



# Rainbow Municipal Water District

## Potable Water Financial Plan and Rate Study

Final Report / February 8, 2018



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February 8, 2018

Mr. Tom Kennedy  
General Manager  
Rainbow Municipal Water District  
3707 Old Highway 395  
Fallbrook, CA 92028

**Subject: Water Financial Plan and Rate Study Report**

Dear Mr. Kennedy:

Raftelis Financial Consultants, Inc. (Raftelis) is pleased to provide this Water Financial Plan and Rate Study Report to the Rainbow Municipal Water District (District). This report develops a financial plan for the District's water enterprise for fiscal years 2018 to 2022 and provides resulting rate adjustment recommendations.

This report details the updates to the financial plan that include adjustments to the capital improvement plans, operating budgets, customer account growth, and water demand assumptions for the study period. This study also summarizes the key findings and recommendations related to the development of the financial plan.

It was a pleasure working with you and we wish to express our thanks to you, Vanessa Martinez, and other staff members for support during the study. If you have any questions, please call me at (626) 583-1894.

Sincerely,

**RAFTELIS FINANCIAL CONSULTANTS, INC.**

A blue ink signature of Sudhir D. Pardiwala.

**Sudhir D. Pardiwala, PE**  
*Executive Vice President*

A blue ink signature of Andrea Boehling.

**Andrea Boehling**  
*Senior Consultant*

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# 1 EXECUTIVE SUMMARY

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## 1.1 BACKGROUND

Rainbow Municipal Water District (District) provides potable water services to approximately 7,800 connections located in the unincorporated communities of Rainbow, Bonsall, and portions of Vista, Oceanside, and Fallbrook. The District serves a large area requiring over 325 miles of pipelines, 7 pump stations, 4 reservoirs, and 13 storage tanks to deliver water to its customers. As the District nears its 65<sup>th</sup> year of providing water to ratepayers, many of the original pipelines are nearing end of their useful life and will need to be replaced. One of the more challenging aspects of managing water systems is balancing the need to keep the system well maintained while minimizing the impact to ratepayers. In finding this balance, issues that are often considered include rate stability, affordability for essential use, equity, and defensibility. The District is subject to these pressures due to many factors such as, uncertain and decreased water sales, the upcoming pipeline replacement costs that will be spread over a relatively small customer base, and high fixed costs passed-through from the San Diego County Water Authority.

Raftelis Financial Consultants, Inc. (Raftelis) conducted a comprehensive cost of service water rate study in 2015, which resulted in the approval of the proposed rates for Fiscal Year (FYE) 2016 by the Board of Directors (Board) and under Proposition 218 procedures. In subsequent years, District rates were increased by the annual inflationary adjustment in the San Diego Consumer Price Index, All Items, 1982-1984=100 for All Urban Consumers (CPI-U). In addition, any increases in purchased water costs from San Diego County Water Authority (SDCWA) and energy costs from San Diego Gas and Electric (SDG&E) were automatically passed through. Due to the recent and prolonged drought and major conservation efforts, the District realized significantly lower than projected water sales over the past two FYE's which resulted in lower than expected revenues. The loss in revenues resulted in depleting the District's reserves.

The recent drought and resultant reduced sales impacted the District significantly. In mid-2017, the District contracted with Raftelis to conduct a new financial plan and rate study. With the considerations discussed above, the objectives of the Study include:

- » Develop a financial plan and propose revenue adjustments for the water enterprise to ensure financial sufficiency, adequate reserves, and funding of capital expenditures to maintain the system
- » Develop fair and equitable water rates compliant with the requirements of California Constitution Article XIII D, Section 6 (commonly referred to as Proposition 218)

## 1.2 PROCESS

Even with the lower sales, water purchase costs represent over 2/3<sup>rd</sup> of the operating costs of the District. Because sales and purchases are very volatile and dependent on weather, Raftelis has completely separated out the costs and revenues associated with the water purchases and these costs will be passed through to customers. The resultant financial plan projects District expenses and the revenues needed to meet operating and capital expenditures, as well as proposed debt and reserves, and recommends revenue adjustments only for District costs during the five-year study period. Raftelis presented the financial plan forecasts to District staff and the Finance Committee and received their input and direction.

During the course of the study, many rate alternatives were examined; however, it was determined the District would retain the cost of service (COS) basis from the last rate study. The 2018 study encompasses a five-year financial planning horizon with the resulting rates implemented on March 1, 2018 and each January 1 thereafter beginning in 2019. Based on direction received from District staff and the Finance Committee, the results of the study were presented to the Board.

### 1.3 RESULTS AND RECOMMENDATIONS

Table 1-1 shows the recommended financial plan. Although Table 1-1 shows anticipated revenue adjustments applicable to the District’s rate revenues for each year of the study period, the District will review and confirm the needed revenue adjustments on a yearly basis. These increases do not include increases in water costs which have been analyzed separately.

**Table 1-1: Financial Plan**

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>District Revenue Adjustments</b>	20%	19%	17%	17%	16%
<b>Pass-through of SDCWA costs</b>	Yes <sup>1</sup>	Yes	Yes	Yes	Yes
<b>Water Demand Factor</b>	100%	100%	100%	100%	100%
<b>Proposed Debt (Proceeds)</b>	\$0	\$0	\$0	\$0	\$0
<b>Rate funded Capital</b>	\$2,015,285	\$2,558,961	\$2,312,232	\$3,747,019	\$4,253,433

Table 1-2 shows the recommended reserves and the minimum target for each reserve.

**Table 1-2: Recommended Reserves and Targets**

Reserve	Target	FYE 2018 Min. Target	FYE 2019 Min. Target	FYE 2020 Min. Target	FYE 2021 Min. Target	FYE 2022 Min. Target
<b>Operating Reserve</b>	60 days of District O&M	\$1,750,656	\$1,823,260	\$1,899,150	\$1,978,229	\$2,060,878
<b>Water Capital Projects Reserve</b>	1 yr avg CIP	\$3,824,089	\$4,377,911	\$4,777,008	\$5,664,420	\$6,491,152
<b>Liability Self Insurance Reserve</b>	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
<b>New Water Sources Reserve</b>	No min target					
<b>Rate Stabilization Reserve</b>	10% of District Rate Revenues	\$919,515	\$1,145,627	\$1,366,489	\$1,611,550	\$1,891,942

#### **Factors Affecting Revenue Adjustments**

The following items affect the District’s revenue requirement (i.e. costs) and thus its water rates. The District’s expenses include operation and maintenance (O&M) expenses, debt service, and capital expenses. Not included in the financial plan adjustments are the SDCWA costs as these were separated and reflected in the SDCWA fixed charges and SDCWA variable rates.

- » **O&M expenses:** Overall, the District’s O&M expenses are expected to increase by approximately 9% from FYE 2017 to FYE 2018. Raftelis recommends that future purchased water cost increases are passed through.

<sup>1</sup> SDCWA Rates for FYE 2018 have been incorporated into this study. Future incremental increases in rates will be passed-through to the District’s customers at the time of the increases.

- » **Water System Capital Investment:** The District is projecting approximately \$19 million in capital expenditures during the study period. These investments will be funded partially by reserves and partially by anticipated capacity fee revenue. The average rate funded capital is approximately \$3 million (including capitalized salaries and benefits) per year during the study period.
- » **Reserve Funding:** The District plans to use reserves during the first two years of the study period to cover the costs of capital expenses and help offset rate increases. In the subsequent years the revenue adjustments will help replenish the reserves so that they reach minimum target levels by the end of FYE 2022. Section 4.7 shows the total reserve balances for the selected financial plan for each year of the study period.
- » **Reduced Water Sales:** The District experienced reduced sales in recent years due to the drought and resulting conservation efforts of its customers. Lower sales have resulted in lower revenues and depletion of reserves.

### ***Proposed Water Rates***

The proposed rate structure consists of five components: 1) a District fixed monthly operations and maintenance (O&M) charge; 2) a SDCWA fixed pass-through; 3) District commodity or volumetric rates; 4) SDCWA commodity or volumetric rates; and 5) a pumping charge comprised of a fixed and variable component. The proposed District commodity rate structures consist of a 3-tier rate structure for single-family residential (SFR), transitional special agriculture water rate (TSAWR) domestic, and agriculture customers with a domestic residence on the property. A uniform District commodity rate structure is retained for all other classes. The SDCWA commodity rate is a uniform rate for all classes with the TSAWR discount being passed on to the TSAWR customers.

The proposed RMWD O&M charge and the proposed RMWD commodity rates for the study period maintain both the current cost of service approach and the rate structure described in Section 3.5. The proposed rates are determined by increasing the current rates by the revenue adjustments shown in the financial plan. The proposed 2018 SDCWA fixed charges and variable rates are determined based on the most recently adopted charges from SDCWA (as of January 1, 2018). SDCWA rates for the out years (2019 –2022) will be calculated each year once the rates from SDCWA are known. Finally, the proposed pumping rates maintain the current cost of service approach, but are adjusted for the projected expenditures. Any increase in energy above that projected in the financial plan will be automatically passed through to District customers.

The following tables (Table 1-3 through Table 1-7) summarize the proposed rates where the total projected rates include the RMWD charge plus the SDCWA charge (for 2018). Future increases from SDCWA will be automatically passed through and will be in addition to the rates shown below (2019 through 2022).

**Table 1-3: Current and Proposed RMWD Monthly O&M Charges (\$/Meter)**

RMWD Monthly O&M	Current	Proposed March 2018	Proposed January 2019	Proposed January 2020	Proposed January 2021	Proposed January 2022
<b>Non-Agriculture Classes</b>						
5/8"	\$24.40	\$29.28	\$34.85	\$40.78	\$47.72	\$55.36
3/4"	\$24.40	\$29.28	\$34.85	\$40.78	\$47.72	\$55.36
1"	\$38.11	\$45.74	\$54.44	\$63.70	\$74.53	\$86.46
1-1/2"	\$72.37	\$86.85	\$103.36	\$120.94	\$141.50	\$164.14
2"	\$113.49	\$136.19	\$162.07	\$189.63	\$221.87	\$257.37
3"	\$243.68	\$292.42	\$347.98	\$407.14	\$476.36	\$552.58
4"	\$435.56	\$522.68	\$621.99	\$727.73	\$851.45	\$987.69
6"	\$894.68	\$1,073.62	\$1,277.61	\$1,494.81	\$1,748.93	\$2,028.76
<b>Agriculture Classes</b>						
5/8"	\$44.32	\$53.19	\$63.30	\$74.07	\$86.67	\$100.54
3/4"	\$44.32	\$53.19	\$63.30	\$74.07	\$86.67	\$100.54
1"	\$71.29	\$85.55	\$101.81	\$119.12	\$139.38	\$161.69
1-1/2"	\$138.75	\$166.50	\$198.14	\$231.83	\$271.25	\$314.65
2"	\$219.70	\$263.64	\$313.74	\$367.08	\$429.49	\$498.21
3"	\$476.01	\$571.22	\$679.76	\$795.32	\$930.53	\$1,079.42
4"	\$853.76	\$1,024.52	\$1,219.18	\$1,426.45	\$1,668.95	\$1,935.99
6"	\$1,757.62	\$2,109.15	\$2,509.89	\$2,936.58	\$3,435.80	\$3,985.53

**Table 1-4: Current and Proposed SDCWA Monthly Fixed Charges (\$/Meter)**

SDCWA Monthly Fixed	Current	Proposed March 2018 <sup>2</sup>	Proposed January 2019	Proposed January 2020	Proposed January 2021	Proposed January 2022
<b>All Customers except TSAWR</b>						
5/8"	\$36.74	\$32.18	TBD	TBD	TBD	TBD
3/4"	\$36.74	\$32.18	TBD	TBD	TBD	TBD
1"	\$61.24	\$53.63	TBD	TBD	TBD	TBD
1-1/2"	\$122.48	\$107.27	TBD	TBD	TBD	TBD
2"	\$195.96	\$171.63	TBD	TBD	TBD	TBD
3"	\$428.68	\$375.43	TBD	TBD	TBD	TBD
4"	\$771.63	\$675.78	TBD	TBD	TBD	TBD
6"	\$1,592.26	\$1,394.47	TBD	TBD	TBD	TBD
<b>TSAWR Customers</b>						
5/8"	\$17.05	\$14.82	TBD	TBD	TBD	TBD
3/4"	\$17.05	\$14.82	TBD	TBD	TBD	TBD
1"	\$28.42	\$24.70	TBD	TBD	TBD	TBD
1-1/2"	\$56.84	\$49.39	TBD	TBD	TBD	TBD
2"	\$90.94	\$79.03	TBD	TBD	TBD	TBD
3"	\$198.93	\$172.88	TBD	TBD	TBD	TBD
4"	\$358.08	\$311.18	TBD	TBD	TBD	TBD
6"	\$738.90	\$642.12	TBD	TBD	TBD	TBD

<sup>2</sup> Decreases in SDCWA fixed meter charges are due mainly to the increased number of equivalent units when compared to the prior study. Locked meters are now being accounted for within the equivalent units (i.e. costs are being spread over more units).

**Table 1-5: Current and Proposed RMWD Commodity Rates (\$/HCF)**

RMWD Commodity Rates	Current	Proposed March 2018	Proposed January 2019	Proposed January 2020	Proposed January 2021	Proposed January 2022
<b>Single Family Residential</b>						
Tier 1	\$0.43	\$0.52	\$0.62	\$0.73	\$0.86	\$1.00
Tier 2	\$0.61	\$0.74	\$0.89	\$1.05	\$1.23	\$1.43
Tier 3	\$0.95	\$1.15	\$1.37	\$1.61	\$1.89	\$2.20
<b>Multi-Family Residential</b>	\$0.53	\$0.64	\$0.77	\$0.91	\$1.07	\$1.25
<b>Commercial</b>	\$0.64	\$0.77	\$0.92	\$1.08	\$1.27	\$1.48
<b>Institutional</b>	\$0.71	\$0.86	\$1.03	\$1.21	\$1.42	\$1.65
<b>Agriculture w/o Residence</b>	\$0.36	\$0.44	\$0.53	\$0.63	\$0.74	\$0.86
<b>Agriculture w/ Residence</b>						
Tier 1	\$0.43	\$0.52	\$0.62	\$0.73	\$0.86	\$1.00
Tier 2	\$0.61	\$0.74	\$0.89	\$1.05	\$1.23	\$1.43
Tier 3	\$0.36	\$0.44	\$0.53	\$0.63	\$0.74	\$0.86
<b>TSAWR - Domestic</b>						
Tier 1	\$0.86	\$1.04	\$1.24	\$1.46	\$1.71	\$1.99
Tier 2	\$1.04	\$1.26	\$1.50	\$1.76	\$2.06	\$2.39
Tier 3	\$0.31	\$0.38	\$0.46	\$0.54	\$0.64	\$0.75
<b>TSAWR Commercial</b>	\$0.31	\$0.38	\$0.46	\$0.54	\$0.64	\$0.75
<b>Construction</b>	\$1.45	\$1.75	\$2.09	\$2.45	\$2.87	\$3.33

**Table 1-6: Current and Proposed SDCWA Variable Rates (\$/HCF)**

SDCWA Variable Rates	Current	Proposed March 2018	Proposed January 2019	Proposed January 2020	Proposed January 2021	Proposed January 2022
<b>Single Family Residential</b>						
Tier 1	\$2.99	\$3.12	TBD	TBD	TBD	TBD
Tier 2	\$2.99	\$3.12	TBD	TBD	TBD	TBD
Tier 3	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>Multi-Family Residential</b>	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>Commercial</b>	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>Institutional</b>	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>Agriculture w/o Residence</b>	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>Agriculture w/ Residence</b>						
Tier 1	\$2.99	\$3.12	TBD	TBD	TBD	TBD
Tier 2	\$2.99	\$3.12	TBD	TBD	TBD	TBD
Tier 3	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>TSAWR - Domestic</b>						
Tier 1	\$2.56	\$2.66	TBD	TBD	TBD	TBD
Tier 2	\$2.56	\$2.66	TBD	TBD	TBD	TBD
Tier 3	\$2.56	\$2.66	TBD	TBD	TBD	TBD
<b>TSAWR Commercial</b>	\$2.56	\$2.66	TBD	TBD	TBD	TBD
<b>Construction</b>	\$2.99	\$3.12	TBD	TBD	TBD	TBD

**Table 1-7: Current and Proposed Pumping Rates (\$/HCF)**

	Current	Proposed March 2018	Proposed January 2019	Proposed January 2020	Proposed January 2021	Proposed January 2022
<b>Fixed Pumping Charge</b>	\$9.51	\$9.24	\$9.44	\$9.65	\$9.90	\$10.16
<b>Variable Pumping Rate</b>						
Pumping Zone 1	\$0.80	\$1.03	\$1.08	\$1.13	\$1.18	\$1.24
Pumping Zone 2	\$0.50	\$0.64	\$0.67	\$0.71	\$0.74	\$0.78
Pumping Zone 3	\$0.28	\$0.36	\$0.38	\$0.40	\$0.41	\$0.43
Pumping Zone 4	\$0.10	\$0.13	\$0.13	\$0.14	\$0.15	\$0.16
Pumping Zone 5	\$0.15	\$0.19	\$0.20	\$0.21	\$0.22	\$0.23
Pumping Zone 6	\$0.58	\$0.75	\$0.78	\$0.82	\$0.86	\$0.90
Pumping Zone 7	\$2.62	\$3.37	\$3.53	\$3.70	\$3.88	\$4.06

## 2 INTRODUCTION

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### 2.1 STUDY BACKGROUND

Rainbow Municipal Water District (District) provides potable water services to approximately 7,800 connections located in the unincorporated communities of Rainbow, Bonsall, and portions of Vista, Oceanside, and Fallbrook. The District is a large rural district requiring over 325 miles of pipelines, 7 pump stations, 4 reservoirs, and 13 storage tanks to deliver water to its customers. As the District nears its 65<sup>th</sup> year of providing water to ratepayers, many of the original pipelines are nearing the end of their useful life and will need to be replaced. One of the more challenging aspects of managing water systems is balancing the need to keep the system well maintained while minimizing the impact to ratepayers. In finding this balance, issues that are often considered include rate stability, affordability for essential use, equity, and defensibility. The District is subject to these pressures due to many factors such as, uncertain and decreased water sales, upcoming pipeline replacement costs that will be spread over a relatively small customer base, and high fixed costs passed-through from the San Diego County Water Authority.

The District serves residential, commercial and agricultural users. While agricultural customers, some of which have residences, represent about 30% of the total accounts, they use about 71% of the total water in the District. Some of these users have significantly reduced their usage because of the drought. Any permanent reductions in usage by customers impacts the District's rate revenues and adversely impacts all customers. The District therefore faces significant challenges to balance the need for rate increases and financial stability without impacting the usage from agricultural customers. Additionally, the usage reductions due to the drought have drained District reserves which will need to be replenished for prudent operations and risk management.

In view of this background the District engaged Raftelis to develop a financial plan and rates. The objectives of the Study include:

- » Develop a financial plan and propose revenue adjustments for the water enterprise to ensure financial sufficiency, adequate reserves, and funding of capital expenditures to maintain the system
- » Develop fair and equitable water rates compliant with the requirements of California Constitution Article XIII D, Section 6 (commonly referred to as Proposition 218)

### 2.2 LEGAL FRAMEWORK

#### ***California Constitution - Article XIII D, Section 6 (Proposition 218)***

Proposition 218, reflected in the California Constitution as Article XIII D, was enacted in 1996 to ensure that rates and fees are reasonable and proportional to the cost of providing service. The principal requirements for fairness of the fees, as they relate to public water service are as follows:

1. A property-related charge (such as water rates) imposed by a public agency on a parcel shall not exceed the costs required to provide the property related service.
2. Revenues derived by the charge shall not be used for any other purpose other than that for which the charge was imposed.
3. The amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.

4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of the property.
5. No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library services, where the service is available to the public at large in substantially the same manner as it is to property owners.
6. A written notice of the proposed charge shall be mailed to the record owner of each parcel at least 45 days prior to the public hearing, when the agency considers all written protests against the charge.

