Commodity Rate Structure Pre and Post Drought Path 1 Transition Option (8%)





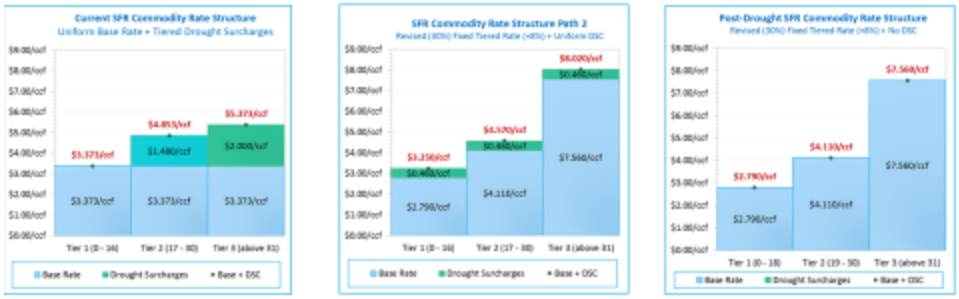


Current

FY 2015
(May 2015)

Post-Drought
Before FY 2016
rate increases

SFR Commodity Rate Structure Pre and Post Drought Path 2 Transition Option (8%)



Current → FY 2015 (May 2015) → Post-Drought Before FY 2016 rate increases

Financial Implication of No Revenue Adjustment in FY 2015

Financial Implications of No Revenue Adjustment in FY 2015

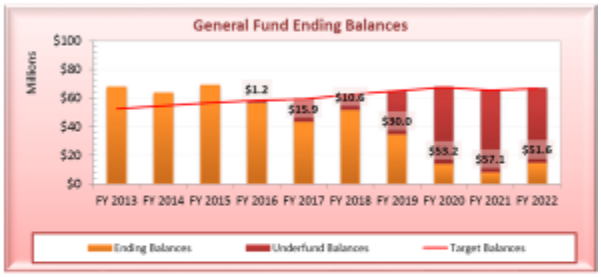
Effective Month	Financial Plan Option 1	Financial Plan Option 2	Financial Plan Option 3	Status Quo 2015 Financial Plan	Delaying 2015 Financial Plan
May 2015	5%	8%	30% Fixed 0% Commodity	0%	0%
Feb 2016	5%	8%	8%	8%	11.5%
Feb 2017	8%	8%	8%	8%	11.5%
Feb 2018	8%	8%	8%	8%	11.5%
Feb 2019 to 2022	8%	8%	8%	8%	8%
Beyond FY 2022	3%	3%	3%	3%	3%

Financial Plan Assumptions:

- Water Supply and Water Demand Scenario: Medium
- Drought Surcharges: $6.9M in FY 2015 and $6.9M in FY 2016
- $25M new debt in FY 2015 and $25M new debt in FY 2018
- 56% SWP Tax

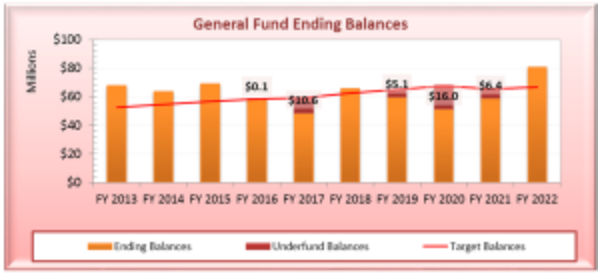
Status Quo FY 2015 Financial Plan

Effective Month	Status Quo FY 2015 Financial Plan
May 2015	0%
Feb 2016	8%
Feb 2017	8%
Feb 2018	8%
Feb 2019 to Feb 2022	8%
Beyond FY 2022	3%



Delaying Financial Plan

Effective Month	Delaying 2015 Financial Plan
May 2015	0%
Feb 2016	11.5%
Feb 2017	11.5%
Feb 2018	11.5%
Feb 2019 to Feb 2022	8%
Beyond FY 2022	3%



Consequences of Cost Cuttings

The District could compensate the loss of revenues (8%) by cost cuttings

Consequences of cost cuttings:

Customer Service (Front Office and Engineering)

- Reduced hours for walk-in customers
- Incoming calls would experience longer wait times, or only go directly to a voicemail queue
- Delayed response to email inquiries

Consequences of Cost Cuttings

Engineering

- Delayed response for well and excavation permits
- Delayed response for review of other agency projects and groundwater investigations
- Delayed response for water service engineering for new developments

Consequences of Cost Cuttings

Operations

- Discolored water due to a suspension of the annual flushing program
- Limit off-hour distribution system leak repairs to only extreme situations
- Harder water due to suspended water hardness goals and reduced San Francisco water supply purchases
- Less reliable water service due to reduced maintenance programs

Consequences of Cost Cuttings

Others

- Delayed financial and rate analyses
- Delayed financial and purchasing processes and cycles
- Reduced public information, outreach and conservation programs
- Focus on basic barebones operations with no capacity for new progressive cost effective initiatives

Wrap Up

POLICY DECISIONS FROM THE BOARD

Policy Decisions from the Board

- How much revenues to collect to meet O&M, Capital and other obligations? (Rev Requirements)
  1. 5% or 8% on both Fixed and Commodity
  2. 30% on Fixed and 0% on Commodity (7.9% Overall Rev Increase) (A&F Committee Recommendation)
- How much revenues to be collected from fixed service charges? (Fixed Charge Options)
  1. A&F Fixed: 29% Fixed / 71% Commodity (A&F Committee Recommendation)
  2. Revised Fixed: 30% Fixed / 70% Commodity
- What rate structure to be implemented in May 2015? (Transition Drought Rate Paths)
  1. Uniform base + Tiered surcharges -> Tiered rates
  2. Tiered Base + Uniform Surcharges -> Tiered rates

Communication and Outreach Plan

PRESENTED BY SHARENE GONZALES

Communication and Outreach Plan

Working to Keep the Public Informed

1. Comprehensive Outreach Plan to inform customers and internal/external stakeholders
2. Transparency in all components of rates and drought surcharge processes
3. Communication to keep the public informed and seek input

Communication and Outreach

Print

Press Release Announcing Board Workshop – Dec 2014

Fact Sheet – Feb 2015

Frequently Asked Questions – Feb 2015

Information Flyer – Feb 2015

Proposition 218 Notice – Feb 2015

Bill message – Feb 2015

Bill insert and/or Aqueduct* - May 2015

Press Release Announcing Public Hearing – Apr 2015

Communication and Outreach Plan

Other

Customer Service Training – Feb 2015

Website update – Feb/Mar 2015

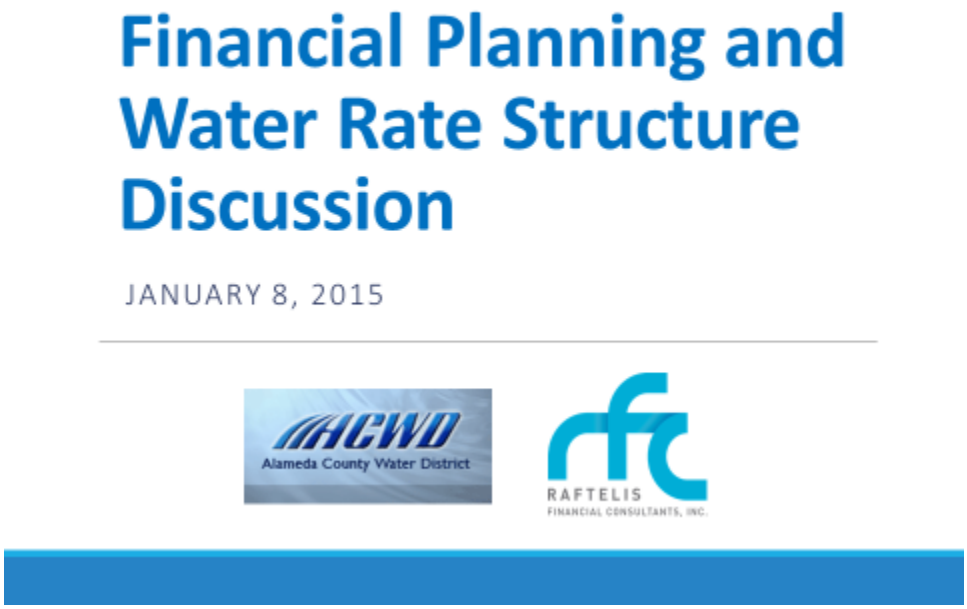
Social media updates – Feb/Mar 2015

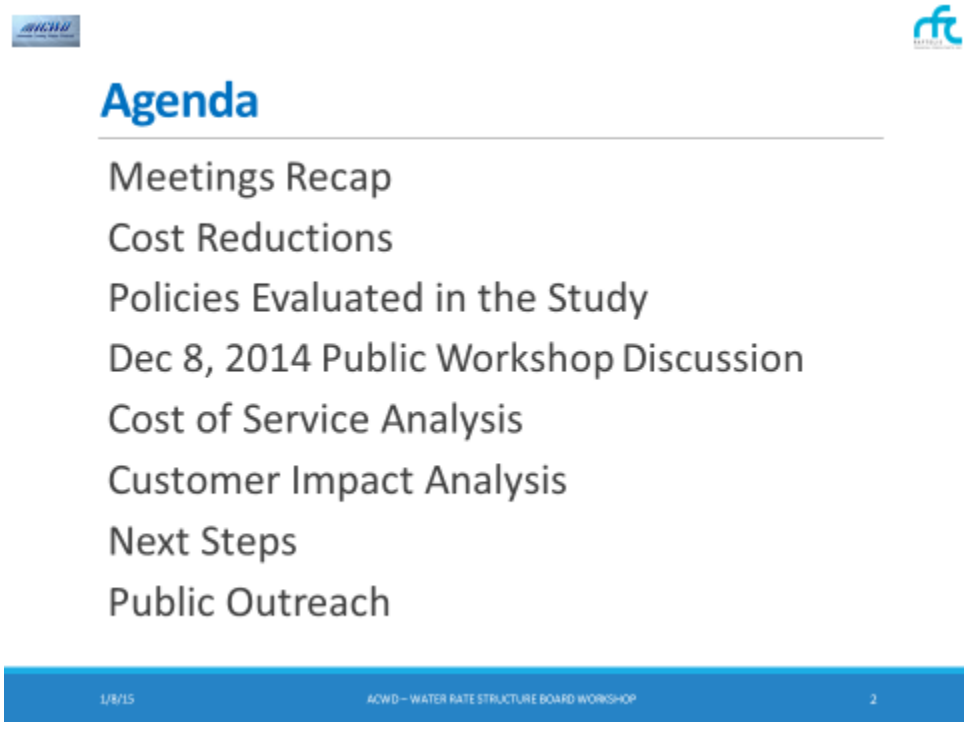
Host Stakeholder meetings – Mar/Apr 2015

- Cities of Fremont, Newark & Union City
- School districts
- Chamber of Commerce

Discussion

8.2.3 January 2015 Public Workshop





List of Meetings Held To Date

January 17, 2014	Governor Edmund G. Brown declares State drought emergency
March 13	Board adopts water shortage emergency ordinance
April 15	Board workshop on fiscal impact/mitigations/surcharge options
May 5	Board workshop discussing proposed surcharges for Prop 218 notices
July 17	Public Hearing regarding proposed drought surcharges
Sept/October 2014	Rate Options and Cost-of-Service Study Discussions with RFC
October 22	Exec Staff meeting
November 6	Board / Public Rates Workshop
December 8	Board / Public Rates Workshop
January 8, 2015	Board Meeting Summary and Confirmation of Approach

Cost Reductions

Unfunded liabilities additional payments delayed

- Required annual payments will continue to be made
- Additional annual payments:
  - FY 2015 – 2017: $0
  - FY 2018: $3M
  - FY 2019-2020: $4M
  - FY 2021-2022: $5M
  - FY 2023-2024: $6M
  - FY 2025-2026: $7M

Deferral of $20 million in capital projects

$1.5 million in Operating Expense cuts including the elimination of or holding vacant a number of temporary and permanent positions

Policies Evaluated in the Study

1. **Financial Planning Scenarios**
   - Debt service coverage and cash levels
   - Different levels of drought and revenue adjustments
2. **Rate Structure Evaluation**
   - Different levels of fixed and variable revenue structure
   - Comprehensive Cost of Service analysis
     - Calculating fixed service charges
     - Uniform vs. tiered commodity rates
     - Different drought surcharges options

Dec 8, 2014 Public Workshop Discussion

1. No increase in current commodity rates
2. Proceed with increasing the service charge revenue by 30%
   - Equivalent to 7.9% increase in overall revenue
   - Service charge is based on Cost of Service Analysis
3. Maintain the current uniform rate structure with a tiered drought surcharge rate
4. Once the drought is over, consider implementation of a tiered rate structure

Estimated Cost Components of the Base 8%

	% of Total Cost Increase	
Water Supply	70%	5.6%
Other Water System Costs (Pumping, Transmission & Distribution, Water Treatment)	15%	1.2%
Customer and Administrative Costs	15%	1.2%
Total	**100%**	**8%**

Cost of Service Allocation

Justification of Service Charges

Components of Service Charges		
Billing & Customer Service	**Meter & Service Costs**	**Capacity Related Costs**
Costs associated with meter readings, billings, & customer service	Part of the costs of delivering water to customers & meter maintenance costs	Part of costs associated with meeting potential peak demand

Bi-Monthly Fixed Service Charges

Revenue Adjustment for FY 2015: 30% Fixed, 0% Commodity
(8% Overall Increase in Revenues)

Bi-Monthly Fixed Service Charges by Meter Size	Current	COS before Rev Adjustment	COS with Rev Adjustment
5/8	$31.95	$31.95	$41.54
3/4	$31.95	$31.95	$41.54
1	$45.82	$49.27	$64.05
1 1/2 F	$45.82	$49.27	$64.05
1 1/2	$80.93	$92.55	$120.32
2	$116.07	$144.49	$187.84
3	$440.13	$308.97	$401.66
4	$637.46	$551.35	$716.76
6	$1,538.70	$1,391.05	$1,808.37
8	$2,253.10	$2,429.85	$3,158.81
10	$4,026.56	$3,641.78	$4,734.31
Uniform Base Rate (Inside)	$3.373/ccf	$3.373/ccf	$3.373/ccf
Uniform Base Rate (Outside)	$3.878/ccf	$3.829/ccf	$3.829/ccf