As stated in AWWA's *M1 Manual*, "water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." Prop 218 requires that water rates cannot be "arbitrary and capricious," meaning that the rate-setting methodology must be sound and that there must be a nexus between costs and the rates charged. Raftelis followed industry standard rate setting methodologies set forth by the AWWA *M1 Manual* to ensure this study meets Proposition 218 requirements and creates rates that do not exceed the proportionate cost of providing water services.

In addition, the San Juan Capistrano decision (*Capistrano Taxpayers Assn v. City of San Juan Capistrano*, Cal.App.4 (Apr 20, 2015, 4<sup>th</sup> DCA Case No. G048969) clarifies Proposition 218 requirements so that tiered rates (as well as rates for the remaining classes) need to be based on the proportionate costs incurred to provide water to each customer class and each tier in order to achieve compliance with Proposition 218.

**Tiered Rates** – "Inclining" block rate structures (which are synonymous with "increasing" block rate structures and tiered rates) when properly designed and differentiated by customer class, allow a water utility to send consistent conservation price incentives to customers. Due to heightened interest in water conservation, tiered rates have gained widespread use, especially in relatively water-scarce regions, such as Southern California. Tiered rates meet the requirements of Proposition 218 as long as the tiered rates reasonably reflect the proportionate cost of providing service to users in each tier.



### 3 WATER SYSTEM

This section briefly describes the District’s water system as well as customer account and baseline water use data. Finally, it describes the current rates and rate structure.

#### 3.1 WATER SOURCES AND SYSTEM FACILITIES

As mentioned earlier, the District serves the unincorporated communities of Rainbow, Bonsall, and portions of Vista, Oceanside, and Fallbrook covering approximately 51,200 acres. While the service area is rather large, the District has a relatively small customer base consisting primarily of agricultural customers and domestic residential customers. Agricultural customers, some of whom have residential use, account for over 70% of the District’s total water usage.

The District is a water retailer and currently relies entirely on water purchased from the SDCWA and Metropolitan Water District of Southern California (MWD). Wholesale water costs have more than doubled over the last ten years which has led to the District actively working to reduce dependence on imported water by developing local water supplies. Designs for a brackish desalination plant are in the works which could help the District take advantage of water rights in the Pala and Bonsall groundwater basins. In addition, part of the District’s long-term planning strategy is to beneficially reuse water collected in the wastewater system either as non-potable recycled water or as part of another reuse project. These two new sources of water could help the District deliver a significant amount of their water supply from reliable, lower cost local sources.

#### 3.2 NUMBER OF ACCOUNTS

The District currently serves approximately 7,800 potable water accounts with meter sizes ranging between 5/8” and 6”. Table 3-1 shows the estimated number of potable water accounts by meter size for FYE 2018. Raftelis estimated the number of accounts by tabulating FYE 2017 (actual) account data provided by the District and escalating the number of accounts using growth factors provided by the District.

**Table 3-1: Estimated Water Accounts by Meter Size (Projected - FYE 2018)**

Meter Size	SFR	MFR	Commercial	Institutional	Ag w/o Res	Ag w/ Res	TSAWR Domestic	TSAWR Commercial	Total
5/8"	214	-	1	-	1	2	1	1	220
3/4"	2,300	4	32	3	35	91	92	13	2,570
1"	2,353	39	88	2	191	381	586	97	3,737
1-1/2"	165	7	36	4	73	55	204	96	640
2"	97	32	47	5	80	31	134	106	532
3"	8	1	7	1	10	1	6	12	46
4"	-	3	4	-	4	-	1	3	15
6"	-	-	-	-	1	-	-	-	1
<b>Total</b>	<b>5,137</b>	<b>86</b>	<b>215</b>	<b>15</b>	<b>395</b>	<b>561</b>	<b>1,024</b>	<b>328</b>	<b>7,761</b>

In addition, 1,328 of the 7,761 accounts are located in zones requiring booster pumping.

#### 3.3 ACCOUNT AND WATER USE GROWTH ASSUMPTIONS

The revenue calculated for each of the fiscal years in the financial plan is a function of the number of accounts, account growth, water use, and existing rates. The District has realized relatively low

account growth over the past few years; however, significant residential account growth is anticipated over the next 5 – 10 years. Due to the timing and uncertainty of anticipated development projects, District staff provided the growth assumptions shown in Table 3-2 for use in the financial plan. Like most water purveyors, the District has realized reduced water sales in recent years due to conservation. Conservation is expected to continue as customer’s water usage patterns and behaviors have been altered. As shown in Table 3-2, the study does not show a rebound in water demand. The FYE 2017 water sales were used as the baseline with any increases due to account growth.

**Table 3-2: Account Growth and Water Use Assumptions**

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Growth Factors</b>					
Residential	0%	3%	3%	2%	2%
Non-Residential	0%	0%	0%	0%	0%
TSAWR	0%	0%	0%	0%	0%
Average	0%	1%	1%	1%	1%
<b>Water Demand (%)</b>	100%	100%	100%	100%	100%
<b>Water Sales (AF<sup>3</sup>)</b>	15,451 AF	15,562 AF	15,676 AF	15,755 AF	15,835 AF

Table 3-3 shows the projected residential (single family and multi-family) accounts for each year of the Study period.

**Table 3-3: Projected Residential Water Accounts FYE 2018-2022**

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>SFR</b>					
5/8"	214	220	227	232	237
3/4"	2,300	2,369	2,440	2,489	2,539
1"	2,353	2,424	2,497	2,547	2,598
1-1/2"	165	170	175	179	183
2"	97	100	103	105	107
3"	8	8	8	8	8
4"	-	-	-	-	-
6"	-	-	-	-	-
<b>Total</b>	<b>5,137</b>	<b>5,291</b>	<b>5,450</b>	<b>5,560</b>	<b>5,672</b>
<b>MFR</b>					
5/8"	-	-	-	-	-
3/4"	4	4	4	4	4
1"	39	40	41	42	43
1-1/2"	7	7	7	7	7
2"	32	33	34	35	36
3"	1	1	1	1	1
4"	3	3	3	3	3
6"	-	-	-	-	-
<b>Total</b>	<b>86</b>	<b>88</b>	<b>90</b>	<b>92</b>	<b>94</b>

<sup>3</sup> AF = Acre feet

The number of accounts within a pumping zone, and the usage were increased by 1% each year beginning in FYE 2019.

### 3.4 WATER USE

Table 3-4 shows the projected water use by customer class and tier for each year of the Study period. Usage is measured in hundred cubic feet (HCF).

**Table 3-4: FYE 2018-2022 Projected Water Use (HCF)**

	Tier Description	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Single Family Residential</b>						
Tier 1	0 - 10 HCF	459,791	473,585	487,792	497,548	507,499
Tier 2	11 - 26 HCF	382,613	394,091	405,914	414,032	422,313
Tier 3	27 + HCF	655,333	674,993	695,243	709,148	723,331
<b>Multi-Family Residential</b>						
	Uniform	116,156	119,641	123,230	125,694	128,208
<b>Commercial</b>						
	Uniform	276,704	276,704	276,704	276,704	276,704
<b>Institutional</b>						
	Uniform	27,199	27,199	27,199	27,199	27,199
<b>Agriculture w/o Residence</b>						
	Uniform	1,170,048	1,170,048	1,170,048	1,170,048	1,170,048
<b>Agriculture w/ Residence</b>						
Tier 1	0 - 10 HCF	50,661	50,661	50,661	50,661	50,661
Tier 2	11 - 26 HCF	55,442	55,442	55,442	55,442	55,442
Tier 3	27 + HCF	167,948	167,948	167,948	167,948	167,948
<b>TSAWR - Domestic</b>						
Tier 1	0 - 10 HCF	108,897	108,897	108,897	108,897	108,897
Tier 2	11 - 26 HCF	142,524	142,524	142,524	142,524	142,524
Tier 3	27 + HCF	1,724,811	1,724,811	1,724,811	1,724,811	1,724,811
<b>TSAWR Commercial</b>						
	Uniform	1,356,805	1,356,805	1,356,805	1,356,805	1,356,805
<b>Construction</b>						
	Uniform	35,345	35,345	35,345	35,345	35,345
<b>Total Usage - HCF</b>		<b>6,730,278</b>	<b>6,778,694</b>	<b>6,828,564</b>	<b>6,862,807</b>	<b>6,897,736</b>
<b>Total Usage - AF</b>		<b>15,451 AF</b>	<b>15,562 AF</b>	<b>15,676 AF</b>	<b>15,755 AF</b>	<b>15,835 AF</b>

Table 3-5 shows the projected water use by pumping zone for each year of the study period.

**Table 3-5: FYE 2018-2022 Projected Pumping Usage (HCF)**

Pumping Zone	Zone Description	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
Pumping Zone 1	Rainbow Heights	183,772	185,610	187,466	188,716	189,974
Pumping Zone 2	Improvement District U-1	45,286	45,739	46,196	46,504	46,814
Pumping Zone 3	Vallecitos	77,442	78,216	78,999	79,525	80,055
Pumping Zone 4	Northside	418,452	422,637	426,863	429,709	432,573
Pumping Zone 5	Morro Tank	151,222	152,734	154,262	155,290	156,325
Pumping Zone 6	Huntley	183,349	185,182	187,034	188,281	189,536
Pumping Zone 7	Magee Tank	14,445	14,589	14,735	14,834	14,932
<b>Total Usage - HCF</b>		<b>1,073,968</b>	<b>1,084,708</b>	<b>1,095,555</b>	<b>1,102,858</b>	<b>1,110,211</b>
<b>Total Usage - AF</b>		<b>2,465 AF</b>	<b>2,490 AF</b>	<b>2,515 AF</b>	<b>2,532 AF</b>	<b>2,549 AF</b>

### 3.5 CURRENT RATES

The current rate structure consists of both fixed monthly charges based on meter size and variable commodity charges based on units of water. Additionally, the rates include a pumping charge to account for pumping, electricity, and maintenance costs that are associated with delivering potable water to 7 unique elevation zones. The District's rates include a pass-through component to account

for increases in the price of water purchased from SDCWA; therefore, for the purposes of this financial plan study, the revenues generated from the District’s rates and charges are determined separately. The District’s revenue is then evaluated for the ability to meet the enterprise’s projected revenue requirements excluding purchased water costs.

***District Fixed Monthly Operations and Maintenance Charge***

The District charges customers a monthly operations and maintenance (O&M) charge based on the customer’s meter size. During the prior cost of service study, a greater portion of the agriculture customers revenue requirements were spread over the fixed charge; therefore, these customers pay a higher fixed charge and a lower variable charge than the non-agriculture customer classes. The most recently approved charges are for FYE 2017 and are listed in Table 3-6.

**Table 3-6: FYE 2017 Monthly District O&M Charges**

Meter Size	Non-Agriculture Classes	Agriculture Classes
5/8"	\$24.40	\$44.32
3/4"	\$24.40	\$44.32
1"	\$38.11	\$71.29
1-1/2"	\$72.37	\$138.75
2"	\$113.49	\$219.70
3"	\$243.68	\$476.01
4"	\$435.56	\$853.76
6"	\$894.68	\$1,757.62

***SDCWA Fixed Monthly Pass-Through Charge***

The District automatically passes through increased purchased water costs from SDCWA. The monthly fixed charges (MWD Readiness-to-Serve, Infrastructure Access, Customer Service, MWD Capacity Reservation, Supply Reliability, and Emergency Storage) from SDCWA are passed-through to District customers in the form of a fixed monthly charge that varies by meter size. Transitional Special Agriculture Water Rate (TSAWR) customers receive water at a discounted rate because they have agreed to reduce usage during water shortages. Since they are required to reduce usage, they do not receive the benefit of emergency storage or the guarantee of supply reliability and, therefore, do not pay the Emergency Storage or the Supply Reliability Charges. Table 3-7 shows the most recently approved charges for FYE 2017.

**Table 3-7: FYE 2017 Monthly SDCWA Charges**

Meter Size	All Except TSAWR	TSAWR
5/8"	\$36.74	\$17.05
3/4"	\$36.74	\$17.05
1"	\$61.24	\$28.42
1-1/2"	\$122.48	\$56.84
2"	\$195.96	\$90.94
3"	\$428.68	\$198.93
4"	\$771.63	\$358.08
6"	\$1,592.26	\$738.90

### Commodity (Volumetric) Rates

During the prior cost of service study, several cost components were added together to arrive at the final proposed commodity rate. For the purposes of this study, the commodity rates were separated into the portion related to the District’s requirements and the portion related to purchasing water from SDCWA. Table 3-8 shows the most recently adopted FYE 2017 commodity rates broken into District and SDCWA rates. The table also shows the tier breakpoints into which customer’s total usage is distributed.

**Table 3-8: FYE 2017 Commodity Rates**

	Tier Description	FYE 2017 District Rates	FYE 2017 SDCWA Rates	FYE 2017 Adopted Rates
<b>Single Family Residential</b>				
Tier 1	0 - 10 HCF	\$0.43	\$2.99	\$3.42
Tier 2	11 - 26 HCF	\$0.61	\$2.99	\$3.60
Tier 3	27 + HCF	\$0.95	\$2.99	\$3.94
<b>Multi-Family Residential</b>				
	Uniform	\$0.53	\$2.99	\$3.52
<b>Commercial</b>				
	Uniform	\$0.64	\$2.99	\$3.63
<b>Institutional</b>				
	Uniform	\$0.71	\$2.99	\$3.70
<b>Agriculture w/o Residence</b>				
	Uniform	\$0.36	\$2.99	\$3.35
<b>Agriculture w/ Residence</b>				
Tier 1	0 - 10 HCF	\$0.43	\$2.99	\$3.42
Tier 2	11 - 26 HCF	\$0.61	\$2.99	\$3.60
Tier 3	27 + HCF	\$0.36	\$2.99	\$3.35
<b>TSAWR - Domestic</b>				
Tier 1	0 - 10 HCF	\$0.86	\$2.56	\$3.42
Tier 2	11 - 26 HCF	\$1.04	\$2.56	\$3.60
Tier 3	27 + HCF	\$0.31	\$2.56	\$2.87
<b>TSAWR Commercial</b>				
	Uniform	\$0.31	\$2.56	\$2.87
<b>Construction</b>				
	Uniform	\$1.45	\$2.99	\$4.44

### Pumping Charges

Pumping charges are comprised of a fixed monthly charge and a variable rate by pumping zone. These charges apply to customers who live in higher elevations and require additional energy and facilities to receive water service. The FYE 2017 pumping charges are summarized in Table 3-9.

**Table 3-9: FYE 2017 Pumping Rates**

	Description	Pumping Charge
<b>Fixed Pumping Charge (\$/Month)</b>	All Zones	\$9.51
<b>Pumping Rate per HCF</b>		
Zone 1	Rainbow Heights	\$0.80
Zone 2	Improvement District U-1	\$0.50
Zone 3	Vallecitos	\$0.28
Zone 4	Northside	\$0.10
Zone 5	Morro Tank	\$0.15
Zone 6	Huntley	\$0.58
Zone 7	Magee Tank	\$2.62

## 4 FINANCIAL PLAN

This section describes the assumptions used in projecting annual operating revenues, operations and maintenance expenses, capital expenses, as well as reserve coverage requirements that determine the overall revenue adjustments required to ensure the financial stability of the District. This financial plan excludes purchased water costs and the associated revenues since the District automatically passes through any increases from SDCWA. Additional information regarding purchased water costs can be found in Section 5.2.

### 4.1 REVENUES

#### 4.1.1 REVENUES FROM CURRENT RATES

Table 4-1 projects the District revenues using the meter counts and water usage assumptions from the prior chapter at the current or existing rates. Revenues do not include the projected revenues from SDCWA rates or the pumping revenues. Projected revenues by customer class can be found in Appendix A.

**Table 4-1: Projected District Revenues from Current Rates**

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
RMWD O&M Charge	\$5,505,629	\$5,570,305	\$5,636,775	\$5,683,469	\$5,730,913
RMWD Commodity	\$3,114,826	\$3,148,316	\$3,182,810	\$3,206,496	\$3,230,656
<b>Revenue from Current Rates</b>	<b>\$8,620,455</b>	<b>\$8,718,621</b>	<b>\$8,819,585</b>	<b>\$8,889,965</b>	<b>\$8,961,569</b>

#### 4.1.2 PUMPING REVENUES

Table 4-2 shows the projected pumping revenues using the accounts and consumption projections from the prior chapter.

**Table 4-2: Projected Pumping Revenues from Current Rates**

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Fixed Pumping</b>	<b>\$151,551</b>	<b>\$153,149</b>	<b>\$154,747</b>	<b>\$155,660</b>	<b>\$156,573</b>
<b>Variable Pumping</b>					
Zone 1	\$147,018	\$148,488	\$149,973	\$150,972	\$151,979
Zone 2	\$22,643	\$22,869	\$23,098	\$23,252	\$23,407
Zone 3	\$21,684	\$21,901	\$22,120	\$22,267	\$22,416
Zone 4	\$41,845	\$42,264	\$42,686	\$42,971	\$43,257
Zone 5	\$22,683	\$22,910	\$23,139	\$23,293	\$23,449
Zone 6	\$106,342	\$107,406	\$108,480	\$109,203	\$109,931
Zone 7	\$37,846	\$38,224	\$38,607	\$38,864	\$39,123
<b>Subtotal Variable</b>	<b>\$400,061</b>	<b>\$404,062</b>	<b>\$408,102</b>	<b>\$410,823</b>	<b>\$413,562</b>
<b>Total Pumping</b>	<b>\$551,613</b>	<b>\$557,211</b>	<b>\$562,849</b>	<b>\$566,483</b>	<b>\$570,135</b>

#### 4.1.3 OTHER OPERATING REVENUES

Other operating revenues were based on the budgeted FYE 2018 revenues and were held constant for the study period. Table 4-3 shows the projected Other Revenues.

**Table 4-3: Projected Other Operating Revenues**

Other Operating Revenues	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
Turn On/Off Fees	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
R.P. Charges	\$287,201	\$287,201	\$287,201	\$287,201	\$287,201
Inspections	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Plans and Specs	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Install Fees, Hyd	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500
Miscellaneous	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
New Meter Sales/Install Parts	\$55,000	\$55,000	\$55,000	\$55,000	\$55,000
Notice Delivery Revenue	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Interest Revenues - Water Fund	\$0	\$27,297	\$12,953	\$12,953	\$12,953
<b>Total Other Operating Revenues</b>	<b>\$499,701</b>	<b>\$526,998</b>	<b>\$512,655</b>	<b>\$512,655</b>	<b>\$512,655</b>

#### 4.1.4 OTHER NON-OPERATING REVENUES

Non-operating revenues were based on the budgeted FYE 2018 revenues and were held constant for the study period. Table 4-4 shows the projected Non-Operating Revenues.

**Table 4-4: Projected Non-Operating Revenues**

Non-Operating Revenues	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
NSF Check Fees	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Miscellaneous	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Property Tax Rev. - Ad Valorem	\$315,000	\$315,000	\$315,000	\$315,000	\$315,000
Property Tax - Parcel Charge RTS	\$290,000	\$290,000	\$290,000	\$290,000	\$290,000
<b>Total Non-Operating Revenues</b>	<b>\$656,500</b>	<b>\$656,500</b>	<b>\$656,500</b>	<b>\$656,500</b>	<b>\$656,500</b>

## 4.2 OPERATING AND MAINTENANCE EXPENSES

### 4.2.1 INFLATIONARY ASSUMPTIONS

To ensure that future costs are reasonably projected, informed assumptions were made about inflationary factors. Table 4-5 shows the inflationary assumptions incorporated in the five-year financial plan.

**Table 4-5: Inflationary Assumptions**

Inflationary Factor	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
General	budget <sup>4</sup>	3.0%	3.0%	3.0%	3.0%
Salaries	budget	5%	5%	5%	5%
Benefits	budget	3.0%	3.0%	3.0%	3.0%
Capital	budget	2.0%	2.0%	2.0%	2.0%
Energy	budget	5.0%	5.0%	5.0%	5.0%
Interest on Reserves	1.0%	1.5%	1.5%	1.5%	1.5%

### 4.2.2 DISTRICT OPERATIONS AND MAINTENANCE EXPENSES

Table 4-6 summarizes the District's operating and maintenance (O&M) expenditures excluding purchased water costs, based on FYE 2018 budget and projected for the study period by

<sup>4</sup> Costs for FYE 2018 were provided in the budget, no escalation needed.

incorporating the inflation factors defined in Table 4-5. A detailed listing of the O&M and inflationary factors utilized can be found in Appendix B.

**Table 4-6: Projected District O&M Expenses**

Line No.	Operating Expenses (1)	Budgeted FYE 2018 (2)	Projected FYE 2019 (3)	Projected FYE 2020 (4)	Projected FYE 2021 (5)	Projected FYE 2022 (6)
1	Administration and General	\$2,295,669	\$2,410,452	\$2,530,975	\$2,657,523	\$2,790,400
2	Capital	\$715,327	\$751,093	\$788,648	\$828,080	\$869,484
3	Customer Service	\$358,399	\$376,319	\$395,135	\$414,892	\$435,636
4	Distribution	\$2,650,388	\$2,757,377	\$2,868,966	\$2,985,363	\$3,106,786
5	Meter Services	\$1,241,087	\$1,285,869	\$1,332,414	\$1,380,795	\$1,431,092
6	Operations	\$2,580,818	\$2,661,841	\$2,745,812	\$2,832,851	\$2,923,084
7	Pumping - Operations	\$147,247	\$151,971	\$156,870	\$161,953	\$167,226
8	Pumping - Energy	\$515,000	\$544,640	\$576,079	\$607,917	\$641,561
9	<b>Total District O&amp;M Expenses</b>	<b>\$10,503,934</b>	<b>\$10,939,562</b>	<b>\$11,394,899</b>	<b>\$11,869,374</b>	<b>\$12,365,270</b>

### 4.3 CAPITAL IMPROVEMENT PLAN

Table 4-7 shows the District’s detailed five-year Capital Improvement Plan (CIP) along with the anticipated funding sources. Line 27 represents phasing in the pipeline replacement costs as a significant portion of the District’s pipelines is reaching the end of the design useful life. Line 32 represents the anticipated capacity fee revenues that will be generated from several residential developments coming online in FYE 2018 and FYE 2019. The anticipated capacity fee revenues from these developments will be available to help fund CIP. Line 33 shows the anticipated rate and/or reserve (cash) funded CIP after taking into consideration the capacity fee revenues offset.



**Table 4-7: Detailed Capital Improvement Plan**

Line No.	CIP Description	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
1	<b>Existing Water</b>					
2	Grid to Monserate Hill Water Line	\$1,125,027				
3	San Luis Rey Imported Return Flow Recovery	\$300,000	\$272,903			
4	<b>On Going Water Projects</b>					
5	Isolation Valve Installation Program	\$150,000	\$150,000	\$150,000	\$150,000	
6	Pressure Reducing Station Replacement Pgm	\$160,000	\$160,000	\$160,000	\$160,000	
7	<b>Proposed Water Projects (Phase 1)</b>					
8	Vallecitos PS Replacement				\$1,030,000	
9	Wrightwood to Cottontail PRS		\$100,000			
10	Knottwood Road Loop and PRS	\$180,000				
11	Northside Zone Supply Redundancy		\$40,000	\$477,000		
12	Rainbow Heights Upgrades	\$800,000	\$1,000,000			
13	Water System Condition Assessment Pgm	\$145,508				
14	New Pressure Reducing Stations	\$240,000	\$310,000			
15	SDCWA Shutdown Pump Stations	\$100,000	\$900,000			
16	Capital Meter Replacement	\$300,000				
17	Systemwide AMI Conversion	\$250,000				
18	Water System Monitoring Program	\$300,000	\$575,000			
19	Weese WTP Perm Emergency Interconnect	\$240,000	\$620,000			
20	Morro Tank Zone Perm FPUD Interconnect	\$150,000				
21	<b>Proposed Water Projects (Phase 2)</b>					
22	Pressure Reducing Stations (Phase 2)					\$464,000
23	Northside Emergency Pump Station					\$200,000
24	Rice Canyon Tank Transmission					\$450,000
25	Loop Pipelines-Via Ararat Dr to West Lilac Rd					\$89,000
26	Loop Pipelines in Magee Lane to Disney Lane					\$30,000
27	<b>Pipeline Replacement</b>	\$0	\$750,000	\$1,250,000	\$2,000,000	\$2,500,000
28	<b>Total CIP</b>	\$4,440,535	\$4,877,903	\$2,037,000	\$3,340,000	\$3,733,000
29	<b>Inflated Total CIP<sup>5</sup></b>	<b>\$4,440,535</b>	<b>\$4,975,461</b>	<b>\$2,119,295</b>	<b>\$3,544,435</b>	<b>\$4,040,719</b>
30						
31	<b>Funding Sources:</b>					
32	Capacity/Connection Fee Revenue	\$2,600,250	\$2,600,250	\$0	\$0	\$0
33	<b>Rate / Reserve Funded Capital</b>	<b>\$1,840,285</b>	<b>\$2,375,211</b>	<b>\$2,119,295</b>	<b>\$3,544,435</b>	<b>\$4,040,719</b>

#### 4.4 EXISTING DEBT SERVICE

Table 4-8 shows the District’s existing debt service payments. Existing debt consists of two “State of California – State Water Resources Control Board, Drinking Water State Revolving Fund” (SRF) loans.

<sup>5</sup> Assumes 2% Escalation Factor for Projected CIP (FYE 2019 and beyond).

**Table 4-8: Existing Debt Service**

Debt Service	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
SRF Loan C106	\$475,171	\$475,171	\$475,171	\$475,171	\$475,171
SRF Loan C107	\$629,718	\$629,718	\$629,718	\$629,718	\$629,718
<b>Total Existing Debt Service</b>	<b>\$1,104,889</b>	<b>\$1,104,889</b>	<b>\$1,104,889</b>	<b>\$1,104,889</b>	<b>\$1,104,889</b>

#### 4.5 RESERVE POLICY

A reserve policy establishes reserve targets and provides guidelines for sound financial management. The overall long-term aim is to maintain financial solvency and mitigate financial risks associated with working capital requirements, revenue instability, sudden or significant capital costs, and emergencies. Additionally, adopting and adhering to a sustainable reserve policy helps to achieve and maintain a favorable credit rating for future debt issues.

The appropriate amount of reserves and reserve types are determined by a variety of factors, such as size of the operating budget, planned capital improvements, amount of debt, type of rate structure, frequency of customer billing, and risk of natural disaster. Typically, reserves for water utilities fall into the following categories: O&M, capital, rate stabilization, debt service, and emergency. Reserves can offset unanticipated reductions in revenues, fluctuations in costs of providing services, and fiscal emergencies such as revenue shortfalls, asset failures, and natural disasters. Capital reserves set funds aside for replacement of capital assets as they age, as well as for new capital projects.

The District’s existing water reserve policies are summarized in Table 4-9. Additional information can be found in the District’s Cash Reserve Policy (Chapter 5.03.220).

**Table 4-9: Existing Reserve Policies**

Reserves	Policy
<b>Operating Reserve</b>	2 Months minimum of O&M (excluding water purchases) target 3 months of O&M
<b>Water Capital Projects Fund</b>	1 Year – Average CIP
<b>Debt Service Reserve</b>	1-Year of principal and interest payments
<b>Rate Stabilization</b>	10% of District water rate revenues
<b>New Water Sources</b>	Funded by the Water Services portion of the Standby Charge
<b>Liability Self Insurance</b>	Maintain \$100,000 to pay self-insurance deductibles

#### 4.6 CURRENT FINANCIAL PLAN

Table 4-10 shows the current financial plan without any revenue adjustments based on the projected O&M, CIP, and debt service expenses, with no change to the current rates. Under the current rates, the District does not generate sufficient revenues to meet its obligations, will not meet minimum reserve targets, and will completely deplete reserves by FYE 2020. Once reserves are depleted, the District will be unable to maintain the system.

**Table 4-10: Current Financial Plan without Revenue Adjustments**

Line No.	Source	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	
1	<b>District Revenues</b>						
2	Revenue from Existing Rates	Table 4-1	\$8,620,455	\$8,718,621	\$8,819,585	\$8,889,965	\$8,961,569
3	Pumping Revenues	Table 4-2	\$551,613	\$557,211	\$562,849	\$566,483	\$570,135
4	Other Operating Revenues	Table 4-3	\$499,701	\$526,445	\$512,655	\$512,655	\$512,655
5	Non-Operating Revenues	Table 4-4	\$656,500	\$656,500	\$656,500	\$656,500	\$656,500
6	<b>Total District Revenues</b>		<b>\$10,328,269</b>	<b>\$10,458,777</b>	<b>\$10,551,589</b>	<b>\$10,625,603</b>	<b>\$10,700,858</b>
7							
8	<b>District Expenses</b>						
9	District O&M	Table 4-6	\$10,503,934	\$10,939,562	\$11,394,899	\$11,869,374	\$12,365,270
10	Debt Service	Table 4-8	\$1,104,889	\$1,104,889	\$1,104,889	\$1,104,889	\$1,104,889
11	<b>Total O&amp;M Expenses</b>		<b>\$11,608,823</b>	<b>\$12,044,451</b>	<b>\$12,499,787</b>	<b>\$12,974,263</b>	<b>\$13,470,158</b>
12							
13	<b>Revenues Less O&amp;M Expenses</b>		<b>(\$1,280,554)</b>	<b>(\$1,585,674)</b>	<b>(\$1,948,198)</b>	<b>(\$2,348,660)</b>	<b>(\$2,769,300)</b>
14							
15	<b>CIP Expenses</b>						
16	Rate Funded CIP	Table 4-7	\$1,840,285	\$2,375,211	\$2,119,295	\$3,544,435	\$4,040,719
17	Capitalized Salaries and Benefits	Budget	\$175,000	\$183,750	\$192,938	\$202,584	\$212,714
18	<b>Total CIP Expenses</b>		<b>\$2,015,285</b>	<b>\$2,558,961</b>	<b>\$2,312,232</b>	<b>\$3,747,019</b>	<b>\$4,253,433</b>
19							
20	<b>Net Cash Change</b>		<b>(\$3,295,839)</b>	<b>(\$4,144,635)</b>	<b>(\$4,260,431)</b>	<b>(\$6,095,679)</b>	<b>(\$7,022,733)</b>
21							
22	Total Beginning Reserve Balance		\$8,966,419	\$5,670,580	\$1,572,386	(\$2,652,341)	(\$8,748,020)
23	Total Ending Reserve Balance		\$5,670,580	\$1,572,386	(\$2,652,341)	(\$8,748,020)	(\$15,770,753)
24	<i>Minimum Target</i>		\$6,536,790	\$7,173,034	\$7,658,117	\$8,631,646	\$9,548,187

## 4.7 PROPOSED FINANCIAL PLAN AND REVENUE ADJUSTMENTS

Raftelis worked closely with the District to develop a sound financial plan. In order for the enterprise to meet operational expenses, fund capital projects, and maintain healthy reserves while mitigating the impact to rate payers, the following revenue adjustments<sup>6</sup> were required.

Table 4-11 shows the proposed revenue adjustments selected by the Board. Although Table 4-11 shows anticipated revenue adjustments for each year of the Study period, the District will review and confirm the needed revenue adjustments on a yearly basis. The rates presented in Section 5 are based on this financial plan.

**Table 4-11: Proposed Revenue Adjustments**

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Revenue Adjustments</b>	20%	19%	17%	17%	16%

Applying these adjustments results in the proposed financial plan in Table 4-12. While FYE 2018 and FYE 2019 still require drawing down reserves, the District now sees healthy positive cash balances in the out years and meets minimum reserve targets by FYE 2022. Line number 3 shows the additional revenue from the revenue adjustments assuming they become effective March 1, 2018 and

<sup>6</sup> Revenue adjustments are applicable to District Rate Revenues only (excludes SDCWA rate components and pumping components)

January 1 of each year thereafter. Under this financial plan, the pumping revenues are set equal to the projected pumping expenditures. Similar to the pass-through to account for increases in SDCWA purchased water costs, increases in energy costs beyond those projected in the financial plan will be automatically passed through to District customers.

**Table 4-12: Proposed Financial Plan**

Line No.	Source	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	
1	<b>District Revenues</b>						
2	Revenue from Existing Rates	Table 4-1	\$8,620,455	\$8,718,621	\$8,819,585	\$8,889,965	\$8,961,569
3	Total Revenue Adjustments	Calc.	\$574,697	\$2,737,647	\$4,845,304	\$7,225,538	\$9,957,848
4	Pumping Revenues	Calc.	\$662,247	\$696,611	\$732,950	\$769,869	\$808,787
5	Other Operating Revenues <sup>7</sup>	Table 4-3	\$499,701	\$529,346	\$539,459	\$540,573	\$541,735
6	Non-Operating Revenues	Table 4-4	\$656,500	\$656,500	\$656,500	\$656,500	\$656,500
7	<b>Total District Revenues</b>		<b>\$11,013,600</b>	<b>\$13,338,724</b>	<b>\$15,593,797</b>	<b>\$18,082,445</b>	<b>\$20,926,438</b>
8							
9	<b>District Expenses</b>						
10	District O&M	Table 4-6	\$10,503,934	\$10,939,562	\$11,394,899	\$11,869,374	\$12,365,270
11	Debt Service	Table 4-8	\$1,104,889	\$1,104,889	\$1,104,889	\$1,104,889	\$1,104,889
12	<b>Total O&amp;M Expenses</b>		<b>\$11,608,823</b>	<b>\$12,044,451</b>	<b>\$12,499,787</b>	<b>\$12,974,263</b>	<b>\$13,470,158</b>
13							
14	<b>Revenues Less O&amp;M Expenses</b>		<b>(\$595,223)</b>	<b>\$1,294,273</b>	<b>\$3,094,010</b>	<b>\$5,108,182</b>	<b>\$7,456,280</b>
15							
16	<b>CIP Expenses</b>						
17	Rate Funded CIP	Table 4-7	\$1,840,285	\$2,375,211	\$2,119,295	\$3,544,435	\$4,040,719
18	Capitalized Salaries and Benefits	Budget	\$175,000	\$183,750	\$192,938	\$202,584	\$212,714
19	<b>Total CIP Expenses</b>		<b>\$2,015,285</b>	<b>\$2,558,961</b>	<b>\$2,312,232</b>	<b>\$3,747,019</b>	<b>\$4,253,433</b>
20							
21	<b>Net Cash Change</b>		<b>(\$2,610,508)</b>	<b>(\$1,264,688)</b>	<b>\$781,778</b>	<b>\$1,361,163</b>	<b>\$3,202,847</b>
22							
23	Total Beginning Reserve Balance		\$8,966,419	\$6,355,911	\$5,138,191	\$5,966,417	\$7,369,993
24	Total Ending Reserve Balance		\$6,355,911	\$5,138,191	\$5,966,417	\$7,369,993	\$10,630,830
25	<i>Minimum Target</i>		\$6,594,260	\$7,446,799	\$8,142,647	\$9,354,199	\$10,543,972

Figure 4-1 through Figure 4-4 display the FYE 2018 through FYE 2022 financial plan in graphical format. Figure 4-1 graphically illustrates the operating financial plan – it compares existing and proposed revenues with projected expenses. The expenses include O&M, debt service, rate funded capital projects, and reserve funding and are shown by the stacked bars. The total revenues at existing and proposed rates are shown by the horizontal orange and black lines, respectively. Current revenue from existing rates does not meet future total expenses and shows the need for revenue adjustments.

<sup>7</sup> The difference in Other Operating Revenues is due to the projected increases in reserves which results in slightly higher projected interest revenues. See Appendix C for detailed projected financial plan.

**Figure 4-1: Proposed Operating Financial Plan**

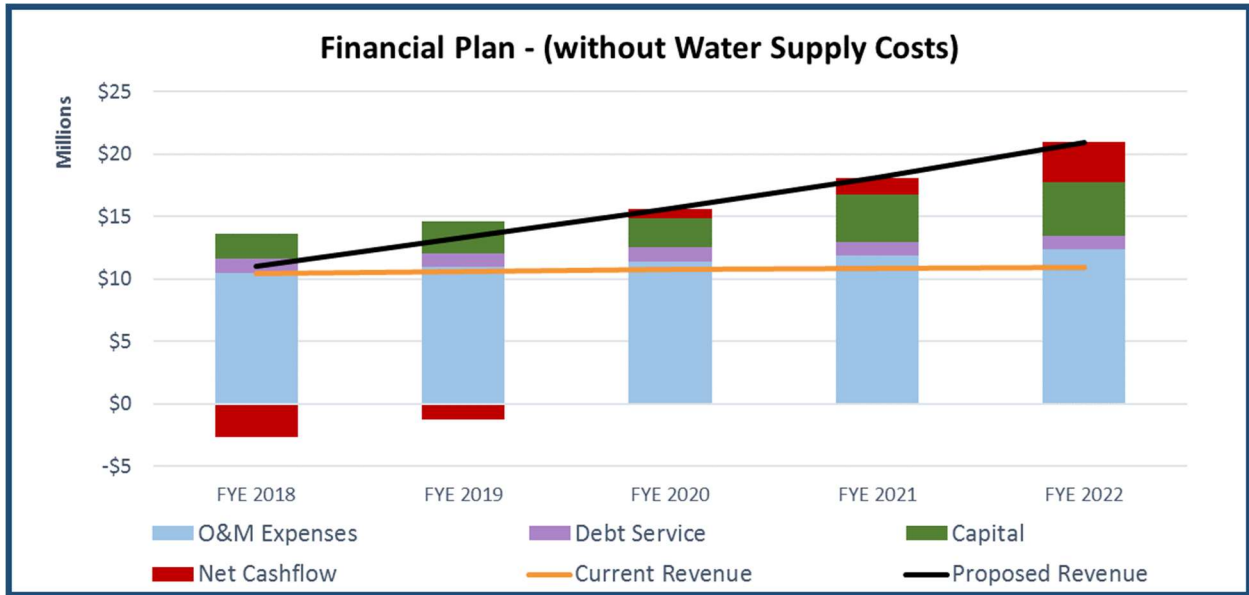


Figure 4-2 summarizes the projected CIP and the projected funding sources – capacity fees or rate funded. As shown, the District plans to have higher than average capital expenditures in FYE 2018 and FYE 2019. Funding for the pipeline replacement begins in FYE 2019 at \$750,000 and steadily increases, reaching the targeted \$3M by FYE 2023. The anticipated capacity fee revenue from residential developments will help fund a portion of the planned CIP. The District is not planning any additional debt issuance at this time; therefore, none of the CIP is proposed to be funded through debt during the study period.