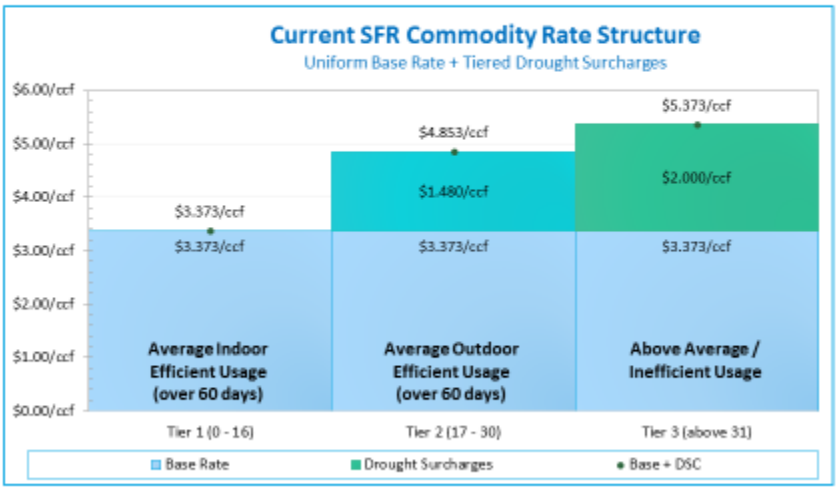
Fixed Service Charge Impacts

Revenue Adjustment for FY 2015: 30% Fixed, 0% Commodity
(8% Overall Increase in Revenues)

Bi-Monthly Fixed Service Charges by Meter Size	Current	COS with Rev Adjustment	% Change
5/8	$31.95	$41.54	30.0%
3/4	$31.95	$41.54	30.0%
1	$45.82	$64.05	39.8%
1 1/2 F	$45.82	$64.05	39.8%
1 1/2	$80.93	$120.32	48.7%
2	$116.07	$187.84	61.8%
3	$440.13	$401.66	-8.7%
4	$637.46	$716.76	12.4%
6	$1,538.70	$1,808.37	17.5%
8	$2,253.10	$3,158.81	40.2%
10	$4,026.56	$4,734.31	17.6%

SFR Commodity Rate Structure
Uniform Base Rate and Tiered Surcharges

No Change 0%



Bi-Monthly Customer Bill Impacts

(Monthly SFR Bill Impact < $5)

Sample SFR Bills

A&F Fixed & Uniform Rates for 3/4-in meters & with DSC in Bills

	5 ccf	18 ccf	23 ccf	30 ccf	50 ccf	100 ccf
Current Bills w/ current DSC	$48.82	$95.62	$119.89	$153.86	$261.32	$529.97
Proposed Bills w/ new DSC	$58.40	$105.19	$129.45	$163.42	$270.86	$539.46
Total Impact	$9.58	$9.57	$9.56	$9.56	$9.54	$9.49
% Impact	19.6%	10.0%	8.0%	6.2%	3.6%	1.8%

Prop 218 and Next Rate Meetings

January 20, 2015:	A&F Committee Follow-Up Discussion
February 12:	Board Meeting Presentation and Solicit Public Input
	Review of All Proposed Rates and Charges
	Receive Final Guidance from the Board to Set the Public Hearing Date and Authorize Prop. 218 Mailings
February 13:	Begin Public Information Campaign Rate Changes
February 24:	Mail Prop. 218 Notifications
April 14:	Public Hearing
May 1, 2015:	Effective Date of All Relevant Rates and Charges

Communication and Outreach Plan

PRESENTED BY SHARENE GONZALES

Communication and Outreach Plan

Working to Keep the Public Informed

- Comprehensive Outreach Plan to inform customers and internal/external stakeholders
- Transparency in all components of rates and drought surcharge processes
- Communication to keep the public informed and seek input

Communication and Outreach

Print

Dec 2014
- Media Advisory Announcing Board Workshop complete

February 2015
- Media Advisory Announcing Board Meeting and Solicit Public Input
- Fact Sheet
- Frequently Asked Questions
- Information Flyer
- Bill message announcing Public Hearing
- Feb 24 – Proposition 218 Notice Mailed Out
- Feb/Mar – The Aqueduct announcing Public Hearing

April 2015
- Press Release Announcing Public Hearing

May/June 2015
- The Aqueduct announcing new rates

Communication and Outreach

Other

January 2015
- New webpage www.acwd.org/rates

February
- Customer Service Training
- Social media updates

February/March
- Cities of Fremont, Newark & Union City
- School districts
- Chamber of Commerce

March/April

Host community meetings
- Presentations to include District overview, drought update, value of services from water rates

Discussion

8.3 APPENDIX III – STEP BY STEP COST ALLOCATIONS

8.3.1 Asset Allocations to Water Functionalized Costs

Table 8-1: Asset Allocations to Water Functionalized Costs

		ALLOCATION FACTORS											
Functional Cost Categories	RC	Water Supply	WS Offset	Base	Max Day	Max Hour	Conservation	Revenue Offsets	Meters	Billing & CS	Fire	General	Total
Treatment	$249,853,277	0%	0%	61%	39%	0%	0%	0%	0%	0%	0%	0%	100%
Pumping	$40,110,701	0%	0%	38%	25%	32%	0%	0%	0%	0%	5%	0%	100%
Transmission	$0	0%	0%	61%	39%	0%	0%	0%	0%	0%	0%	0%	100%
Distribution	$0	0%	0%	40%	26%	33%	0%	0%	0%	0%	0%	0%	100%
T&D	$723,760,812	0%	0%	40%	26%	33%	0%	0%	0%	0%	0%	0%	100%
Storage	$0	0%	0%	58%	37%	0%	0%	0%	0%	0%	5%	0%	100%
Source of Supply	$112,745,527	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
General Plant	$66,156,682	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%
Total	**$1,192,627,000**	**$0**	**$0**	**$572,001,725**	**$298,511,159**	**$253,951,899**	**$0**	**$0**	**$0**	**$0**	**$2,005,535**	**$66,156,682**	**$1,192,627,000**
		0%	0%	48%	25%	21%	0%	0%	0%	0%	0%	6%	100%

8.3.2 O&M Allocations to Water Functionalized Costs

Table 8-2: O&M Allocations to Water Functionalized Costs

		FY 2014	Water Supply	WS Offset	Base	Max Day	Max Hour	Conservation	Revenue Offsets	Meters	Billing & CS	Fire	General	Total	Categories
Source of Supply															
8111	Operation & Planning of Supply System	$2,918,665	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Source of Supply
8113	Operation of Take-Offs	$25,072	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8114	Ground Water Resources	$3,785,397	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Base
8121	Maintenance of Pits and Creeks	$376,314	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Base
8122	Maintenance of Wells	$567,484	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8123	Maintenance of Regulator Stations & Take-Offs	$176,378	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8131	*Purchased Water SBA*														
8131-Fixed	Fixed Costs	$5,882,754	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Source of Supply
8131-Variable	Variable Costs	$1,522,446	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Variable Water Supply
	Total Purchased Water	$7,405,200													
8132	Purchased Water SFWD	$10,990,896	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Variable Water Supply
8133	Purchased Water SWSD	$1,140,500	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Variable Water Supply
8141	Ground Water Replenishment	$0	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Source of Supply
8151	Water Quality Analysis	$2,781,102	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Base
Subtotal Source of Supply		***$30,167,009***													
Pumping															
8211	Operation of Wells	$21,639	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8221	Maintenance of Diversion Pumps	$16,920	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Source of Supply
8223	Maintenance of Booster Pumps	$323,020	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8224	Maintenance of SCADA System	$280,662	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Base
8231	Purchased Power	$3,134,100	0.0%	0.0%	40.4%	26.3%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Hour
Subtotal Pumping		***$3,776,341***													
Water Treatment															
8311	Operation of Blending Facility	$585,282	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8312	Water Quality Technical Services	$1,190,114	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Base
8313	Operation of Water Treatment Plant No. 1	$2,315,200	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8314	Operation of Water Treatment Plant No. 2	$4,794,877	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8315	Operation of Desalination Facility	$624,942	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8321	Maintenance of Blending Facilities	$426,302	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8323	Maintenance of Water Treatment Plant No. 1	$825,926	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8324	Maintenance of Water Treatment Plant No. 2	$1,668,556	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8325	Maintenance of Desalination Facility	$483,918	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
Subtotal Water Treatment		***$12,915,116***													
Transmission & Distribution															
8411	Engineering of Distribution System	$2,610,607	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Base
8412	Operation of Distribution System	$1,684,221	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8421	Maintenance of Reservoirs	$523,463	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8422	Maintenance of Mains	$2,026,029	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8423	Maintenance of Cathodic Stations	$23,591	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Base
8424	Maintenance of Service Lines	$1,153,710	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0%	**100%**	Meters
8425	Maintenance of Meters	$961,957	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0%	**100%**	Meters
8426	Maintenance of Fire Hydrants	$670,067	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0%	**100%**	Fire Hydrants
8427	Maintenance of Backflow Preventers	$466,506	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0%	**100%**	Meters
8428	Maintenance of Distribution System	$1,321,996	0.0%	0.0%	60.6%	39.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Max Day
8429	Maintenance-Facilities Engineering	$1,171,569	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	**100%**	Base
Subtotal Transmission & Distribution		***$12,613,714***													

Table 8-2 (cont.)

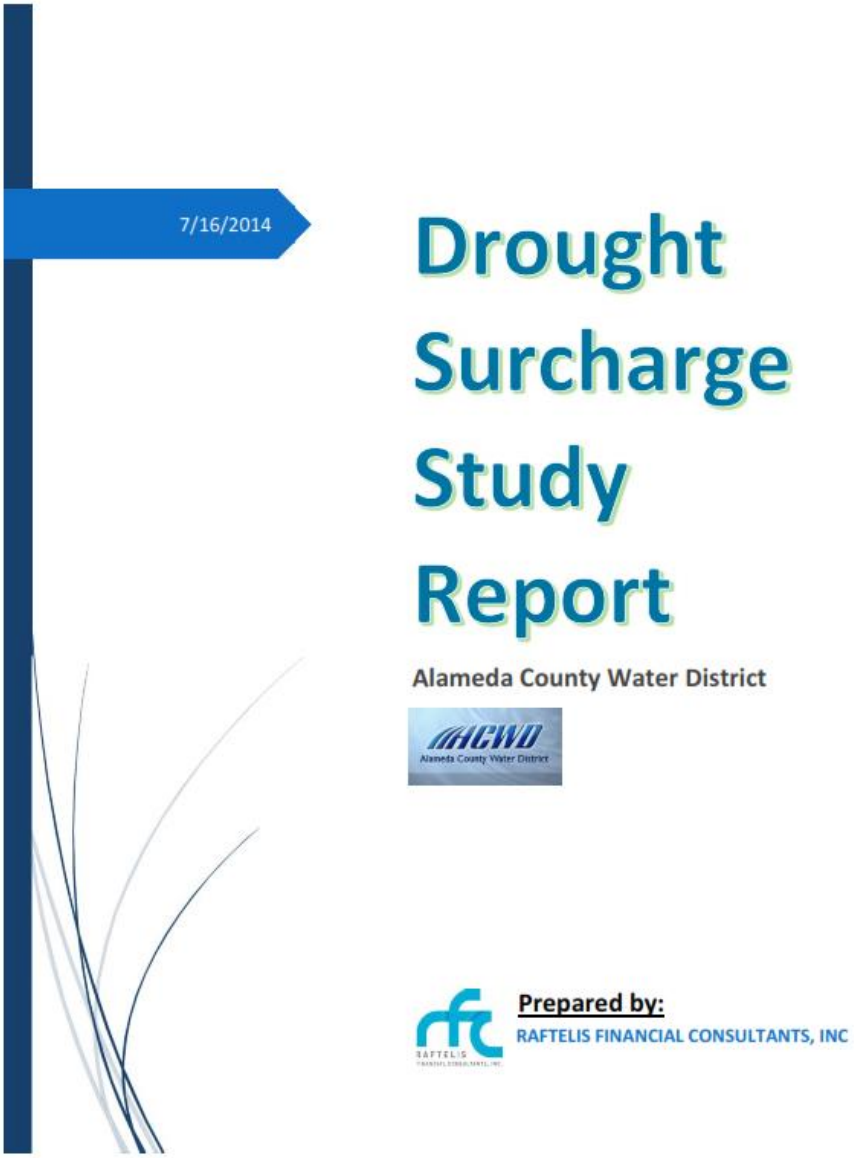
		FY 2014	Water Supply	WS Offset	Base	Max Day	Max Hour	Conservation	Revenue Offsets	Meters	Billing & CS	Fire	General	Total	Categories
Customer Accounts															
8600	Customer Accounts-Supervision, Labor & Exp	$1,945,655	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0%	**100%**	Billing & CS
8612	Customer Record Supplies	$79,450	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0%	**100%**	Billing & CS
8620	Uncollectible Accounts	$0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0%	**100%**	Billing & CS
Subtotal Customer Accounts		***$2,025,105***													
Administrative & General															
8710	Salaries and Other Expenses	$5,435,982	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
8800	Other Pay (Vacation, Holiday, Sick Leave, etc.)	$5,468,866	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
8830	Employees' Retirement and Benefits	$17,492,778	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9150	Health & Safety / Emergency Svcs	$767,085	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9190	Public Information	$1,496,178	0.0%	0.0%	0.0%	0.0%	0.0%	61.5%	0.0%	0.0%	0.0%	0.0%	39%	**100%**	Conservation
9210	Directors' Compensation	$40,000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9230	Professional Services	$1,003,199	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9350	Election Expense	$0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9360	Travel, Subscriptions and Dues	$376,340	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9520	Office Supplies and Other Expenses	$0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9521		$138,250	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9522	Engineering Supplies	$21,950	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9530	Office Equipment Maintenance	$22,850	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9540	Postage	$204,820	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0%	**100%**	Billing & CS
9550	Telephone	$212,300	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0%	**100%**	Billing & CS
9560	Heat, Light and Power - Building	$285,475	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9570	Recruiting	$70,000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9580	Computer Expenses	$1,251,492	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9590	Property and Liability Insurance	$700,000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9610	Rents and Leases	$1,900	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9620	Small Tools	$144,950	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9630	Operating Supplies	$89,844	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9640	Other Administrative & General Expenses	$15,000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9660	Auto Maintenance	$704,128	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9670	Equipment Maintenance	$121,164	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9680	Maintenance of Headquarters Facilities & Grou	$842,107	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9690	Ground Maintenance of Other Properties	$404,601	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9720	Variance Account	$0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9850	Expenses Transferred	-$24,355,800	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9910	Interest on Long Term Debt	$0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9930	Exp Applicable to Prior Years	$0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
9940	Financing Expenses	$8,000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
	Other Employee Expenses	$0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
	OPEB Expenses	$0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	**100%**	Gen & Admin
Subtotal Administrative & General excl Interest on LT Debt		***$12,963,460***													
Total O&M Expenses without Interest on LT Debt		**$74,460,744**	**$13,653,842**	**$0**	**$33,452,157**	**$8,069,255**	**$1,044,686**	**$920,000**	**$0**	**$2,582,173**	**$2,442,225**	**$670,067**	**$11,626,340**	**$74,460,744**	TRUE
			18%	0%	45%	11%	1%	1%	0%	3%	3%	1%	16%	100%	