**Figure 4-2: Projected CIP and Funding Sources**

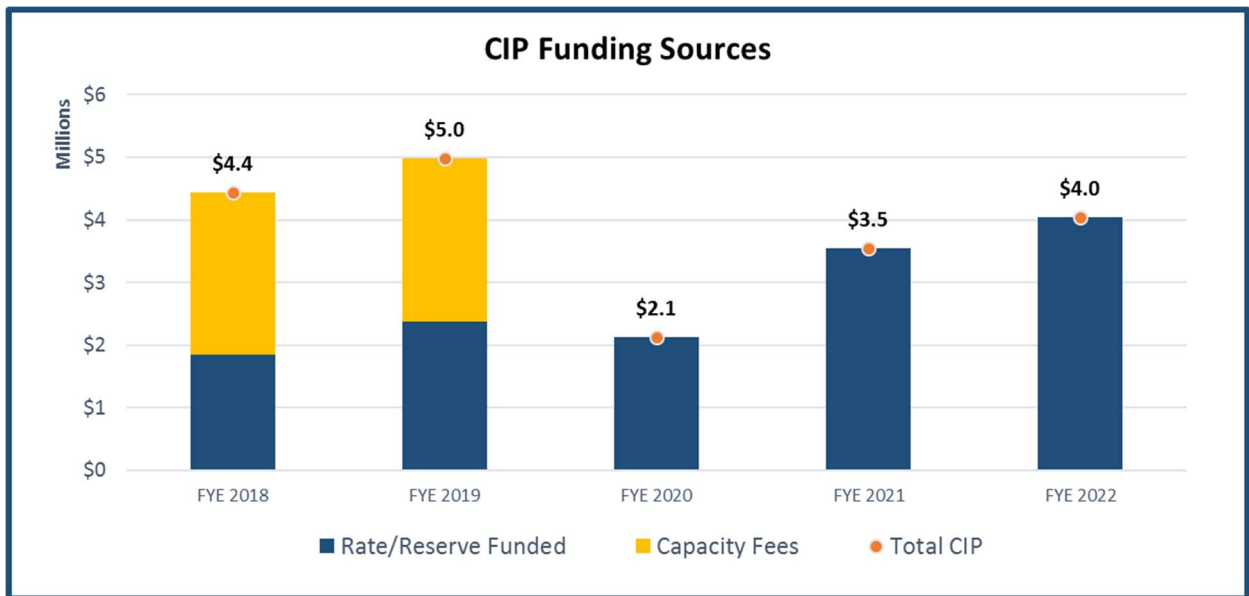
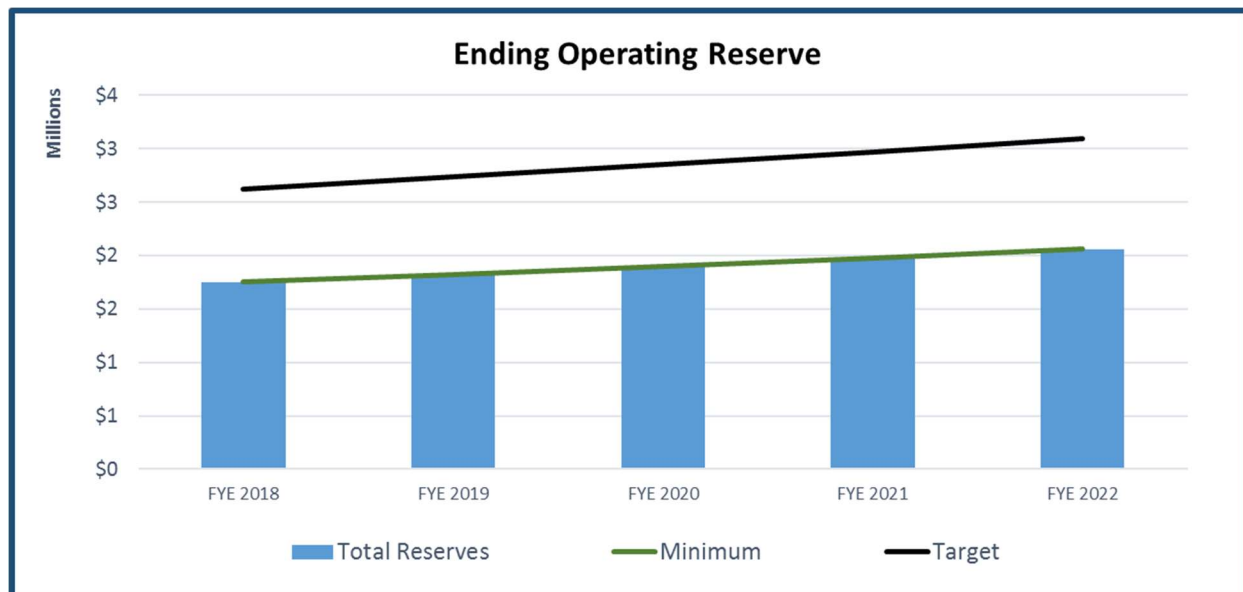


Figure 4-3 displays the operating fund yearly ending balance (blue bars). The green horizontal line is the operating fund minimum target balance which is two months of O&M expenses<sup>8</sup> based on current Board policy. The target is three months of O&M expenses shown by the black line. As shown,

<sup>8</sup> Excludes the cost of purchased water and depreciation.

the operating fund is anticipated to meet the minimum target for each year during the study period. Operating reserves are used to meet annual working capital requirements and any unexpected increase to operating expenses that may occur during the year.

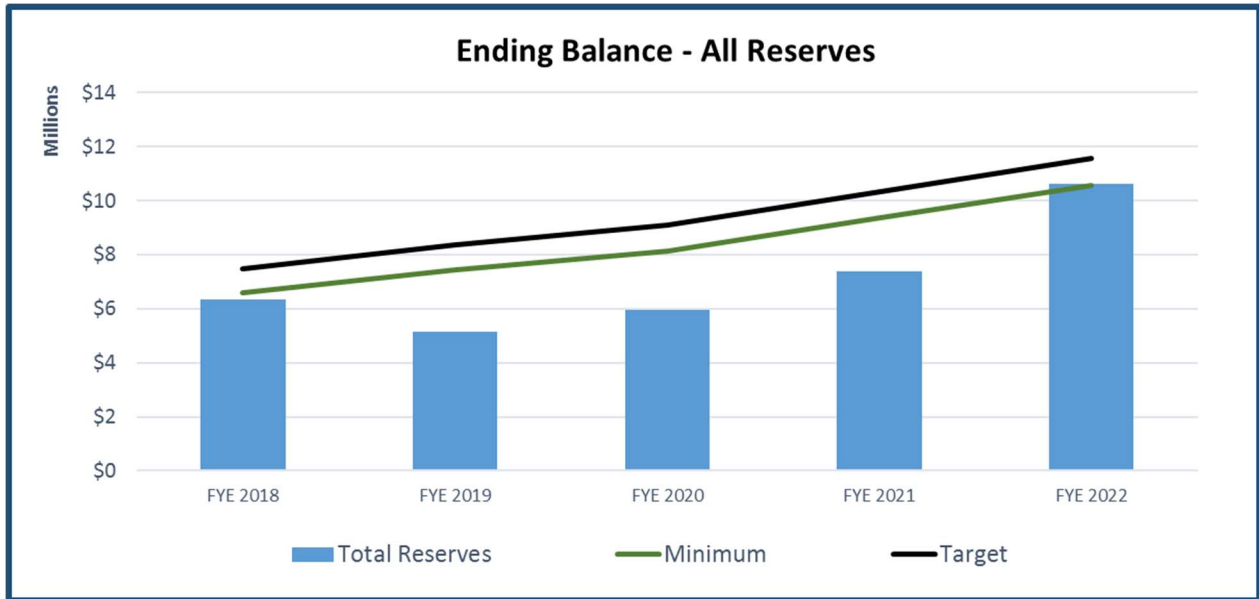
**Figure 4-3: Projected Operating Fund Ending Balances**



The remaining reserves are the Water Capital Projects Reserve (Capital Reserve), Liability Self Insurance Reserve, New Water Sources Reserve, and the Rate Stabilization Reserve. The target for the Capital Reserve is the annual average expense for the following five years. It provides funds for meeting capital expenses and any unexpected increases in the budgeted costs. The Liability Self Insurance Reserve target of \$100K covers the Districts insurance deductibles. The New Water Sources Reserve will maintain its current balance of approximately \$763K and will be utilized to help fund projects to develop new sources of water supply. The Rate Stabilization Reserve target is set at 10% of the District rate revenue and allows the District to mitigate the need for rate adjustments if revenues drop off because of weather or water shortages.

Figure 4-4 shows the ending yearly balance for the sum of all the District’s reserves and the total reserve target. As shown, the sum of all reserves is below the minimum target for FYE 2018 through FYE 2021, largely due to the funding needs for capital expenditures. The Rate Stabilization Reserve will begin to be funded in FYE 2022. See Appendix C– Cash Flow Detail, which shows the flow of funds for all the District’s reserves as well as the ending balances for each reserve in graphical format.

Figure 4-4: Total Funds Balance



## 5 CHARGES AND RATES

The proposed RMWD O&M charge and the proposed RMWD commodity rates for the study period maintain both the current cost of service approach and the rate structure described in Section 3.5. The proposed rates are determined by increasing the current rates by the revenue adjustments shown in the financial plan. The proposed 2018 SDCWA fixed charges and variable rates are determined based on the most recently adopted charges from SDCWA (as of January 1, 2018). SDCWA rates for the out years (2019 –2022) will be calculated each year once the rates from SDCWA are known. Finally, the proposed pumping rates maintain the current cost of service approach, but are adjusted for the projected expenditures. Any increase in energy above that projected in the financial plan will be automatically passed through to District customers.

### 5.1 PROPOSED DISTRICT RATES

#### 5.1.1 PROPOSED RMWD O&M CHARGES

Proposed RMWD monthly O&M charges were determined by applying “across-the-board” adjustments (see Table 4-11). Table 5-1 shows the proposed RMWD Fixed Monthly O&M Charge for the study period. Proposed charges were rounded up to the nearest whole penny.

**Table 5-1: Proposed RMWD O&M Charge**

RMWD Monthly O&M	Current	Proposed March 2018	Proposed January 2019	Proposed January 2020	Proposed January 2021	Proposed January 2022
<b>Non-Agriculture Classes</b>						
5/8"	\$24.40	\$29.28	\$34.85	\$40.78	\$47.72	\$55.36
3/4"	\$24.40	\$29.28	\$34.85	\$40.78	\$47.72	\$55.36
1"	\$38.11	\$45.74	\$54.44	\$63.70	\$74.53	\$86.46
1-1/2"	\$72.37	\$86.85	\$103.36	\$120.94	\$141.50	\$164.14
2"	\$113.49	\$136.19	\$162.07	\$189.63	\$221.87	\$257.37
3"	\$243.68	\$292.42	\$347.98	\$407.14	\$476.36	\$552.58
4"	\$435.56	\$522.68	\$621.99	\$727.73	\$851.45	\$987.69
6"	\$894.68	\$1,073.62	\$1,277.61	\$1,494.81	\$1,748.93	\$2,028.76
<b>Agriculture Classes</b>						
5/8"	\$44.32	\$53.19	\$63.30	\$74.07	\$86.67	\$100.54
3/4"	\$44.32	\$53.19	\$63.30	\$74.07	\$86.67	\$100.54
1"	\$71.29	\$85.55	\$101.81	\$119.12	\$139.38	\$161.69
1-1/2"	\$138.75	\$166.50	\$198.14	\$231.83	\$271.25	\$314.65
2"	\$219.70	\$263.64	\$313.74	\$367.08	\$429.49	\$498.21
3"	\$476.01	\$571.22	\$679.76	\$795.32	\$930.53	\$1,079.42
4"	\$853.76	\$1,024.52	\$1,219.18	\$1,426.45	\$1,668.95	\$1,935.99
6"	\$1,757.62	\$2,109.15	\$2,509.89	\$2,936.58	\$3,435.80	\$3,985.53

#### 5.1.2 PROPOSED RMWD COMMODITY RATES

Proposed RMWD commodity rates were determined by applying “across-the-board” adjustments (see Table 4-11). Table 5-2 shows the proposed RWMD Commodity Rates for the study period. Proposed rates were rounded up to the nearest whole penny.



**Table 5-2: Proposed RMWD Commodity Rates**

RMWD Commodity Rates	Current	Proposed March 2018	Proposed January 2019	Proposed January 2020	Proposed January 2021	Proposed January 2022
<b>Single Family Residential</b>						
Tier 1	\$0.43	\$0.52	\$0.62	\$0.73	\$0.86	\$1.00
Tier 2	\$0.61	\$0.74	\$0.89	\$1.05	\$1.23	\$1.43
Tier 3	\$0.95	\$1.15	\$1.37	\$1.61	\$1.89	\$2.20
<b>Multi-Family Residential</b>	\$0.53	\$0.64	\$0.77	\$0.91	\$1.07	\$1.25
<b>Commercial</b>	\$0.64	\$0.77	\$0.92	\$1.08	\$1.27	\$1.48
<b>Institutional</b>	\$0.71	\$0.86	\$1.03	\$1.21	\$1.42	\$1.65
<b>Agriculture w/o Residence</b>	\$0.36	\$0.44	\$0.53	\$0.63	\$0.74	\$0.86
<b>Agriculture w/ Residence</b>						
Tier 1	\$0.43	\$0.52	\$0.62	\$0.73	\$0.86	\$1.00
Tier 2	\$0.61	\$0.74	\$0.89	\$1.05	\$1.23	\$1.43
Tier 3	\$0.36	\$0.44	\$0.53	\$0.63	\$0.74	\$0.86
<b>TSAWR - Domestic</b>						
Tier 1	\$0.86	\$1.04	\$1.24	\$1.46	\$1.71	\$1.99
Tier 2	\$1.04	\$1.26	\$1.50	\$1.76	\$2.06	\$2.39
Tier 3	\$0.31	\$0.38	\$0.46	\$0.54	\$0.64	\$0.75
<b>TSAWR Commercial</b>	\$0.31	\$0.38	\$0.46	\$0.54	\$0.64	\$0.75
<b>Construction</b>	\$1.45	\$1.75	\$2.09	\$2.45	\$2.87	\$3.33

## 5.2 PROPOSED SDCWA RATES

### 5.2.1 PROPOSED SDCWA FIXED CHARGES

Raftelis recommends continuing to pass-through the monthly fixed charges from SDCWA and MWD as a separate fixed charge. The District relies entirely on purchased water from SDCWA and the District has no control on these costs of purchasing water. Continuing the separate fixed charge provides clear transparency between the costs that are controlled by the District versus costs from other agencies over which the District has no control.

Table 5-3 shows the annual fixed charges from SDCWA for 2018. Lines 1 through 4 are charges applicable to every customer in the District. Lines 5 and 6 are applicable to every customer except the TSAWR Domestic and TSAWR Commercial customers. TSAWR customers receive water at a discounted rate because they have agreed to reduce usage during water shortages. Since they are required to reduce usage, they do not receive the benefit of emergency storage or the guarantee of supply reliability and, therefore, do not pay the Emergency Storage Charge or the Supply Reliability Charge.

**Table 5-3: CY 2018 SDCWA Fixed Charges**

Line No.	SDCWA Fixed Charges	2018
1	MWD Readiness-to-Serve Charge <sup>9</sup>	\$502,332
2	MWD Capacity Charge	\$512,220
3	Customer Service Charge	\$1,122,504
4	Infrastructure Access Charge	\$509,580
5	Supply Reliability Charge	\$739,008
6	Emergency Storage Charge	\$1,565,712
7	<b>Total SDCWA Fixed Charges</b>	<b>\$4,951,356</b>

Raftelis recommends recovering the charges based on the equivalent meters subject to the charges. Table 5-4 shows the derivation of the unit cost.

**Table 5-4: SDCWA Unit Cost Derivation**

Line No.		Revenue Requirement (1)	Equivalent Meters (2)	Monthly Unit Cost (3)
1	Emergency Storage & Supply Reliability	\$2,304,720	132,776	\$17.36
2	All other SDCWA Fixed Charges	\$2,646,636	178,608	\$14.82
3	<b>Total SDCWA Fixed Charges</b>	<b>\$4,951,356</b>		

The Revenue Requirement represents the yearly requirement or fixed costs from SDCWA. The Equivalent Meters<sup>10</sup> (column 2) represents the total equivalent meters in a year. The monthly unit cost was determined by dividing the annual requirement (column 1) by the annual equivalent meters (column 2).

Table 5-5 shows the proposed SDCWA fixed charges. As shown in the table, the fixed charges increase as the size of the meter increases. This is determined by multiplying the unit costs (Table 5-4) by the appropriate capacity ratio (See Appendix D). SDCWA fixed charges will be determined on an annual basis and increases from SDCWA will be passed-through to customers at the time of the increase.

<sup>9</sup> Since the SDCWA rates are effective January of each year and the District is proposing to implement rates effective March of 2018 and each January 1 thereafter, purchased water costs assume a full year at the new SDCWA rates. MWD Readiness-to-Serve-Charge is a FY charge as opposed to calendar year; therefore, the annualized charge takes into consideration half the year at the prior rate and half the year at the new rate.

<sup>10</sup> Also discussed further in Appendix D.

**Table 5-5: Proposed SDCWA Fixed Charge**

SDCWA Monthly Fixed	Current	Proposed March 2018 <sup>11</sup>	Proposed January 2019	Proposed January 2020	Proposed January 2021	Proposed January 2022
<b>All Customers except TSAWR</b>						
5/8"	\$36.74	\$32.18	TBD	TBD	TBD	TBD
3/4"	\$36.74	\$32.18	TBD	TBD	TBD	TBD
1"	\$61.24	\$53.63	TBD	TBD	TBD	TBD
1-1/2"	\$122.48	\$107.27	TBD	TBD	TBD	TBD
2"	\$195.96	\$171.63	TBD	TBD	TBD	TBD
3"	\$428.68	\$375.43	TBD	TBD	TBD	TBD
4"	\$771.63	\$675.78	TBD	TBD	TBD	TBD
6"	\$1,592.26	\$1,394.47	TBD	TBD	TBD	TBD
<b>TSAWR Customers</b>						
5/8"	\$17.05	\$14.82	TBD	TBD	TBD	TBD
3/4"	\$17.05	\$14.82	TBD	TBD	TBD	TBD
1"	\$28.42	\$24.70	TBD	TBD	TBD	TBD
1-1/2"	\$56.84	\$49.39	TBD	TBD	TBD	TBD
2"	\$90.94	\$79.03	TBD	TBD	TBD	TBD
3"	\$198.93	\$172.88	TBD	TBD	TBD	TBD
4"	\$358.08	\$311.18	TBD	TBD	TBD	TBD
6"	\$738.90	\$642.12	TBD	TBD	TBD	TBD

### 5.2.2 PROPOSED SDCWA VARIABLE RATES

Similar to the SDCWA fixed charge, Raftelis recommends passing through the variable costs from SDCWA. Table 5-6 shows the SDCWA usage rates (\$/AF) effective January 2018.

**Table 5-6: 2018 SDCWA Usage Rates**

SDCWA Usage Rates (\$/AF)	2018
SDCWA M&I Melded Untreated Rate	\$894
SDCWA Treatment Costs	\$300
Transportation Charge	\$115
TSAWR Discount	-\$199

As shown in the table, TSAWR customers receive water from SDCWA at a discounted rate and the District is required to pass this discount on directly to TSAWR customers. The first step in determining the SDCWA variable rates is to determine the amount of projected usage for General customers and TSAWR customers.

### *Purchased Water Supply*

Line 1 of Table 5-7 shows the total water demand estimated for 2018. Water is typically lost in treatment, transmission, and distribution of potable water due to a variety of factors, such as leaks in the distribution system and evaporation. The District must account for this loss in estimating the

<sup>11</sup> Decreases in SDCWA fixed meter charges are due mainly to the increased number of equivalent units when compared to the prior study. Locked meters are now being accounted for within the equivalent units (i.e. costs are being spread over more units).

supply needed to meet its customers' demand. The District assumes a 7% annual water loss. Table 5-7 shows the projected demand in acre feet (Line 1). In order to project the supply required (Line 3), this demand is increased by the 7% water loss (Line 2).

**Table 5-7: Projected Required Water Supply (AF)**

Line No.		Source	2018
1	Total Demand	FYE 2017 Usage Data	15,451 AF
2	Water Loss	Provided by District	7%
3	Total Supply	Line 1 ÷ (1 - Line 2)	16,614 AF

The demand (sales to District customers) and purchases (from SDCWA) has been summarized in Table 5-8.

**Table 5-8: 2018 Projected Demand & Purchases**

	2018 Usage (AF)
<b>Water Demand</b>	
General	7,799
TSAWR	7,652
<b>Total Demand</b>	<b>15,451 AF</b>
<b>Purchases</b>	
General	8,386
TSAWR	8,228
<b>Total Purchases</b>	<b>16,614 AF</b>

Next the total water purchases can be determined using the rates (Table 5-6) and the demand and purchases (Table 5-8). Table 5-9 summarizes the variable costs from SDCWA.