8.3.3 Revenue Requirements to Water Functionalized Costs

Table 8-3: Revenue Requirements to Water Functionalized Costs

	No Drought	Water Supply	WS Offset	Base	Max Day	Max Hour	Conservation	Revenue Offsets	Meters	Billing & CS	Fire	General	Total
REVENUE REQUIREMENTS													
O&M Expenses	$74,460,744	$13,653,842	$0	$33,452,157	$8,069,255	$1,044,686	$920,000	$0	$2,582,173	$2,442,225	$670,067	$11,626,340	**$74,460,744**
Net Revised Budget Cuts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Future Water Supply	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Debt Service	$4,759,881	$0	$0	$2,282,910	$1,191,385	$1,013,545	$0	$0	$0	$0	$8,004	$264,037	**$4,759,881**
PAYGO CIP	$20,071,180	$0	$0	$9,626,438	$5,023,759	$4,273,855	$0	$0	$0	$0	$33,752	$1,113,376	**$20,071,180**
Reserve Funding before Rev Adj & Drought Surc	$2,915,542	$0	$0	$1,561,102	$491,593	$217,917	$0	$0	$88,865	$84,048	$24,497	$447,520	**$2,915,542**
Subtotal Revenue Requirements	**$102,207,347**	**$13,653,842**	**$0**	**$46,922,606**	**$14,775,993**	**$6,550,002**	**$920,000**	**$0**	**$2,671,037**	**$2,526,273**	**$736,320**	**$13,451,274**	**$102,207,347**
Less Other Revenues to Offset Rev Requirements													
Ground Water Replenishment Revenue	$315,682	$0	$315,682	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$315,682**
1% Tax Allocation	$4,884,758	$0	$0	$0	$0	$0	$0	$4,884,758	$0	$0	$0	$0	**$4,884,758**
State Water Contract Tax	$3,515,533	$0	$3,515,533	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,515,533**
Interest revenues	$304,286	$0	$0	$0	$0	$0	$0	$304,286	$0	$0	$0	$0	**$304,286**
Customer Jobs Revenue	$3,176,286	$0	$0	$1,523,394	$795,015	$676,342	$0	$0	$0	$0	$5,341	$176,193	**$3,176,286**
Other Revenues	$3,248,053	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,248,053	**$3,248,053**
Residential SL	$37,414	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$37,414	**$37,414**
Subtotal Other Revenues	**$15,482,012**	**$0**	**$3,831,215**	**$1,523,394**	**$795,015**	**$676,342**	**$0**	**$5,189,044**	**$0**	**$0**	**$5,341**	**$3,461,660**	**$15,482,012**
Cost of Service	**$86,725,335**	**$13,653,842**	**-$3,831,215**	**$45,399,212**	**$13,980,977**	**$5,873,660**	**$920,000**	**-$5,189,044**	**$2,671,037**	**$2,526,273**	**$730,979**	**$9,989,614**	**$86,725,335**
Reallocation of													
General Costs		$0	$0	$6,437,376	$1,982,431	$832,855	$0	$0	$378,739	$358,213	$0	-$9,989,614	**$0**
Fire Protection		$0	$0	$471,048	$145,062	$60,943	$0	$0	$27,714	$26,212	-$730,979	$0	**$0**
Total Cost of Service	**$86,725,335**	**$13,653,842**	**-$3,831,215**	**$52,307,636**	**$16,108,470**	**$6,767,458**	**$920,000**	**-$5,189,044**	**$3,077,491**	**$2,910,698**	**$0**	**$0**	**$86,725,335**

8.4 APPENDIX IV – DROUGHT SURCHARGE STUDY REPORT



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July 16, 2014

Shelley Burgett
Manager of Finance
Alameda County Water District
43885 S. Grimmer Blvd.
Fremont, CA 94538

Subject: Drought Surcharge Study Report

Dear Ms. Burgett,

Raftelis Financial Consultants, Inc. ('RFC') is pleased to provide this Drought Surcharge Study Report (Report) on behalf of the Alameda County Water District ('District' or 'ACWD'), which discusses the financial impacts of recent and ongoing drought conditions and develops drought surcharges to assist the District in their efforts to mitigate these impacts.

The major objectives of the study include the following:

1. Assess the impacts of recent drought conditions, including decreased net revenue due to reduced demand, additional and more expansive conservation efforts, and increased water supply costs; and
2. Evaluate and discuss different approaches to mitigate the impacts of drought conditions while maintaining the highest quality of customer service and upholding the environmental and fiscal principles committed by the District; and
3. Develop drought surcharges and conduct a comprehensive customer impact analysis to evaluate the feasibility of the drought surcharges from the perspective of the customer.

This report summarizes the financial impacts of the drought and discusses drought surcharges we have developed to assist the District in its efforts to mitigate those impacts. It has been a pleasure working on behalf of the District and we are grateful to all District staff for the support you provided during the course of this study.

Sincerely,

Raftelis Financial Consultants, Inc.

Sanjay Gaur
Senior Manager

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List of Tables and Figures

1 BACKGROUND

1.1 OVERVIEW

California is currently experiencing the worst drought conditions in decades. In response to the historically low supply of water associated with the drought, the Alameda County Water District ('ACWD' or 'District') has adopted a water shortage emergency ordinance, which includes a goal of achieving 20 percent overall water savings during 2014. These savings will be critical in the District's efforts to stretch its water supplies to meet the demands of its community through the remainder of 2014 and help the District in its preparation for 2015 in the event that drought conditions remain or worsen.

In addition to reductions in the overall supply of water, the District is also facing the task of mitigating the various financial impacts associated with the drought. These impacts include but are not necessarily limited to decreased net revenue due to reduced demand, additional and more expansive conservation efforts, and increased water supply costs. The proposed drought surcharge is intended to stabilize revenues and promote conservation while keeping in mind the need for affordable water service.

The provision of clean, safe, and reliable drinking water is a capital intensive and time intensive operation. To ensure that District continues to fulfill its mission of providing a reliable supply of high quality water, it must provide consistent and on-going infrastructure operations and maintenance, the import of water must occur.

To help mitigate decreased revenue and increase water supply cost, the District is taking a variety of measures to manage costs, including:

- Budget cuts;
- Elimination of or holding vacant a number of permanent and temporary positions;
- Deferral of $20 million in planned capital projects;
- Use of a $10 million rate stabilization fund; and
- Issuance of a $25 million bond offering.

While the drought presents challenges, ACWD remains committed to its customers and continues to uphold its environmental and fiscal principles.

This report summarizes the financial impacts of the drought and summarizes how the District is mitigating against these impacts.

1.2 Water Supply Availability

The District has a diverse supply of water sources including the State Water Project (SWP), San Francisco Public Utilities Commission (SFPUC), groundwater, and desalinated water. Each of these sources is associated with their respective operational costs. Under normal, non-drought conditions, the operational water supply cost for the District is $12.3 million. These costs including availability of water and unit cost of water are detailed in Table 1-1, below. Note that the costs in the table below are not inclusive of fixed costs associated with each water supply source. Most water supply cost has two factors a fixed cost and a variable cost. Fluctuations in water supply resulting from drought conditions only influence variable costs, leaving fixed costs unchanged.

Table 1-1: Non-Drought Water Supply Costs

Water Supply	Supply Utilization (AF)	Unit Cost ($/AF)	Total Cost
SFPUC – Min	8,602	$1,067	$9.2M
Groundwater – Min	8,602	$100	$0.9M
Desal Water – Min	8,467	$133	$1.1M
Lake Del Valle	5,800	$0	$0
State Water Project	17,356	$63	$1.1M
SFPUC - Max Limit	0	$1,067	$0
Groundwater – Max	0	$134	$0
Total	**48,827**		**$12.3M**

Table 1-1 also shows the varying levels of cost per acre foot (AF). At $1,067/AF, the SFPUC water is the most expensive source by a significant margin, with SWP water being the least expensive. The California Department of Water Resources' (DWR) in January 2014 declared a zero percentage allocation on the State Water Project (SWP). Later this year DWR increased the allocation by 5 percent, which will be available after September 2014. The final allocation of 5 percent translates to a 22 percent reduction of SWP water. The resultant decrease of 3,856 AF/year means that the District faces a drastic cut to a source that represents about 36 percent of its total water supply and its least expensive source.

Table 1-2 shows the dynamic between decreasing over supply – inclusive of decrease in the more affordable SWP water source – and the increasing cost per unit of SFPUC water. Thus, while overall supply is reduced by 19 percent (9,000 AF or 3.9 million hundred cubic feet), the overall operational cost of water supply increases 22 percent from $12.3 million to $14.9 million. This is the direct result of the District's needing to supplant the lost SWP water with the increasingly more expensive SFPUC water.

Table 1-2: Drought Scenario Water Supply Costs

Water Supply	Supply Utilization (AF)	Unit Cost ($/AF)	Total Cost
SFPUC – Min	8,602	$1,276	$11.0M
Groundwater – Min	8,602	$100	$0.9M
Desal Water – Min	7,800	$133	$1.0M
Lake Del Valle	0	$0	$0
State Water Project	13,500	$63	$0.9M
SFPUC - Max Limit	881	$1,276	$1.1M
Groundwater – Max	395	$134	$52,853
Total	**39,780**		**$14.9M**

1.3 Financial Implications of Drought

The supply limitation necessitates a cutback of water usage on behalf of the District's customers. First, there is not enough water to supply the District's customers short of incurring significant SFPUC expenditures. Second, the combined increase in supply costs with decreased projected revenues creates a sizable expected loss in revenue, which will have a negative impact on reserve levels.

Table 1-3 summarizes the financial impact of supply cost increase. The $2.6 million increase in costs represents the difference between costs under drought ($14.9 million, Table 1-2) and costs pre-drought ($12.3 million, Table 1-1).

Table 1-3: Financial Impact of Supply Reduction and Supply Cost Increase

	Availability (AF[1])	Variable Water Costs
Non-Drought	48,827	$12.3M
Drought	39,780	$14.9M
Change	**-9,046**	**$2.6M**
Percentage Change	**-19%**	**22%**

In order to recognize and respond to the supply shortfall, the District declared a Water Shortage Emergency (WSE) and created a drought ordinance. The ordinance targeted various levels of reduction for various customer classes. For example, within the Single-Family customer class, customers are expected to reduce 10 percent of their indoor usage and 40 percent of their outdoor usage. Commercial customers would be expected to reduce water usage by 18 percent.

Table 1-4 summarizes the conservation targets for each customer class.

[1] 1 acre foot (AF) = 435.6 hundred cubic feet (or ccf)

Table 1-4: Water Shortage Emergency Conservation Goals

Conservation Goals	
Single Family Indoor	10%
Single Family Outdoor	40%
Multi-Family	17%
Dedicated Irrigation	40%
Commercial	18%

The conservation goals imply a reduction in water usage. The WSE conservation goals shown in Table 1-4 applied to pre-drought usage levels yields the expected target drought usage levels. The blended demand reduction of 22 percent is represented by a drop in water usage from 19.4 million ccf to 15.2 million ccf, as shown in Table 1-5.

Table 1-5: Drought Scenario Reduction in Water Demand

Customer Class	Pre-Drought Usage (ccf)	Target Drought Usage (ccf)	Reduction in Demand
Single Family	9.5M	7.6M	20%
Multi-Family	3.5M	2.9M	17%
Dedicated Irrigation	2.5M	1.5M	40%
Commercial	3.9M	3.2M	18%
Total	**19.4M**	**15.2M**	**22%**

Because reduction in water demand is tied to usage, the commodity (quantity) rate is applied to the change in demand to estimate the financial impact of demand reduction due to conservation goals. The District's current commodity rate is uniform to all customer classes at $3.373 per ccf[2].

Table 1-6 shows the calculation for estimated financial impact of demand reduction at $14.3 million reduction in revenue based on 4.2 million ccf reduction in water demand (19.4 million ccf pre-drought usage less 15.2 million ccf drought usage as shown in Table 1-5).

Table 1-6: Financial Impact of Demand Reduction

Financial Cost of Demand Reduction	
Pre-Drought Usage (ccf)	19.4M
Target Drought Usage (ccf)	15.2M
Reduction (ccf)	4.2M
Commodity Rate	$3.373
Reduction in Revenue	**$14.3M**

[2] 1 ccf (hundred cubic foot) = 748 gallons

The following is a summary of the fiscal year (FY) 2015 financial implications of drought, as discussed above:

- Increase in water supply costs due to SFPUC water source is $2.6 million
- Reduction in demand due to WSE conservation targets is estimated at $14.3 million
- Total financial implication is $16.9 million, a 20 percent shortfall

The following section documents the District's process for evaluating an action plan to address the financial conditions caused by the drought.

2 Methodology for Developing Drought Surcharge

The District had previously established an Emergency/Rate Stabilization Fund of $10 million. Based on preliminary workshops with the Board, it was agreed that the District should utilize the full amount of the reserve to offset the financial consequence of the drought on the District and its customers. Application of the full $10 million in the reserve fund to the above-determined FY 2015 combined financial impact of $16.9 million leaves a remaining $6.9 million that the District must recover as shown below in Table 2-1.

Table 2-1: Net Financial Impacts

	Projected
Total Financial Impacts	$16.9M
***Less* Offset by Emergency / Rate Stability Reserve**	- $10.0M
Net Financial Impacts	**$6.9M**

A drought surcharge was determined as the mode for recovering the remaining shortfall. A drought surcharge could take several forms including:

- Monthly fixed charge – The drought surcharge would be a fixed based on the meter size. Larger meter would pay a larger price, given their capacity to use water.
- Uniform commodity charge – The drought surcharge would be assessed as a uniform charge based on total water consumed. This charge would be similar the District's current commodity rate.
- Inclining commodity charge – The drought surcharge would be assessed on an inclining tiered approach, where the unit cost increase as more water is used.

2.1 Policy Overview

Figure 2-1 (shown below) provides a cross-comparison of the advantages and disadvantages of three distinct drought surcharge options – monthly fixed, uniform commodity and inclining commodity – of which one will be used for recovering the $6.9 million shortfall. Advantages and disadvantages are framed in terms of pricing objectives as they relate the goals and objectives of the District Board and needs of the District based on the ACWD's unique characteristics. Figure 2-2 summarizes each drought surcharge option according to the objectives categorized as advantages or disadvantages in the previous figures.