**Table 5-9: 2018 Purchased Water Costs**

	Calculation	2018 Costs
<b>Water Purchases</b>	(\$894 x 16,614 AF)	\$14,852,504
<b>SDCWA Treatment Costs</b>	(\$300 x 16,614 AF)	\$4,984,062
<b>Transportation Costs</b>	(\$115 x (16,614 AF - 6,645 AF)) <sup>12</sup>	\$1,146,334
<b>TSAWR Discount</b>	(\$199 x 7,652 AF) <sup>13</sup>	-\$1,522,669
<b>Total Variable Costs</b>		<b>\$19,460,231</b>

The Water Purchases, SDCWA Treatment, and Transportation costs are divided by the projected demand (converted into HCF) to determine the unit rate. The TSAWR discount is divided by the projected TSAWR demand (converted into HCF) to determine the TSAWR discount unit rate. Table 5-10 summarizes the proposed 2018 SDCWA unit rates.

<sup>12</sup> The District purchases a portion of their water directly from MWD, thereby foregoing the transportation charge. Approximately 6,645 AF is anticipated to come from direct purchases.

<sup>13</sup> SDCWA provides the TSAWR discounts based on the verified billed usage (i.e. District sales) not purchased water; therefore, the District must purchase additional water at the full costs to account for any water loss.

**Table 5-10: SDCWA Variable Unit Rates**

	Calculation	2018 Unit Rates (\$/HCF)
<b>General Rate</b>	$(\$20,982,900 \div (15,451 \times 435.6))$	\$3.12
<b>TSAWR Rate</b>	General rate + $(-\$1,522,669 \div (7,652 \times 435.6))$	\$2.66

Table 5-11 summarizes the proposed SDCWA variable rates by customer class.

**Table 5-11: Proposed SDCWA Variable Rates**

SDCWA Variable Rates	Current	Proposed March 2018	Proposed January 2019	Proposed January 2020	Proposed January 2021	Proposed January 2022
<b>Single Family Residential</b>						
Tier 1	\$2.99	\$3.12	TBD	TBD	TBD	TBD
Tier 2	\$2.99	\$3.12	TBD	TBD	TBD	TBD
Tier 3	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>Multi-Family Residential</b>	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>Commercial</b>	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>Institutional</b>	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>Agriculture w/o Residence</b>	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>Agriculture w/ Residence</b>						
Tier 1	\$2.99	\$3.12	TBD	TBD	TBD	TBD
Tier 2	\$2.99	\$3.12	TBD	TBD	TBD	TBD
Tier 3	\$2.99	\$3.12	TBD	TBD	TBD	TBD
<b>TSAWR - Domestic</b>						
Tier 1	\$2.56	\$2.66	TBD	TBD	TBD	TBD
Tier 2	\$2.56	\$2.66	TBD	TBD	TBD	TBD
Tier 3	\$2.56	\$2.66	TBD	TBD	TBD	TBD
<b>TSAWR Commercial</b>	\$2.56	\$2.66	TBD	TBD	TBD	TBD
<b>Construction</b>	\$2.99	\$3.12	TBD	TBD	TBD	TBD

SDCWA variable rates will be determined on an annual basis and increases from SDCWA will be passed-through to customers at the time of the increase.

### 5.3 PROPOSED PUMPING CHARGES

The pumping charges consist of a fixed component designed to recover the general maintenance and salary costs related to the pumping facilities and a commodity component designed to recover the electricity costs associated with pumping water to higher elevations.

Table 5-12 shows the derivation of the monthly pumping fixed charge. Raftelis worked closely with the District to breakout the annual fixed costs related to pumping water to higher elevations. The costs categorized as “Pumping – Operations” within the financial plan are considered the annual fixed cost related to pumping water to higher elevations. The annual fixed pumping costs are then divided by the annual number of bills (total number of meters located in the pumping zones x # of billing periods) to determine the monthly fixed charge per meter.

**Table 5-12: Proposed Monthly Fixed Pumping Charge**

	Current	2018	2019	2020	2021	2022
<b>Pumping - Operations</b>		\$147,247	\$151,971	\$156,870	\$161,953	\$167,226
<b># of bills</b>		15,936	16,104	16,272	16,368	16,464
<b>Monthly Charge</b>	\$9.51	<b>\$9.24</b>	<b>\$9.44</b>	<b>\$9.65</b>	<b>\$9.90</b>	<b>\$10.16</b>

Next, the variable pumping costs (electricity costs) identified in the budget were allocated to each of the pumping zones in proportion to the existing rates. Table 5-13 shows the proposed pumping rates by zone. Increases in energy costs above those projected in the financial plan will be automatically passed through to District customers.

**Table 5-13: Proposed Pumping Commodity Rates**

	Current	2018	2019	2020	2021	2022
<b>Pumping - Energy</b>	\$400,061	\$515,000	\$544,640	\$576,079	\$607,917	\$641,561
% increase		28.7%	5.76%	5.77%	5.53%	5.53%
<b>Pumping Zone</b>						
Pumping Zone 1	\$0.80	\$1.03	\$1.08	\$1.13	\$1.18	\$1.24
Pumping Zone 2	\$0.50	\$0.64	\$0.67	\$0.71	\$0.74	\$0.78
Pumping Zone 3	\$0.28	\$0.36	\$0.38	\$0.40	\$0.41	\$0.43
Pumping Zone 4	\$0.10	\$0.13	\$0.13	\$0.14	\$0.15	\$0.16
Pumping Zone 5	\$0.15	\$0.19	\$0.20	\$0.21	\$0.22	\$0.23
Pumping Zone 6	\$0.58	\$0.75	\$0.78	\$0.82	\$0.86	\$0.90
Pumping Zone 7	\$2.62	\$3.37	\$3.53	\$3.70	\$3.88	\$4.06

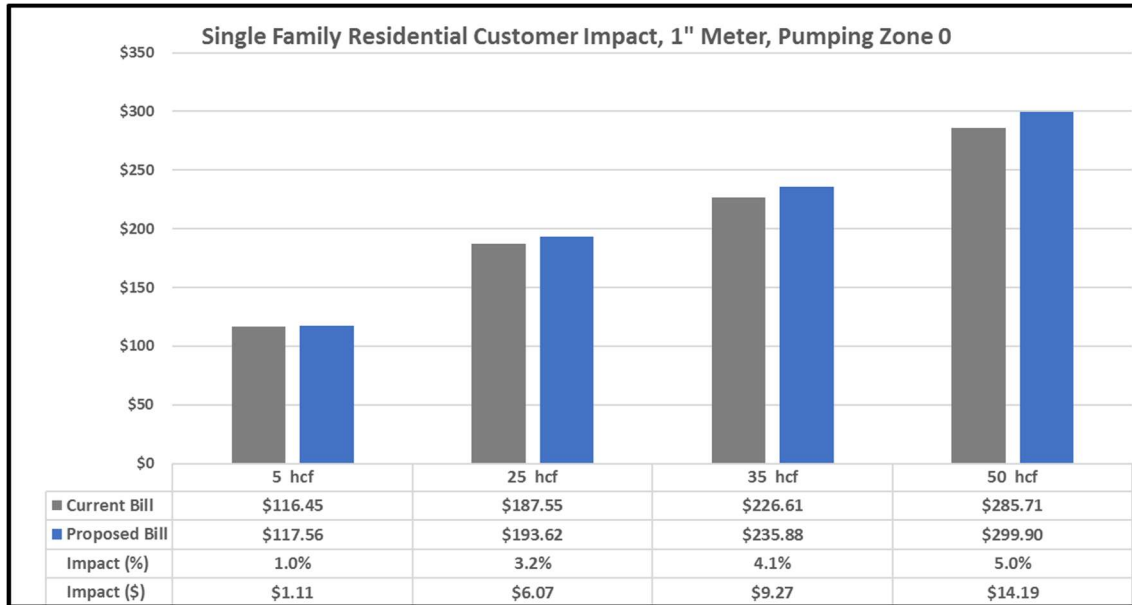
# 6 CUSTOMER IMPACTS

The following figures provide sample impacts to customers at various levels of usage. The grey bars represent the projected bills at current rates and the blue bars represent projected bills at proposed 2018 rates.

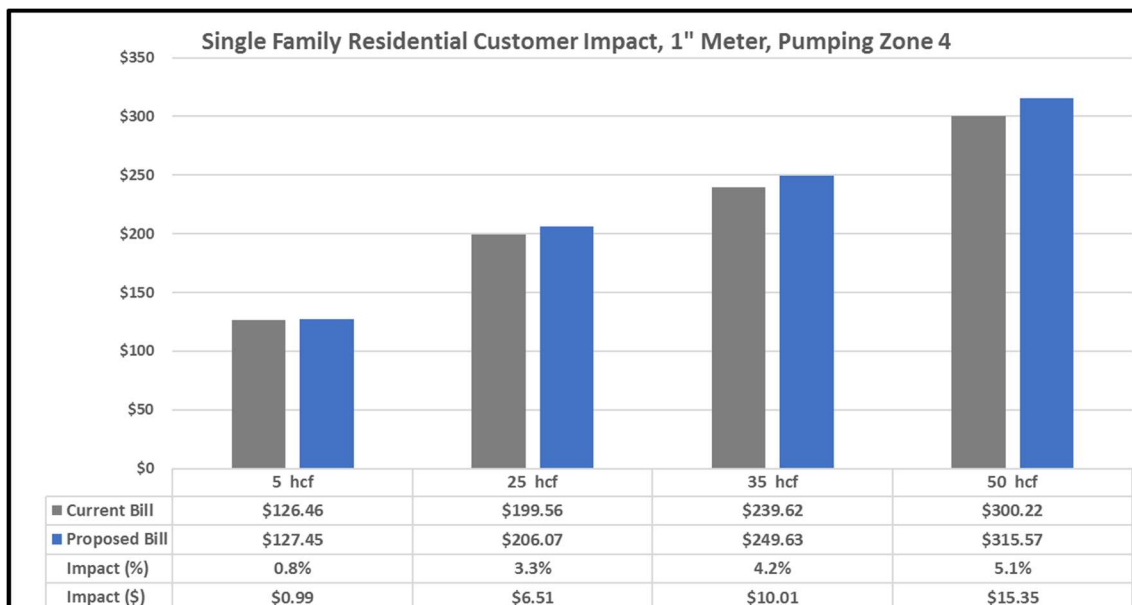
## 6.1 SINGLE FAMILY RESIDENTIAL BILL IMPACTS

Figure 6-1 reflects the single family residential bill impacts at various usage levels for customers with a 1" meter not located within a pumping zone and Figure 6-2 reflects the single family residential bill impacts at various usage levels for customers with a 1" meter within pumping zone 4.

**Figure 6-1: SFR Bill Impact – No Pumping Zone**



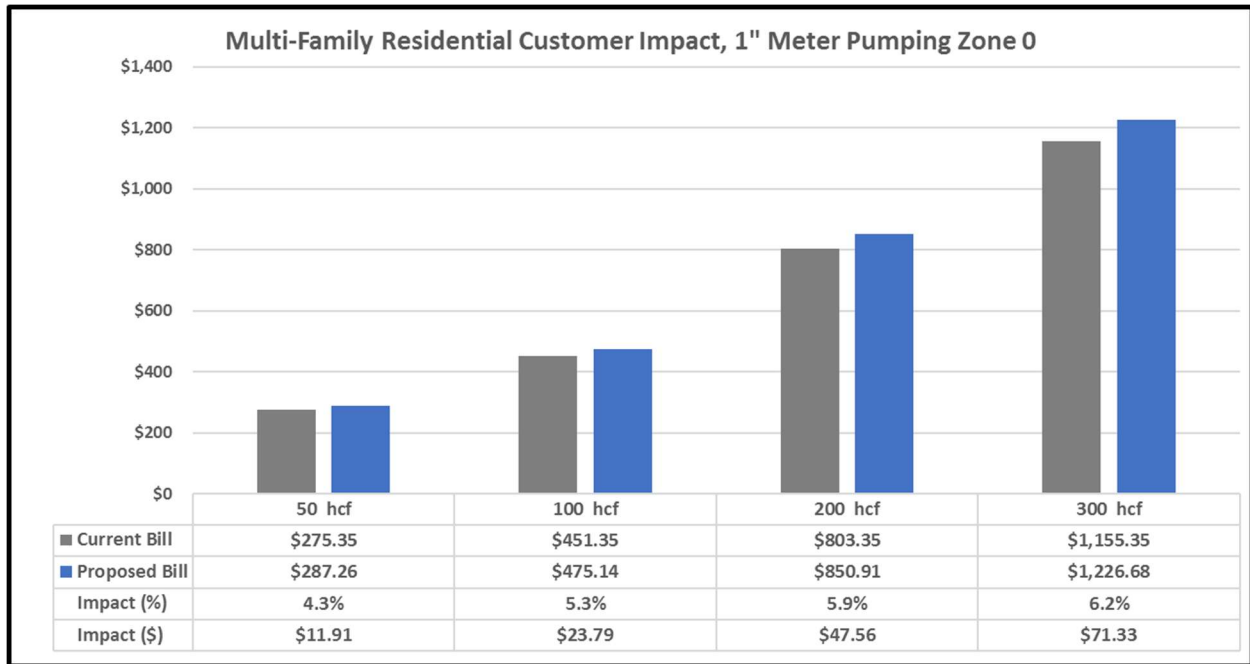
**Figure 6-2: SFR Bill Impact – Pumping Zone 4**



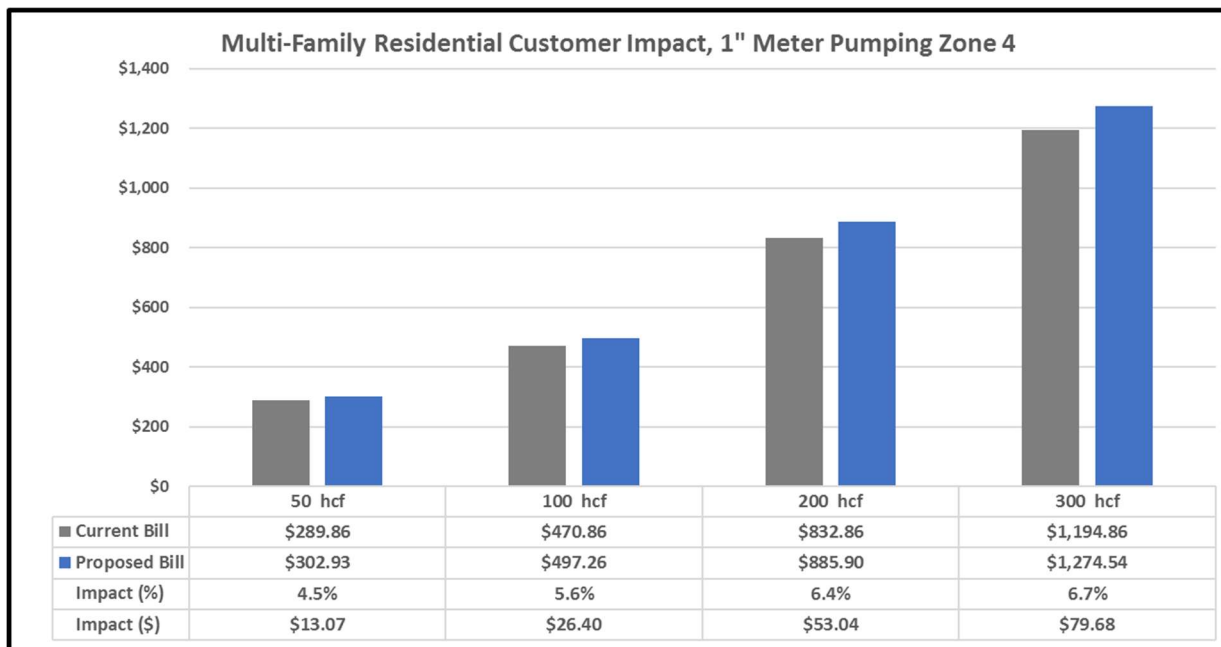
## 6.2 MULTI-FAMILY RESIDENTIAL BILL IMPACTS

Figure 6-3 reflects the multi-family residential bill impacts at various usage levels for customers with a 1" meter not located within a pumping zone and Figure 6-4 reflects the multi-family residential bill impacts at various usage levels for customers with a 1" meter within pumping zone 4.

**Figure 6-3: MFR Bill Impact - No Pumping Zone**



**Figure 6-4: MFR Bill Impact - Pumping Zone 4**

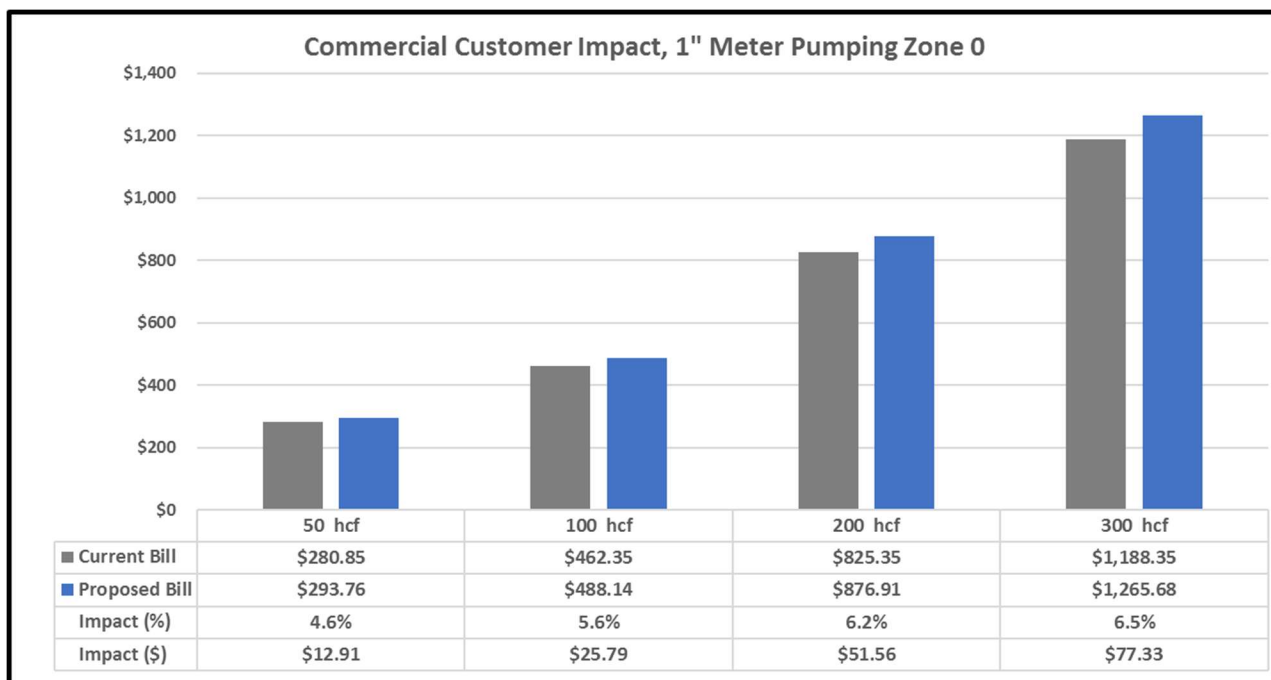




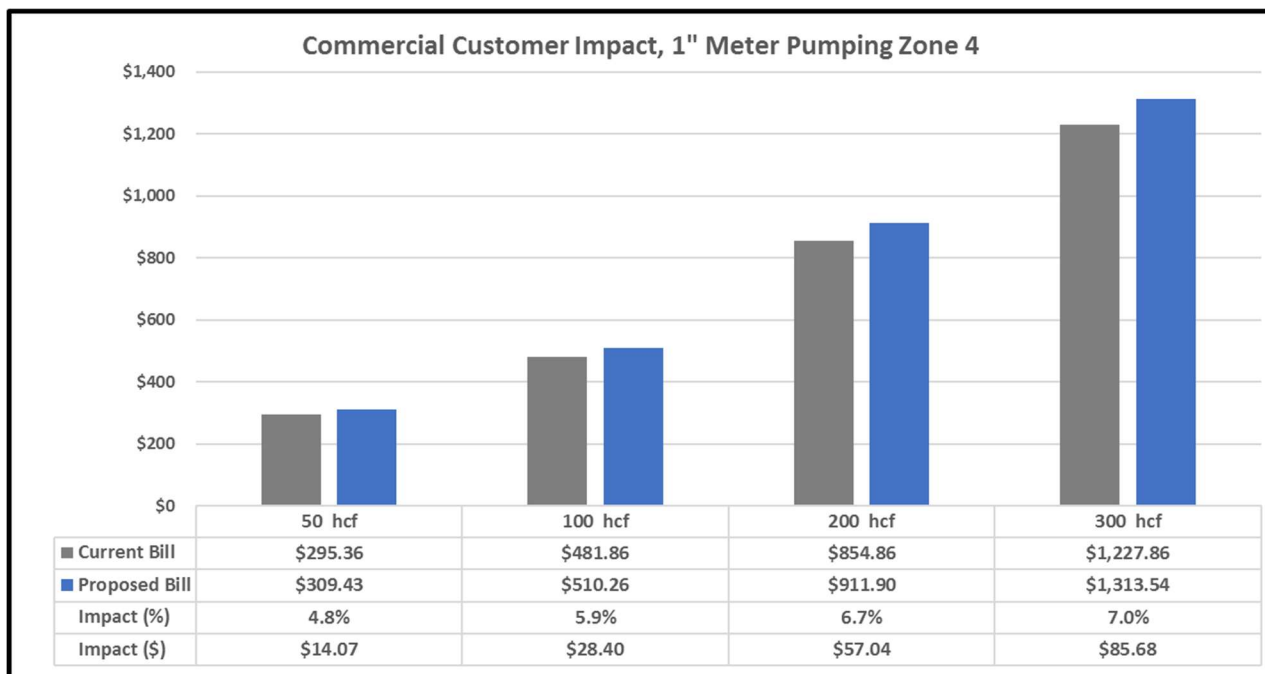
### 6.3 COMMERCIAL BILL IMPACTS

Figure 6-5 reflects the commercial impacts at various usage levels for customers with a 1" meter not located within a pumping zone and Figure 6-6 reflects the commercial impacts at various usage levels for customers with a 1" meter within pumping zone 4.