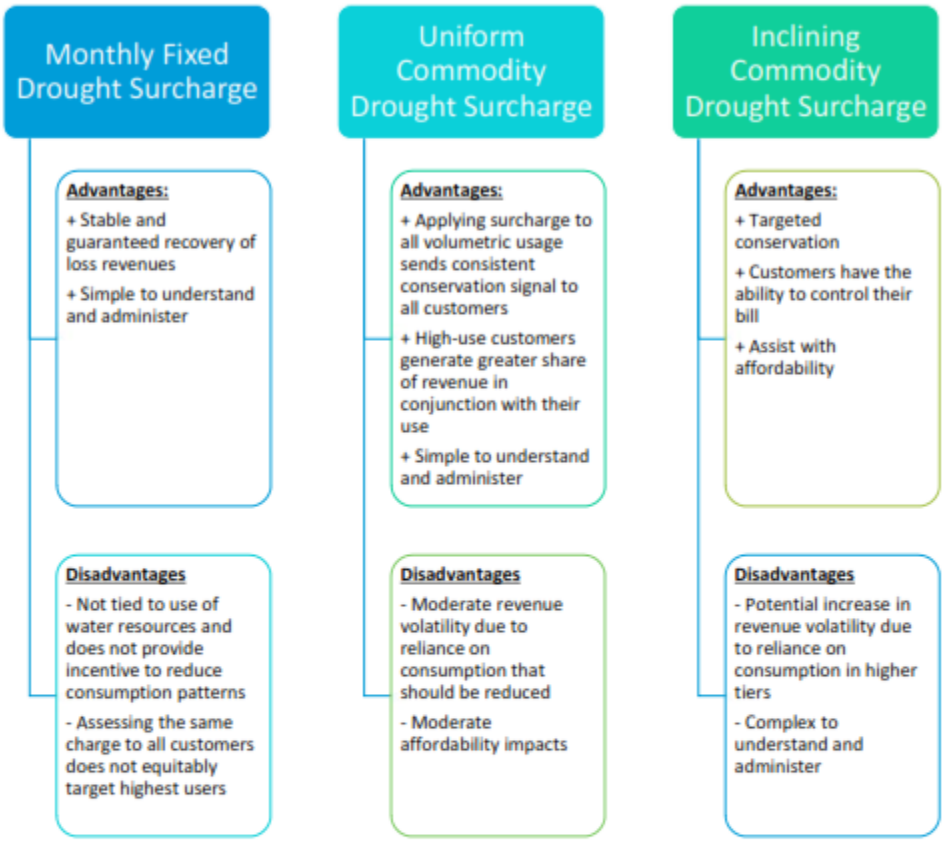


Figure 2-1: Three Drought Surcharge Options – Advantages and Disadvantages

Objectives	Monthly Fixed Charge	Uniform Commodity Charge	Inclining Commodity Charge
Easy to understand and administer	★★★	★★	★
Stability and guaranteed recovery of revenue	★★★	★★	★
Ability to change the bill	★	★★	★★★
Targeted Conservation	★	★★	★★★
Promotes affordability	★	★★	★★★

Figure 2-2: Policy Overview of Drought Surcharge Alternatives

The drought surcharge alternatives considered by the Board and summarized above represent an effort to recover costs related to the sustained financial health of the District and delivery of service to its customers. The ideal surcharge type depends largely on the desired objective, with each alternative scoring between one (lowest score) and three (highest score) stars for a given objective. For example, a monthly fixed charge would be the most appropriate drought surcharge option if the desired objectives include "Easy to Understand and Administer" as well as "Stability and Guaranteed Recovery of Revenue," and so on. The Board has expressed the desire that the drought surcharge promotes affordability and allows customers to change their bill. Given this, the Board has expressed interest in having an inclining tiered rate for a drought surcharge.

It should be noted that a drought surcharge is not synonymous with a drought penalty, which focuses entirely on conservation. Drought penalties seek to alter behavior through punitive measures that often include very high (punitive) charges for the upper tiers that are not based on cost of service requirements. These punitive measures would be considered a misdemeanor offence and would not fall under Proposition 218 framework[3].

2.2 Direction of the District Board

In 2010, the District commissioned RFC with a water efficiency study. The objective was to evaluate the appropriate rate structure for each of the District's customer classes. A pricing objectives exercise that included objectives such as shown in the figures of the preceding section was conducted. Through the

[3] RFC is not a law firm and the statement is a general opinion in the community. The District should consults with its District attorney for specific legal matters.

exercise, the Board had ranked objectives that indicated that the inclining-tiered and water budget rate structures should further be evaluated. According to this direction, RFC developed a rate model to evaluate both types of rate structures according to customer impacts and administrative costs incurred by each structure.

The recommendation resulting from the 2010 study outlined the following phasing-in of a water efficiency study:

- Phase I: Single-Family – Inclining Tiers
- Phase II: Landscape - Water Budget
- Phase III: Multi-Family and School - Water Budget
- Phase IV: Commercial, Institutional and Industrial – Evaluate the appropriate rate structure

In 2014, the Board revisited the recommended phasing-in plan and tier allocation parameters from the 2010 study as a starting point for determining a plan of action with regard to developing drought surcharges. During the April 2014 Board Workshop, the Board provided direction in terms of each customer class. The Board also carefully reviewed the details of numerous alternative scenarios and options during the two board workshops held on March 13, 2014, and May 5, 2014.

SINGLE-FAMILY: Single-Family customers are to have an inclining drought surcharge based on the SBx7-7 guidelines referenced in the water efficiency study. There are to be three tiers. Tier 1 is for indoor use, defined by 55 gallons per capita per day (GPCD), four per household, a 16 ccf bi-monthly allotment, and a 10 percent target reduction rate, which is consistent with the conservation goals shown in Table 1-4. Note that while the Tier 1 allotment was set at 18 ccf bi-monthly per the efficiency study, it was dropped to 16 ccf bi-monthly to be aligned with WSE goal of having a 10% reduction indoor water use.

Tier 2 is for outdoor use. The allocation takes into account the average weather that occurs for the District and provides 2,500 square feet of irrigation area. Do note that the median lot size for the District is 6,300 square feet, so 2,500 square feet would provide 40% of the lot to be irrigated. The framework used to determine the appropriate outdoor water use is consistent with the California Senate Bill SBx7-7, which provides water use efficiency standards for the State of California. Based on these factors, we have determined 14 hcf to be appropriate amount of water for outdoor water use.

Examples of usage falling within Tier 3 would include summer usage when otherwise normal usage is peaking due to above average temperatures, and other general usage ranging from above average to excessive.

Table 2-1 summarizes the bi-monthly tier definition for single-family customers.

Table 2-2: Proposed Bi-Monthly Tier Definition for Single-Family Customers

Tiers Definition	From – To	Drought Surcharge	Comments
Tier 1 – Essential (Indoor)	0 – 16	No	4 people x 55 gpcd x 90% Consistent with Drought Ordinance
Tier 2 – Efficient (Outdoor)	> 16 – 30	Yes	Average outdoor water use
Tier 3 – Above Average Use	> 30	Yes	Peak summer use

MULTI-FAMILY / LANDSCAPE: As with Single Family, there is a framework that can be utilized to determine the efficient water use for Multi-Family and Irrigation accounts. However the data requirements for these customers are more extensive. For each meter the number of units and irrigation area would need to be determined. For Single Family the number of units is one and a general landscape area of 2,500 square feet was used. Multi-Family and Landscape are a diverse group of customers and general average is not appropriate. Given this, field survey work would need to be conducted. Given this administrative cost, it was determined a uniform drought surcharge is more appropriate at this time.

COMMERCIAL / INSTITUTIONAL / OTHERS: Determining the efficient amount of water for this customer class is difficult given the diversity associated it with it. Water use within this class is very diverse. Given this challenge, a uniform drought surcharge is more appropriate.

Lastly, the Board has agreed to have the bi-monthly service charge unadjusted. The only change in the rates would be a drought surcharge on the commodity rate.

3 CALCULATION OF DROUGHT SURCHARGES

In order for the District to recover the $6.9 million cost of the drought (net of $10 million reserves) at the total expected level of usage at conservation targets of 15.2 million ccf (Table 1-5), the uniform drought charge across non-single family customers would be $0.46/ccf.

Table 3-1 details the calculation for the uniform non-single family drought surcharge.

Table 3-1: Non-Single Family Uniform Drought Surcharge

	Projected
Increase in Water Supply Cost	$2.6M
Reduction in Commodity Revenues	$14.3M
Total Financial Impacts	$16.9M
Less Offset by Emergency / Rate Stability Reserve	- $10.0M
Net Financial Impacts	$6.9M
Target Drought Usage	15.2 million ccf
Uniform Drought Surcharge	**$0.46 per ccf**

3.1 DROUGHT SURCHARGES

As mentioned in Section 2, the drought surcharge alternatives considered by the Board represent an effort to recover costs related to the sustained financial health of the District and delivery of service to its customers. This is not synonymous with a drought penalty which is purely conservation-focused, as drought penalties seek to alter behavior through punitive measures that often include very high (punitive) charges for the upper tiers that are not based on cost of service requirements.

Given the cost of service requirements of Proposition 218, each customer should pay the appropriate surcharge amount.

Table 3-2 shows the uniform drought surcharge applied across the estimated target drought usages to determine the amount that should be recovered per customer class. Note that the $7.0 million total recovered is slightly higher than the $6.9 million shortfall based on rounding in the calculation.

Table 3-2: Drought Surcharge Collection by Customer Class

	Target Drought Usage (ccf)	Drought Surcharge	Required Drought Surcharge Revenues
Single Family	7.6 million	$0.46 / ccf	$3.5 M
Multi Family	2.9 million	$0.46 / ccf	$1.3 M
Dedicated Irrigation	1.5 million	$0.46 / ccf	$0.7M
Commercial	3.2 million	$0.46 / ccf	$1.5 M
Total	**15.2 million ccf**		**$7.0 M**

Table 3-2 states that Single Family customer class needs to generate a $3.5 million for the drought surcharge. As stated this customer class would have a drought surcharge in the form of an inclining tiered rate structure. The Tier 3 drought surcharge is calculated based on the marginal cost of blended SPFUC and groundwater. The rationale for this is that the excessive usage in Tier 3 should be paid for by the usage (customers) that requires the District to obtain the higher-cost water supply. The marginal cost of the blended water (approximately 65 percent SFPUC and 35 percent groundwater) is $869.60 per AF or $2.00 per ccf. Tier 2 represents the remaining amount needed from the single-family customer class, and Tier 1 remains unchanged for essential use (i.e., to maintain health and safety).

Table 3-3 summarizes the collection of revenue per the drought surcharges for each inclining tier. As shown in this table, Single Family customer class is paying required drought surcharge share of $3.5 million. Table 3-4 summarizes drought surcharges for single-family and non-single family customer classes. Note that the drought rate is inclusive of the unchanged base rate of $3.373 per ccf and the drought surcharge.

Table 3-3: Single-Family Inclining Tier Drought Surcharges and Revenue

	Target Drought Usage (ccf)	Drought Surcharge	Required Drought Surcharge Revenues
Tier 1 (0 to 16)	5.4 million	$0.00 / ccf	$0 M
Tier 2 (16 to 30)	1.6 million	$1.48 / ccf	$2.4 M
Tier 3 (30+)	0.5 million	$2.00 / ccf	$1.1M
Total	**7.6 million ccf**		$3.5 M

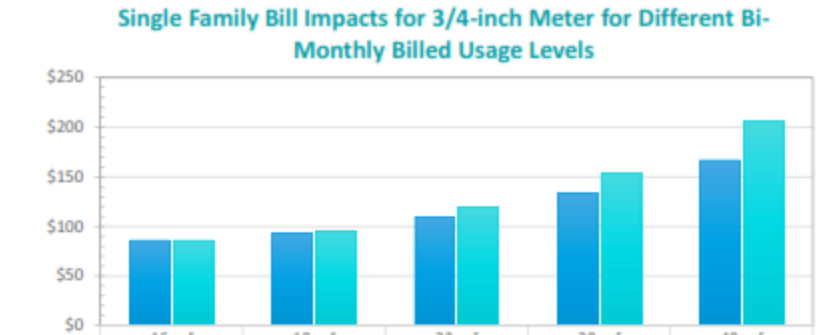
Table 3-4: Proposed Drought Surcharges

Customer Class	Rate	Base Rate	Drought Surcharge	Total Cost Per Unit
Non-Single Family	Uniform	$3.373	$0.46	$3.833*
Single Family	Tier 1 (0 to 16)	$3.373	$0.00	$3.373
	Tier 2 (16 to 30)	$3.373	$1.48	$4.853
	Tier 3 (30+)	$3.373	$2.00	$5.373

**For Customers Outside of District: $3.878 + $0.46 = $4.338*

3.2 Single Family Residential Bill Impacts

Figure 3-1 shows bill impacts for single-family customer with ¾" meters at various levels of bi-monthly use – with bill impacts being measured as the difference in dollars between current bills and bills calculated inclusive of the proposed drought surcharges. Note there is no drought surcharge and therefore no bill impact for usage falling within Tier 1 (16 ccf bi-monthly allotment). Usage falling within Tier 2 would exhibit modest percentage increases likely ranging from the low single digits up to an approximate maximum of 16 percent. Usage falling within Tier 3 should exhibit more significant increases – for example at 40 ccf of bi-monthly usage bills increase by 24 percent.



	16 ccf	18 ccf	23 ccf	30 ccf	40 ccf
Current	$85.92	$92.66	$109.53	$133.14	$166.87
Proposed	$85.92	$95.62	$119.89	$153.86	$206.55
Impact	$0.00	$2.96	$10.36	$20.72	$39.68
% Impact	0%	3%	9%	16%	24%

Figure 3-1: Single-Family Bill Impacts by Usage Level

Figure 3-2 shows single-family bills as a percentage of bills within ranges of dollar impact. The heavier weighting toward little to no change reflects Tier 1's maintaining a zero surcharge and Tier 3 being responsible for the higher marginal cost of each unit of SFPUC/groundwater blended water. 73.4 percent of bills see an increase of less than $10, and 11.2 percent of bills increase by more than $20.

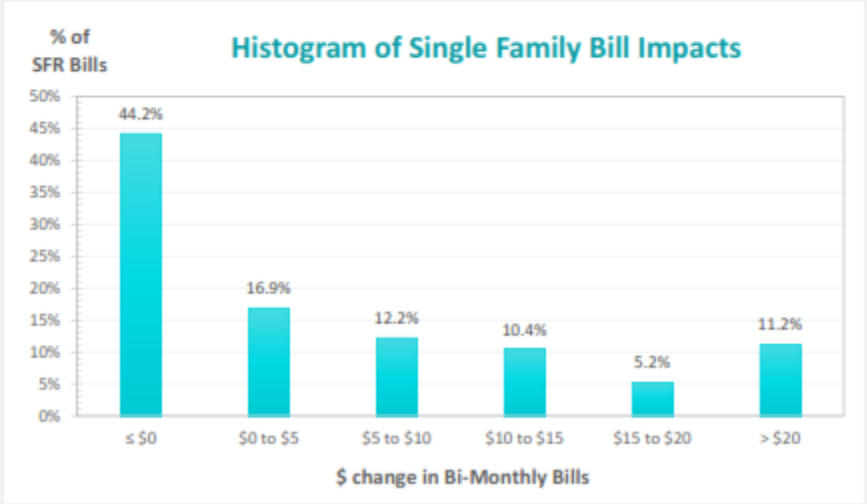


Figure 3-2: Single-Family Bill Impacts

3.3 Disclaimer

It should be noted that the figures and conclusions contained in this report were determined based on the best information available at the time this report was produced. However, the situation is dynamic and new information and data will become available and so the matter in general will be monitored, and appropriate revisions will be proposed in the future based on any new information available at that time.