**Figure 6-5: Commercial Bill Impact – No Pumping Zone**



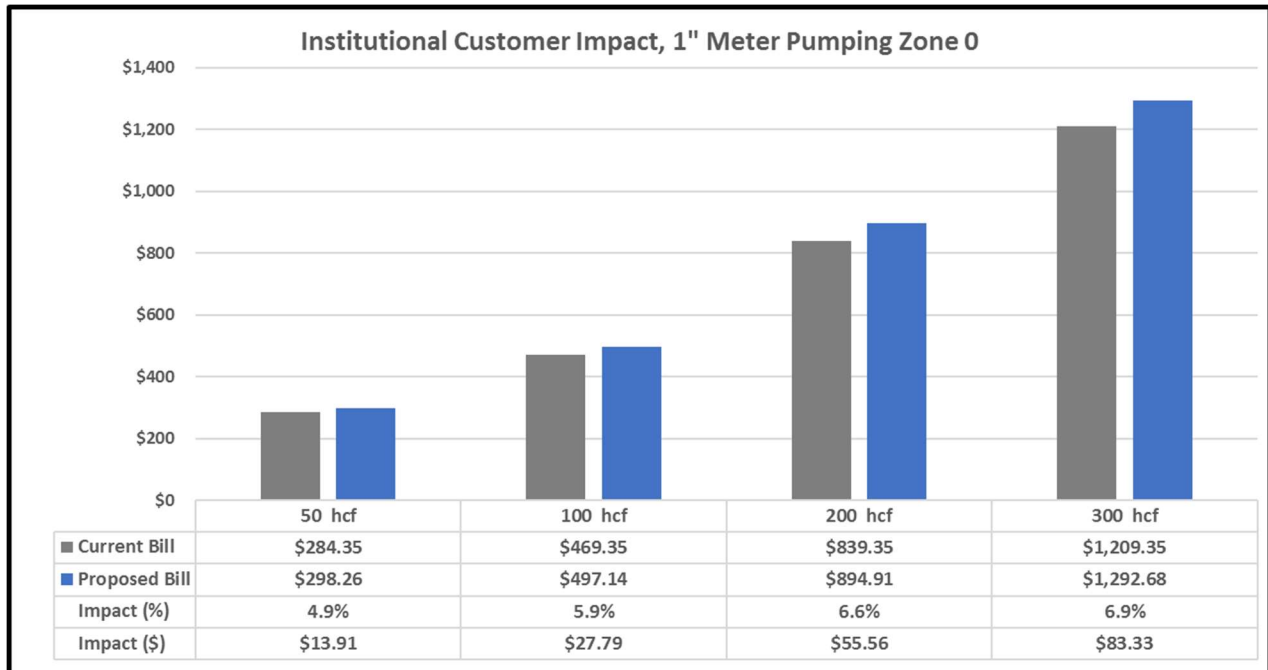
**Figure 6-6: Commercial Bill Impact – Pumping Zone 4**



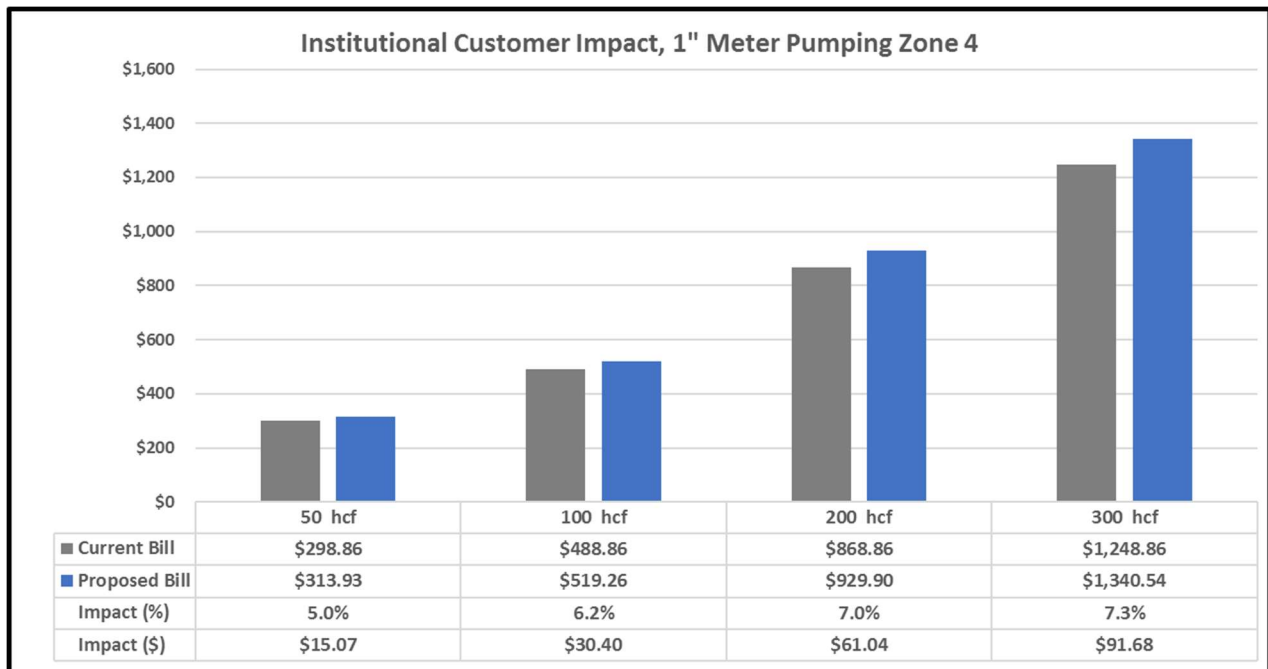
## 6.4 INSTITUTIONAL BILL IMPACTS

Figure 6-7 reflects the institutional impacts at various usage levels for customers with a 1" meter not located within a pumping zone and Figure 6-8 reflects the institutional impacts at various usage levels for customers with a 1" meter within pumping zone 4.

**Figure 6-7: Institutional Bill Impact – No Pumping Zone**



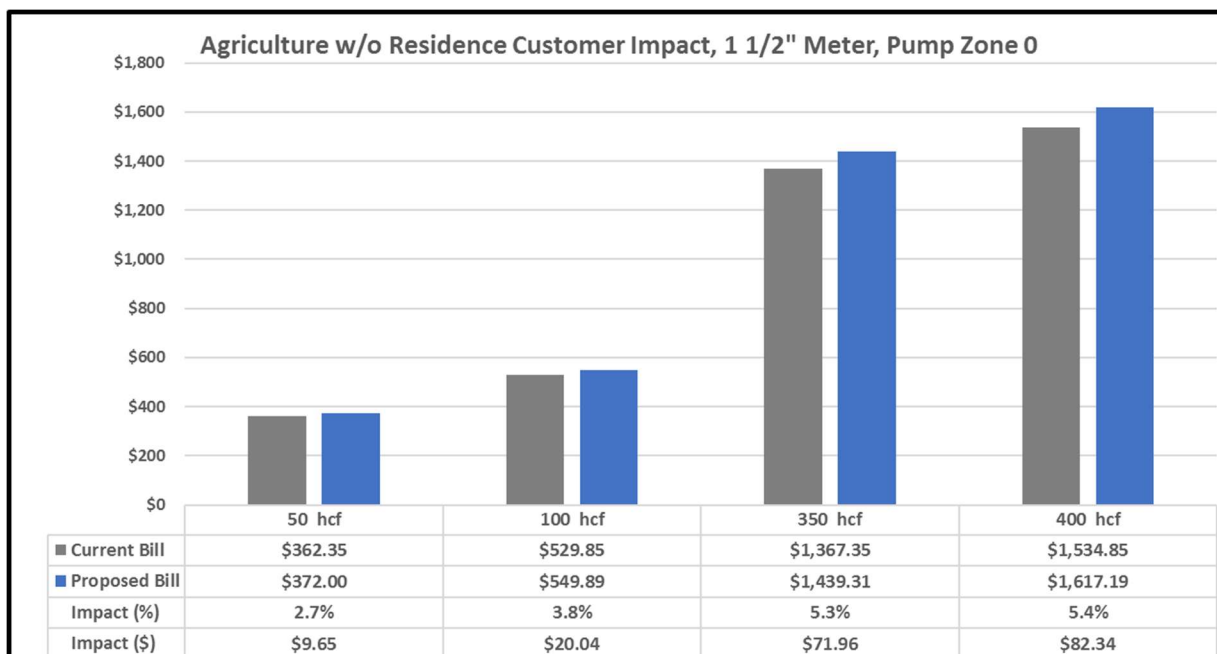
**Figure 6-8: Institutional Bill Impact – Pumping Zone 4**



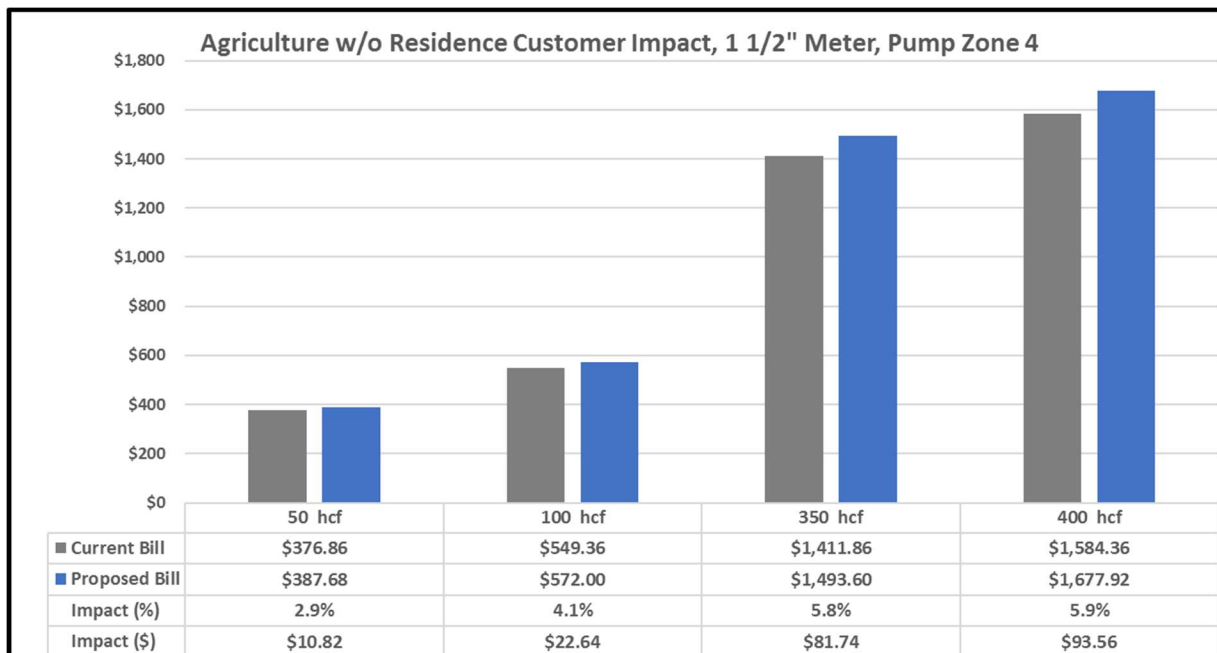
## 6.5 AGRICULTURE (WITHOUT RESIDENCE) BILL IMPACTS

Figure 6-9 reflects the agriculture without residence impacts at various usage levels for customers with a 1 1/2" meter not located within a pumping zone and Figure 6-10 reflects the agriculture without residence impacts at various usage levels for customers with a 1 1/2" meter within pumping zone 4.

**Figure 6-9: Agriculture without Residence Bill Impact - No Pumping Zone**



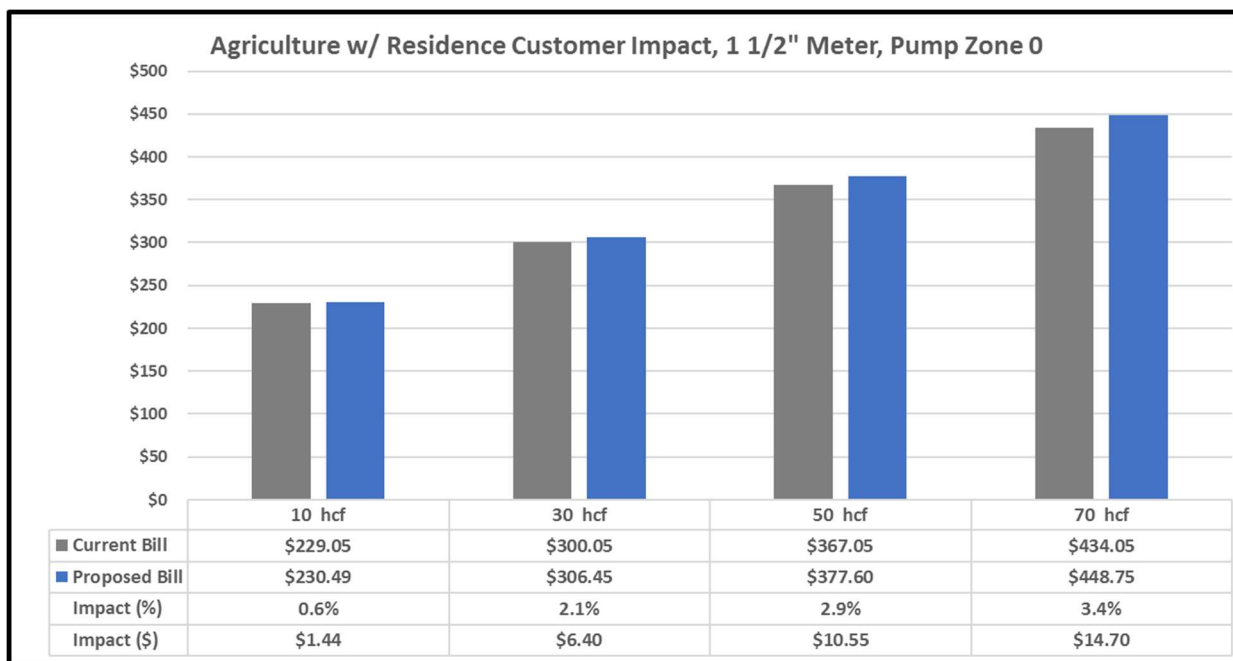
**Figure 6-10: Agriculture without Residence Impact - Pumping Zone 4**



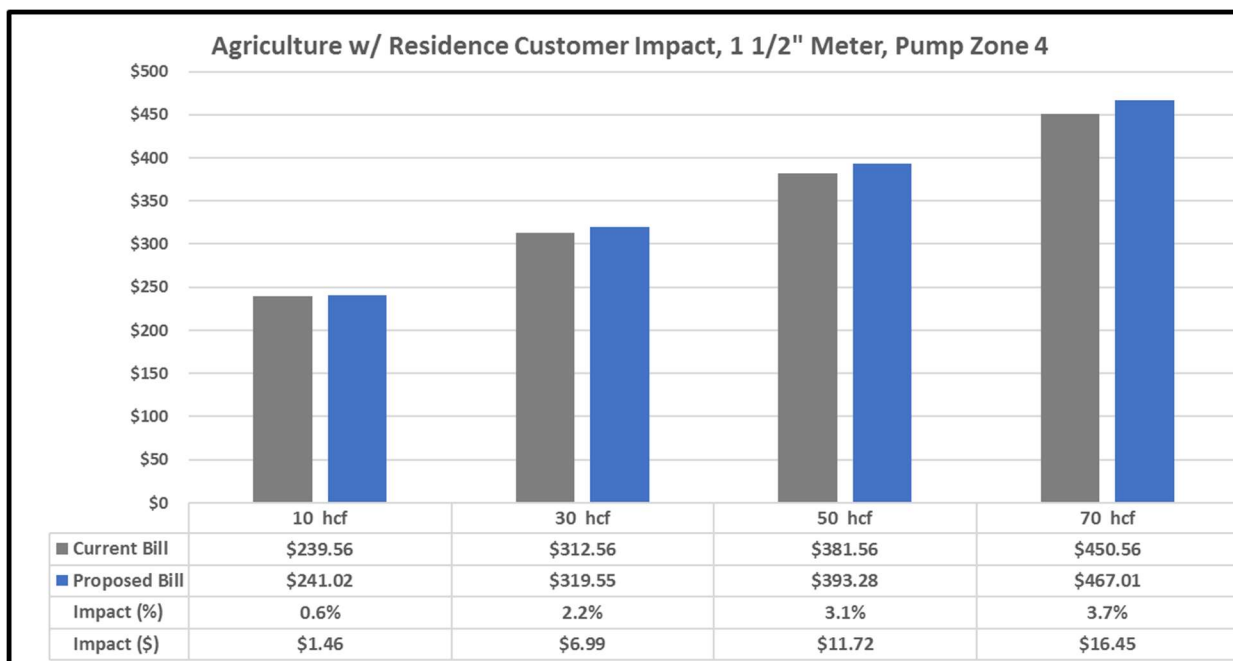
## 6.6 AGRICULTURE (WITH RESIDENCE) BILL IMPACTS

Figure 6-11 reflects the agriculture with residence impacts at various usage levels for customers with a 1 ½” meter not located within a pumping zone and Figure 6-12 reflects the agriculture with residence impacts at various usage levels for customers with a 1 ½” meter within pumping zone 4.

**Figure 6-11: Agriculture with Residence Bill Impact – No Pumping Zone**



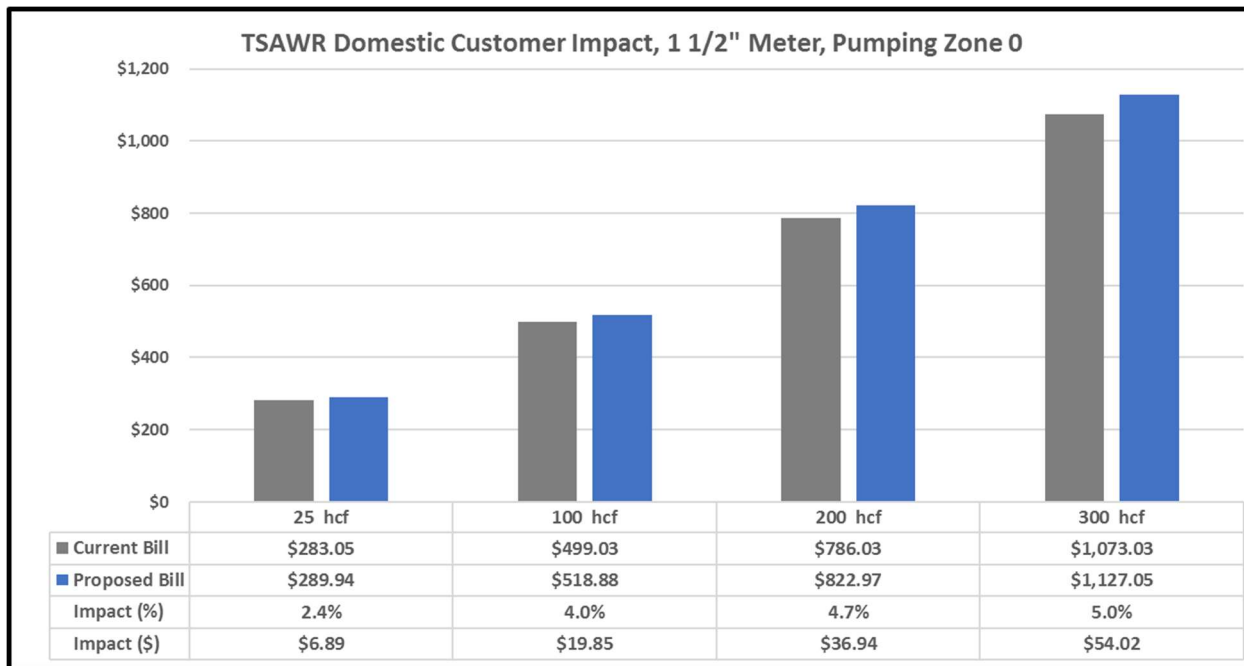
**Figure 6-12: Agriculture with Residence Impact – Pumping Zone 4**



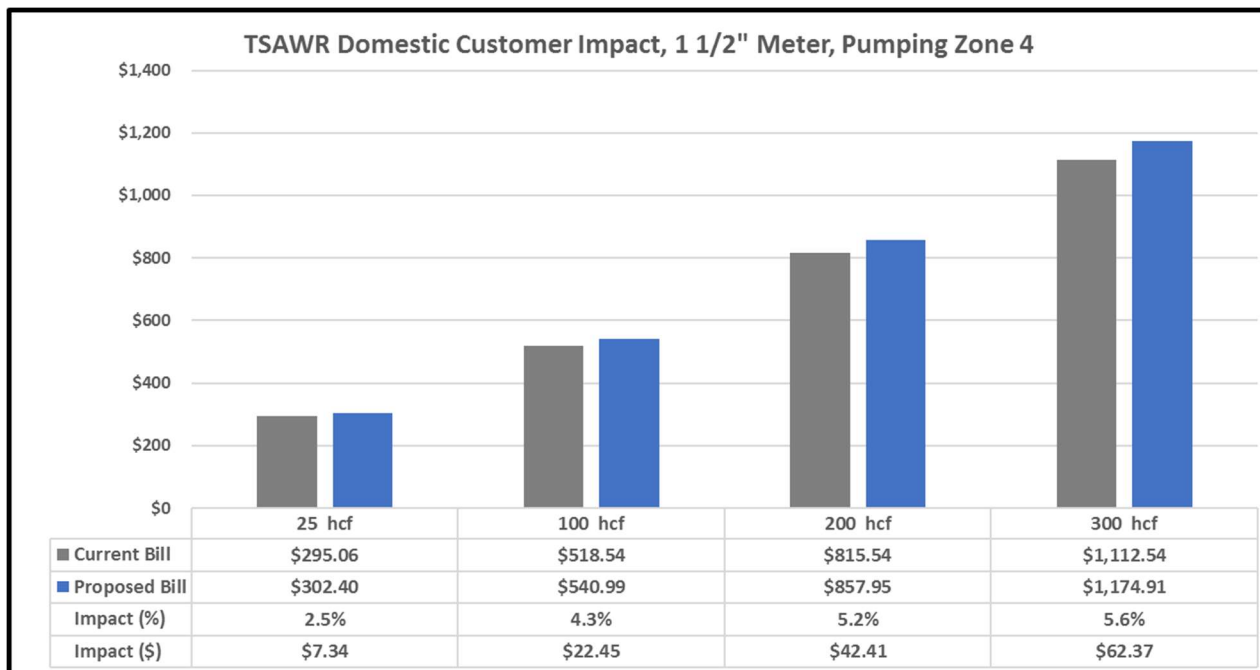
## 6.7 TSAWR DOMESTIC BILL IMPACTS

Figure 6-13 reflects the TSAWR Domestic impacts at various usage levels for customers with a 1 1/2" meter not located within a pumping zone and Figure 6-14 reflects the TSAWR Domestic impacts at various usage levels for customers with a 1 1/2" meter within pumping zone 4.

**Figure 6-13: TSAWR Domestic Bill Impact - No Pumping Zone**



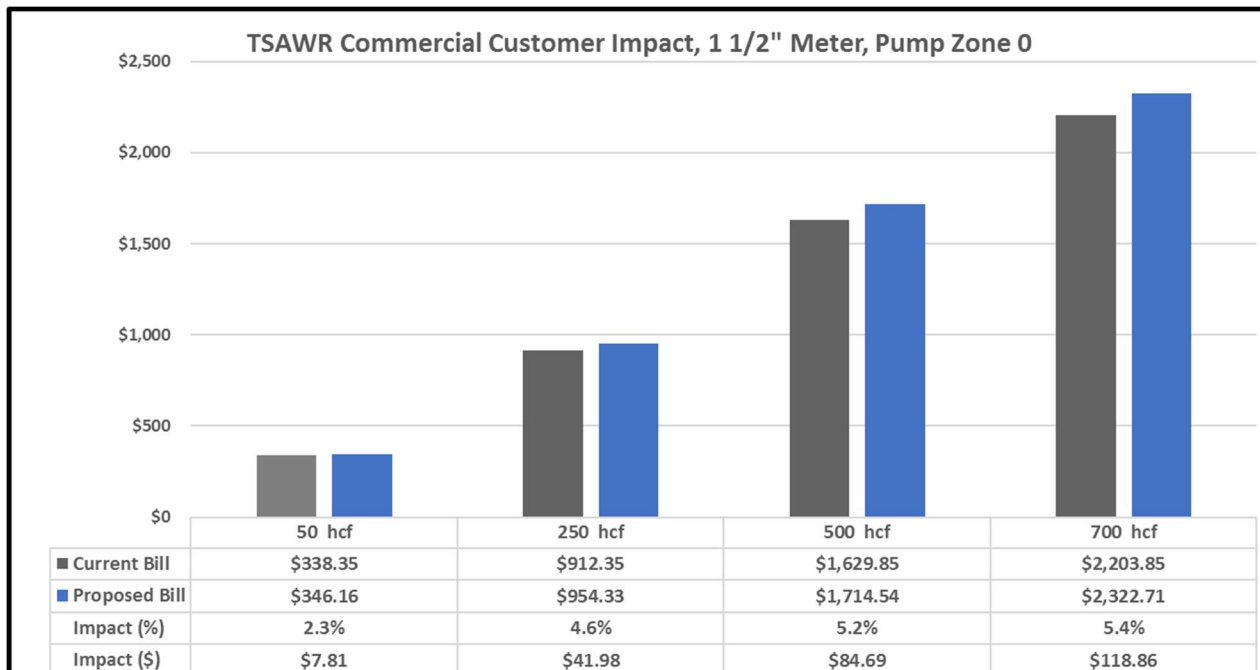
**Figure 6-14: TSAWR Domestic Impact - Pumping Zone 4**



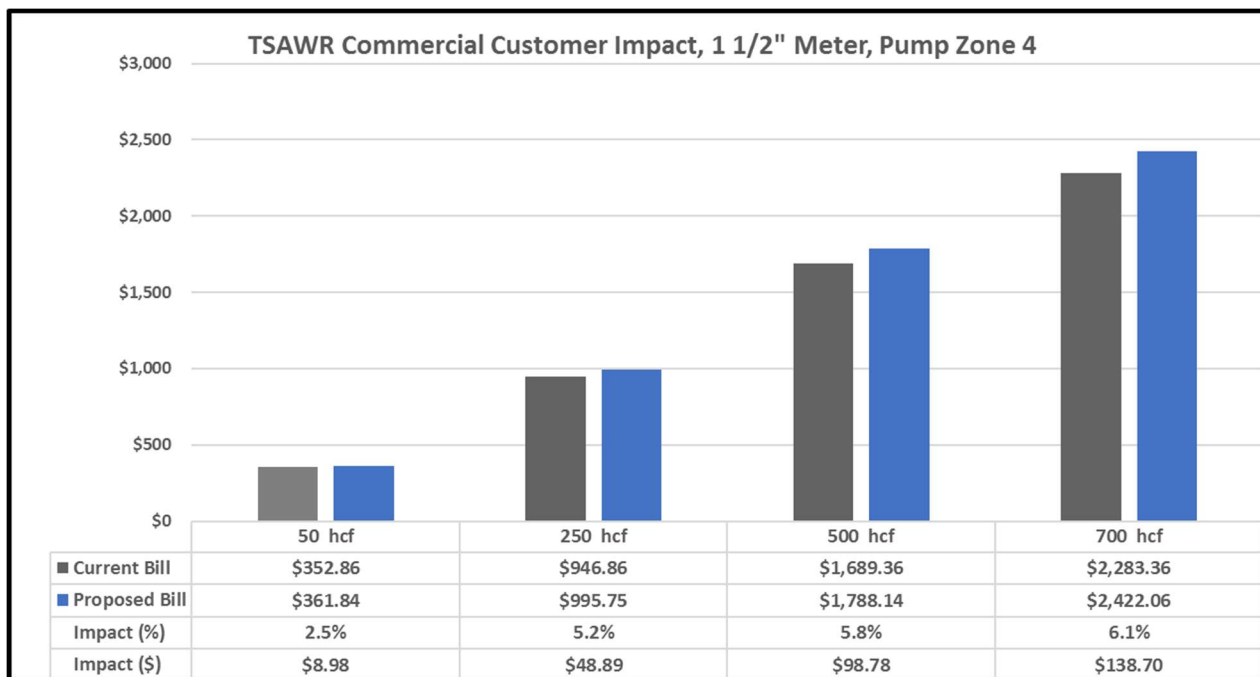
## 6.8 TSAWR COMMERCIAL BILL IMPACTS

Figure 6-15 reflects the TSAWR Commercial impacts at various usage levels for customers with a 1 ½” meter not located within a pumping zone and Figure 6-16 reflects the TSAWR Commercial impacts at various usage levels for customers with a 1 ½” meter within pumping zone 4.

**Figure 6-15: TSAWR Commercial Bill Impact – No Pumping Zone**



**Figure 6-16: TSAWR Commercial Impact – Pumping Zone 4**



# APPENDIX A: DETAILED REVENUE PROJECTIONS

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## Revenue Detail

Fixed Revenues					
	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>RMWD O&amp;M Charge</b>					
SFR	\$2,110,961	\$2,173,819	\$2,238,470	\$2,283,344	\$2,328,969
MFR	\$87,270	\$89,089	\$90,909	\$92,728	\$94,547
Commercial	\$186,555	\$186,555	\$186,555	\$186,555	\$186,555
Institutional	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Agricultural w/o Residence	\$634,193	\$634,193	\$634,193	\$634,193	\$634,193
Agricultural with Residence	\$554,415	\$554,415	\$554,415	\$554,415	\$554,415
TSAWR Domestic	\$1,288,228	\$1,288,228	\$1,288,228	\$1,288,228	\$1,288,228
TSAWR Commercial	\$629,007	\$629,007	\$629,007	\$629,007	\$629,007
<b>Total - RMWD O&amp;M Charge</b>	<b>\$5,505,629</b>	<b>\$5,570,305</b>	<b>\$5,636,775</b>	<b>\$5,683,469</b>	<b>\$5,730,913</b>
Variable Revenues					
	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Usage Revenues</b>					
<b>Single Family Residential</b>					
Tier 1	\$198,020	\$203,960	\$210,079	\$214,281	\$218,567
Tier 2	\$233,652	\$240,661	\$247,881	\$252,839	\$257,895
Tier 3	\$623,008	\$641,698	\$660,949	\$674,168	\$687,651
<b>Multi-Family Residential</b>	\$61,641	\$63,490	\$65,395	\$66,703	\$68,037
<b>Commercial</b>	\$177,277	\$177,277	\$177,277	\$177,277	\$177,277
<b>Institutional</b>	\$19,330	\$19,330	\$19,330	\$19,330	\$19,330
<b>Agriculture w/o Residence</b>	\$422,006	\$422,006	\$422,006	\$422,006	\$422,006
<b>Agriculture w/ Residence</b>					
Tier 1	\$21,818	\$21,818	\$21,818	\$21,818	\$21,818
Tier 2	\$33,857	\$33,857	\$33,857	\$33,857	\$33,857
Tier 3	\$60,574	\$60,574	\$60,574	\$60,574	\$60,574
<b>TSAWR - Domestic</b>					
Tier 1	\$94,148	\$94,148	\$94,148	\$94,148	\$94,148
Tier 2	\$148,875	\$148,875	\$148,875	\$148,875	\$148,875
Tier 3	\$542,553	\$542,553	\$542,553	\$542,553	\$542,553
<b>TSAWR Commercial</b>	\$426,794	\$426,794	\$426,794	\$426,794	\$426,794
<b>Construction</b>	\$51,274	\$51,274	\$51,274	\$51,274	\$51,274
<b>Total - Usage Revenues</b>	<b>\$3,114,826</b>	<b>\$3,148,316</b>	<b>\$3,182,810</b>	<b>\$3,206,496</b>	<b>\$3,230,656</b>



# APPENDIX B: OPERATING AND MAINTENANCE DETAILS

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# O&M Detail

Expense Detail						
	Inflate by	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Cost Allocation</b>						
Board	Salaries	\$26,535	\$27,862	\$29,255	\$30,718	\$32,254
Garage	Capital	\$473,903	\$483,381	\$493,048	\$502,909	\$512,967
Admin	Salaries	\$1,381,407	\$1,450,477	\$1,523,001	\$1,599,151	\$1,679,109
HR	Salaries	\$267,445	\$280,818	\$294,858	\$309,601	\$325,081
Safety	Salaries	\$139,408	\$146,378	\$153,697	\$161,382	\$169,451
Finance	Salaries	\$480,874	\$504,917	\$530,163	\$556,671	\$584,505
Customer Srv.	Salaries	\$358,399	\$376,319	\$395,135	\$414,892	\$435,636
Engineering	Salaries	\$715,327	\$751,093	\$788,648	\$828,080	\$869,484
<b>Subtotal Cost Allocation</b>		<b>\$3,843,297</b>	<b>\$4,021,245</b>	<b>\$4,207,806</b>	<b>\$4,403,405</b>	<b>\$4,608,488</b>
<b>Pumping - Payroll &amp; Employee Expenses</b>						
Regular Salaries	Salaries	\$45,838	\$48,130	\$50,536	\$53,063	\$55,716
Overtime Paid, Comptime Earn.	Salaries	\$250	\$263	\$276	\$289	\$304
Employer'S Share Fica Ssi	Benefits	\$2,842	\$2,927	\$3,015	\$3,106	\$3,199
Employer'S Share Fica Medicare	Benefits	\$665	\$684	\$705	\$726	\$748
Medical Ins Acwa Health Ben	Benefits	\$9,603	\$9,891	\$10,188	\$10,493	\$10,808
Dental Insurance	Benefits	\$915	\$942	\$971	\$1,000	\$1,030
Vision Ins Acwa	Benefits	\$118	\$122	\$125	\$129	\$133
Life, S/T,L/T Disability Ins	Benefits	\$696	\$717	\$738	\$761	\$783
Retirement-Calpers	Benefits	\$7,655	\$7,885	\$8,121	\$8,365	\$8,616
Worker'S Compensation Ins	Benefits	\$1,739	\$1,791	\$1,845	\$1,900	\$1,957
State Unemployment Ins, E.T.T.	Benefits	\$126	\$130	\$134	\$138	\$142
Deferred Comp-Employer Contrib	Benefits	\$1,300	\$1,339	\$1,379	\$1,421	\$1,463
<b>Subtotal Pumping - Payroll &amp; Employee Expenses</b>		<b>\$71,747</b>	<b>\$74,821</b>	<b>\$78,033</b>	<b>\$81,390</b>	<b>\$84,899</b>
<b>Pumping - Operating Expenses</b>						
Equipment Maintenance/Repair	Capital	\$59,000	\$60,180	\$61,384	\$62,611	\$63,863
Building Maintenance	Capital	\$1,500	\$1,530	\$1,561	\$1,592	\$1,624
Supplies & Services	General	\$10,000	\$10,300	\$10,609	\$10,927	\$11,255
Regulatory Permits	General	\$4,000	\$4,120	\$4,244	\$4,371	\$4,502
Small Tools And Equipment	Capital	\$1,000	\$1,020	\$1,040	\$1,061	\$1,082
Utilities - Electricity	Energy	\$515,000	\$544,640	\$576,079	\$607,917	\$641,561
<b>Subtotal Pumping - Operating Expenses</b>		<b>\$590,500</b>	<b>\$621,790</b>	<b>\$654,916</b>	<b>\$688,479</b>	<b>\$723,888</b>
<b>Operations - Payroll &amp; Employee Expenses</b>						
Regular Salaries	Salaries	\$677,548	\$711,425	\$746,997	\$784,347	\$823,564
Overtime Paid, Comptime Earn.	Salaries	\$50,250	\$52,763	\$55,401	\$58,171	\$61,079
Employer'S Share Fica Ssi	Benefits	\$42,008	\$43,268	\$44,566	\$45,903	\$47,280
Employer'S Share Fica Medicare	Benefits	\$9,825	\$10,119	\$10,423	\$10,735	\$11,058
Medical Ins Acwa Health Ben	Benefits	\$137,551	\$141,678	\$145,928	\$150,306	\$154,815
Dental Insurance	Benefits	\$12,809	\$13,193	\$13,589	\$13,997	\$14,417
Vision Ins Acwa	Benefits	\$1,653	\$1,703	\$1,754	\$1,806	\$1,860
Life, S/T,L/T Disability Ins	Benefits	\$9,954	\$10,253	\$10,560	\$10,877	\$11,203
Retirement-Calpers	Benefits	\$113,151	\$116,546	\$120,042	\$123,643	\$127,352
Employee Training/Tuition Reim	Benefits	\$13,000	\$13,390	\$13,792	\$14,205	\$14,632
Worker'S Compensation Ins	Benefits	\$25,706	\$26,477	\$27,271	\$28,090	\$28,932
State Unemployment Ins, E.T.T.	Benefits	\$1,764	\$1,817	\$1,871	\$1,928	\$1,985
Duty Pay	Benefits	\$13,000	\$13,390	\$13,792	\$14,205	\$14,632
Deferred Comp-Employer Contrib	Benefits	\$15,340	\$15,800	\$16,274	\$16,762	\$17,265
<b>Subtotal Operations - Payroll &amp; Employee Expenses</b>		<b>\$1,123,559</b>	<b>\$1,171,821</b>	<b>\$1,222,260</b>	<b>\$1,274,975</b>	<b>\$1,330,075</b>

## Expense Detail (continued)

	Inflate by	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Operations - Operating Expenses</b>						
Electronics	Capital	\$8,500	\$8,670	\$8,843	\$9,020	\$9,201
Equipment Maintenance/Repairs	Capital	\$17,800	\$18,156	\$18,519	\$18,890	\$19,267
Equipment Maintenance Contract	General	\$48,000	\$49,440	\$50,923	\$52,451	\$54,024
Building Maintenance	Capital	\$1,000	\$1,020	\$1,040	\$1,061	\$1,082
Supplies And Services	General	\$222,000	\$228,660	\$235,520	\$242,585	\$249,863
Tank Maintenance	Capital	\$599,043	\$611,024	\$623,244	\$635,709	\$648,423
Regulatory Permits	General	\$43,000	\$44,290	\$45,619	\$46,987	\$48,397
Printing & Reproductions	General	\$6,000	\$6,180	\$6,365	\$6,556	\$6,753
Small Tools And Equipment	Capital	\$7,500	\$7,650	\$7,803	\$7,959	\$8,118
Travel/Conf/Training	General	\$2,000	\$2,060	\$2,122	\$2,185	\$2,251
Utilities	Energy	\$13,500	\$14,175	\$14,884	\$15,628	\$16,409
Capital Equipment	Capital	\$15,000	\$15,300	\$15,606	\$15,918	\$16,236
<b>Subtotal Operations - Operating Expenses</b>		<b>\$983,343</b>	<b>\$1,006,625</b>	<b>\$1,030,489</b>	<b>\$1,054,951</b>	<b>\$1,080,026</b>
<b>Valve Maintenance - Payroll &amp; Employee Expenses</b>						
Regular Salaries	Salaries	\$317,813	\$333,704	\$350,389	\$367,908	\$386,304
Overtime Paid, Comptime Earn.	Salaries	\$5,000	\$5,250	\$5,513	\$5,788	\$6,078
Employer'S Share Fica Ssi	Benefits	\$19,704	\$20,295	\$20,904	\$21,531	\$22,177
Employer'S Share Fica Medicare	Benefits	\$4,608	\$4,746	\$4,889	\$5,035	\$5,186
Medical Ins Acwa Health Ben	Benefits	\$79,241	\$81,618	\$84,067	\$86,589	\$89,186
Dental Insurance	Benefits	\$7,319	\$7,539	\$7,765	\$7,998	\$8,238
Vision Ins Acwa	Benefits	\$944	\$972	\$1,001	\$1,032	\$1,062
Life, S/T,L/T Disability Ins	Benefits	\$4,808	\$4,952	\$5,101	\$5,254	\$5,411
Retirement-Calpers	Benefits	\$53,075	\$54,667	\$56,307	\$57,996	\$59,736
Employee Training/Tuition Reim	Benefits	\$2,000	\$2,060	\$2,122	\$2,185	\$2,251
Worker'S Compensation Ins	Benefits	\$12,058	\$12,420	\$12,792	\$13,176	\$13,571
State Unemployment Ins, E.T.T.	Benefits	\$1,008	\$1,038	\$1,069	\$1,101	\$1,135
Deferred Comp-Employer Contrib	Benefits	\$8,450	\$8,704	\$8,965	\$9,234	\$9,511
<b>Subtotal Valve Maintenance - Payroll &amp; Employee Expense</b>		<b>\$516,028</b>	<b>\$537,965</b>	<b>\$560,883</b>	<b>\$584,828</b>	<b>\$609,846</b>
<b>Valve Maintenance - Operating Expenses</b>						
Supplies And Services	General	\$50,000	\$51,500	\$53,045	\$54,636	\$56,275
Small Tools And Equipment	Capital	\$1,500	\$1,530	\$1,561	\$1,592	\$1,624
Travel/Conferences/Training	General	\$1,000	\$1,030	\$1,061	\$1,093	\$1,126
Shop And Field Equipment	Capital	\$50,000	\$51,000	\$52,020	\$53,060	\$54,122
<b>Subtotal Valve Maintenance - Operating Expenses</b>		<b>\$102,500</b>	<b>\$105,060</b>	<b>\$107,687</b>	<b>\$110,381</b>	<b>\$113,146</b>
<b>Water Distribution - Payroll &amp; Employee Expenses</b>						
Regular Salaries	Salaries	\$938,806	\$985,746	\$1,035,034	\$1,086,785	\$1,141,125
Overtime Paid, Comptime Earn.	Salaries	\$140,000	\$147,000	\$154,350	\$162,068	\$170,171
Employer'S Share Fica Ssi	Benefits	\$58,206	\$59,952	\$61,751	\$63,603	\$65,511
Employer'S Share Fica Medicare	Benefits	\$13,613	\$14,021	\$14,442	\$14,875	\$15,322
Medical Ins Acwa Health Ben	Benefits	\$195,337	\$201,197	\$207,233	\$213,450	\$219,854
Dental Insurance	Benefits	\$17,991	\$18,531	\$19,087	\$19,659	\$20,249
Vision Ins Acwa	Benefits	\$2,479	\$2,553	\$2,630	\$2,709	\$2,790
Life, S/T,L/T Disability Ins	Benefits	\$13,551	\$13,958	\$14,376	\$14,808	\$15,252
Retirement-Calpers	Benefits	\$156,781	\$161,484	\$166,329	\$171,319	\$176,458
Employee Training/Tuition Reim	Benefits	\$7,000	\$7,210	\$7,426	\$7,649	\$7,879
Worker'S Compensation Ins	Benefits	\$36,490	\$37,585	\$38,712	\$39,874	\$41,070
State Unemployment Ins, E.T.T.	Benefits	\$2,646	\$2,725	\$2,807	\$2,891	\$2,978
Duty Pay	Benefits	\$13,000	\$13,390	\$13,792	\$14,205	\$14,632
Deferred Comp-Employer Contrib	Benefits	\$24,960	\$25,709	\$26,480	\$27,274	\$28,093
<b>Subtotal Water Distribution - Payroll &amp; Employee Expense</b>		<b>\$1,620,860</b>	<b>\$1,691,062</b>	<b>\$1,764,449</b>	<b>\$1,841,170</b>	<b>\$1,921,382</b>

Expense Detail (continued)						
	Inflate by	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Water Distribution - Operations Expenses</b>						
Supplies And Services	General	\$403,000	\$415,090	\$427,543	\$440,369	\$453,580
Small Tools And Equipment	Capital	\$4,000	\$4,080	\$4,162	\$4,245	\$4,330
Travel/Conferences/Meetings	General	\$4,000	\$4,120	\$4,244	\$4,371	\$4,502
<b>Subtotal Water Distribution - Operations Expenses</b>		<b>\$411,000</b>	<b>\$423,290</b>	<b>\$435,948</b>	<b>\$448,985</b>	<b>\$462,412</b>
<b>Meter Services - Payroll &amp; Employee Expenses</b>						
Regular Salaries	Salaries	\$443,481	\$465,655	\$488,938	\$513,385	\$539,054
Overtime Paid, Comptime Earn.	Salaries	\$3,000	\$3,150	\$3,308	\$3,473	\$3,647
Employer'S Share Fica Ssi	Benefits	\$27,496	\$28,321	\$29,171	\$30,046	\$30,947
Employer'S Share Fica Medicare	Benefits	\$6,430	\$6,623	\$6,822	\$7,026	\$7,237
Medical Ins Acwa Health Ben	Benefits	\$88,794	\$91,458	\$94,202	\$97,028	\$99,938
Dental Insurance	Benefits	\$10,064	\$10,366	\$10,677	\$10,997	\$11,327
Vision Ins Acwa Serv Corp	Benefits	\$1,298	\$1,337	\$1,377	\$1,418	\$1,461
Life, S/T, L/T Disability Ins	Benefits	\$6,720	\$6,922	\$7,129	\$7,343	\$7,563
Retirement - Calpers	Benefits	\$74,061	\$76,283	\$78,571	\$80,928	\$83,356
Employee Training/Tuition Reim	Benefits	\$2,000	\$2,060	\$2,122	\$2,185	\$2,251
Worker'S Compensation Ins	Benefits	\$19,357	\$19,938	\$20,536	\$21,152	\$21,786
State Unemployment Ins, E.T.T.	Benefits	\$1,386	\$1,428	\$1,470	\$1,515	\$1,560
Deferred Comp-Employer Contrib	Benefits	\$13,000	\$13,390	\$13,792	\$14,205	\$14,632
<b>Subtotal Meter Services - Payroll &amp; Employee Expenses</b>		<b>\$697,087</b>	<b>\$726,929</b>	<b>\$758,113</b>	<b>\$790,702</b>	<b>\$824,760</b>
<b>Meter Services - Operations Expenses</b>						
Backflow Expenses	General	\$280,000	\$288,400	\$297,052	\$305,964	\$315,142
Supplies & Services	General	\$125,000	\$128,750	\$132,613	\$136,591	\$140,689
Small Tools And Equipment	Capital	\$3,000	\$3,060	\$3,121	\$3,184	\$3,247
Replacement Reserve-Oceanside	General	\$1,000	\$1,030	\$1,061	\$1,093	\$1,126
Shop And Field Equipment	Capital	\$135,000	\$137,700	\$140,454	\$143,263	\$146,128
<b>Subtotal Meter Services - Operations Expenses</b>		<b>\$544,000</b>	<b>\$558,940</b>	<b>\$574,301</b>	<b>\$590,094</b>	<b>\$606,332</b>
<b>Admin/HR - Water Operations</b>						
Supplies and Services	General	\$14	\$14	\$15	\$15	\$16
<b>Subtotal Admin/HR - Water Operations</b>		<b>\$14</b>	<b>\$14</b>	<b>\$15</b>	<b>\$15</b>	<b>\$16</b>
<b>O&amp;M Costs</b>		<b>\$10,503,934</b>	<b>\$10,939,562</b>	<b>\$11,394,899</b>	<b>\$11,869,374</b>	<b>\$12,365,270</b>

# APPENDIX C: CASH FLOW DETAIL

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## Cash Flow

Revenue			FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Revenue from Rates</b>							
	RMWD O&M Charge		\$5,505,629	\$5,570,305	\$5,636,775	\$5,683,469	\$5,730,913
	Usage Revenues		\$3,114,826	\$3,148,316	\$3,182,810	\$3,206,496	\$3,230,656
	<b>Total Base Rate Revenue</b>		<b>\$8,620,455</b>	<b>\$8,718,621</b>	<b>\$8,819,585</b>	<b>\$8,889,965</b>	<b>\$8,961,569</b>
<b>Additional Revenue:</b>							
Fiscal Year	Revenue Adjustments	Effective Month					
2018	20.0%	March	\$574,697	\$1,743,724	\$1,763,917	\$1,777,993	\$1,792,314
2019	19.0%	January		\$993,923	\$2,010,865	\$2,026,912	\$2,043,238
2020	17.0%	January			\$1,070,521	\$2,158,128	\$2,175,510
2021	17.0%	January				\$1,262,505	\$2,545,347
2022	16.0%	January					\$1,401,438
	<b>Total Additional Revenue</b>		<b>\$574,697</b>	<b>\$2,737,647</b>	<b>\$4,845,304</b>	<b>\$7,225,538</b>	<b>\$9,957,848</b>
	<b>Total Rate Revenues</b>		<b>\$9,195,152</b>	<b>\$11,456,268</b>	<b>\$13,664,889</b>	<b>\$16,115,503</b>	<b>\$18,919,417</b>
<b>Other Operating Revenues</b>							
	Pumping		\$662,247	\$696,611	\$732,950	\$769,869	\$808,787
	Turn On/Off Fees		\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
	R.P. Charges		\$287,201	\$287,201	\$287,201	\$287,201	\$287,201
	Inspections		\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
	Plans And Specs		\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
	Install Fees,Hyd		\$3,500	\$3,500	\$3,500	\$3,500	\$3,500
	Miscellaneous		\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
	New Meter Sales/Install Parts		\$55,000	\$55,000	\$55,000	\$55,000	\$55,000
	Notice Delivery Revenue		\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
	<b>Subtotal Other Operating Revenues</b>		<b>\$1,161,948</b>	<b>\$1,196,312</b>	<b>\$1,232,651</b>	<b>\$1,269,571</b>	<b>\$1,308,488</b>
<b>Interest Income</b>							
	Interest Revenues - Water Fund		\$0	\$29,644	\$39,758	\$40,871	\$42,034
	<b>Subtotal Interest Income</b>		<b>\$0</b>	<b>\$29,644</b>	<b>\$39,758</b>	<b>\$40,871</b>	<b>\$42,034</b>
<b>Non-Operating Revenues</b>							
	Nsf Check Fees		\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
	Miscellaneous		\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
	Property Tax Rev. - Ad Valorem		\$315,000	\$315,000	\$315,000	\$315,000	\$315,000
	Property Tax - Parcel Charge RTS		\$290,000	\$290,000	\$290,000	\$290,000	\$290,000
	<b>Subtotal Non-Operating Revenues</b>		<b>\$656,500</b>	<b>\$656,500</b>	<b>\$656,500</b>	<b>\$656,500</b>	<b>\$656,500</b>
	<b>Total Revenues</b>		<b>\$11,013,600</b>	<b>\$13,338,724</b>	<b>\$15,593,797</b>	<b>\$18,082,445</b>	<b>\$20,926,438</b>

## Cash Flow (continued)

O&M Expenses					
	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Other O&amp;M</b>					
Administration and General	\$2,295,669	\$2,410,452	\$2,530,975	\$2,657,523	\$2,790,400
Capital	\$715,327	\$751,093	\$788,648	\$828,080	\$869,484
Customer Service	\$358,399	\$376,319	\$395,135	\$414,892	\$435,636
Distribution	\$2,650,388	\$2,757,377	\$2,868,966	\$2,985,363	\$3,106,786
Meter Services	\$1,241,087	\$1,285,869	\$1,332,414	\$1,380,795	\$1,431,092
Operations	\$2,580,818	\$2,661,841	\$2,745,812	\$2,832,851	\$2,923,084
Pumping - Operations	\$147,247	\$151,971	\$156,870	\$161,953	\$167,226
Pumping - Energy	\$515,000	\$544,640	\$576,079	\$607,917	\$641,561
<b>Total Operating Expenses</b>	<b>\$10,503,934</b>	<b>\$10,939,562</b>	<b>\$11,394,899</b>	<b>\$11,869,374</b>	<b>\$12,365,270</b>
<b>Debt Service</b>					
SRF Loan C106	\$475,171	\$475,171	\$475,171	\$475,171	\$475,171
SRF Loan C107	\$629,718	\$629,718	\$629,718	\$629,718	\$629,718
<b>Total Debt</b>	<b>\$1,104,889</b>	<b>\$1,104,889</b>	<b>\$1,104,889</b>	<b>\$1,104,889</b>	<b>\$1,104,889</b>
<b>Total Expenses</b>	<b>\$11,608,823</b>	<b>\$12,044,451</b>	<b>\$12,499,787</b>	<b>\$12,974,263</b>	<b>\$13,470,158</b>
<b>Revenues Less Operating Expenses</b>	<b>(\$595,223)</b>	<b>\$1,294,273</b>	<b>\$3,094,010</b>	<b>\$5,108,182</b>	<b>\$7,456,280</b>
<b>Capital Project Expenses</b>					
Rate Funded	\$1,840,285	\$2,375,211	\$2,119,295	\$3,544,435	\$4,040,719
Capitalized Salaries and Benefits	\$175,000	\$183,750	\$192,938	\$202,584	\$212,714
<b>Total Capital Project Expenses</b>	<b>\$2,015,285</b>	<b>\$2,558,961</b>	<b>\$2,312,232</b>	<b>\$3,747,019</b>	<b>\$4,253,433</b>
<b>Net Cash Change</b>	<b>(\$2,610,508)</b>	<b>(\$1,264,688)</b>	<b>\$781,778</b>	<b>\$1,361,163</b>	<b>\$3,202,847</b>
<b>Total Fund Balances</b>					
	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
Total Beginning Balance	\$8,966,419	\$6,355,911	\$5,138,191	\$5,966,417	\$7,369,993
Total Ending Balance	\$6,355,911	\$5,138,191	\$5,966,417	\$7,369,993	\$10,630,830
Total Min Target	\$6,594,260	\$7,446,799	\$8,142,647	\$9,354,199	\$10,543,972

## Reserve Balances

Operating Fund				FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Beginning Balance</b>				\$2,510,977	\$1,750,656	\$1,823,260	\$1,899,150	\$1,978,229
Transfers to (from) Reserves				(\$595,223)	\$1,294,273	\$3,094,010	\$5,108,182	\$7,456,280
Intermediate Balance				\$1,915,754	\$3,044,929	\$4,917,271	\$7,007,332	\$9,434,509
Transfers In/ (Out) - Liability Self Insurance Reserve				(\$59,895)	\$0	\$0	\$0	\$0
Transfers In/ (Out) - Water Capital Reserve				(\$105,203)	(\$1,221,669)	(\$3,018,121)	(\$5,029,103)	(\$6,158,383)
Transfers In/ (Out) - Rate Stabilization Reserve				\$0	\$0	\$0	(\$0)	(\$1,215,248)
Transfers In/ (Out) - New Water Resources Reserve				\$0	\$0	\$0	\$0	\$0
<b>Ending Balance</b>				<b>\$1,750,656</b>	<b>\$1,823,260</b>	<b>\$1,899,150</b>	<b>\$1,978,229</b>	<b>\$2,060,878</b>
Target	Min	60 days of Operating		\$1,750,656	\$1,823,260	\$1,899,150	\$1,978,229	\$2,060,878
	Max	90 days of Operating		\$2,625,984	\$2,734,891	\$2,848,725	\$2,967,344	\$3,091,317

Water Capital Projects Reserve				FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Beginning Balance</b>				\$5,651,786	\$3,741,704	\$2,451,379	\$3,203,716	\$4,528,213
<u>Plus:</u>								
Transfers from Operating				\$105,203	\$1,221,669	\$3,018,121	\$5,029,103	\$6,158,383
Capacity Fee Revenues				\$2,600,250	\$2,600,250	\$0	\$0	\$0
New Debt Issue				\$0	\$0	\$0	\$0	\$0
Interest Income				\$0	\$46,967	\$46,448	\$42,413	\$57,989
Transfers from Rate Stabilization Reserve				\$0	\$0	\$0	\$0	\$0
<u>Less:</u>								
Capital Projects				(\$4,440,535)	(\$4,975,461)	(\$2,119,295)	(\$3,544,435)	(\$4,040,719)
Capitalized Salaries & Benefits				(\$175,000)	(\$183,750)	(\$192,938)	(\$202,584)	(\$212,714)
<b>Ending Balance</b>				<b>\$3,741,704</b>	<b>\$2,451,379</b>	<b>\$3,203,716</b>	<b>\$4,528,213</b>	<b>\$6,491,152</b>
Target		1.0 Year(s) Avg CIP		\$3,824,089	\$4,377,911	\$4,777,008	\$5,664,420	\$6,491,152

Liability Self Insurance Reserve				FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Beginning Balance</b>				\$40,105	\$100,000	\$100,000	\$100,000	\$100,000
Transfers from Operations				\$59,895	\$0	\$0	\$0	\$0
Transfers Out - Expenditure				\$0	\$0	\$0	\$0	\$0
<b>Ending Balance</b>				<b>\$100,000</b>	<b>\$100,000</b>	<b>\$100,000</b>	<b>\$100,000</b>	<b>\$100,000</b>
Target		\$100,000		\$100,000	\$100,000	\$100,000	\$100,000	\$100,000

Rate Stabilization Reserve				FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Beginning Balance</b>				\$0	\$0	\$0	\$0	\$0
Transfers from Operating Reserve				\$0	\$0	\$0	\$0	\$1,215,248
Transfers Out - Capital Reserve				\$0	\$0	\$0	\$0	\$0
<b>Ending Balance</b>				<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,215,248</b>
Target Balance		10% of Rate Revenues		\$919,515	\$1,145,627	\$1,366,489	\$1,611,550	\$1,891,942

New Water Sources Reserve				FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
<b>Beginning Balance</b>				\$763,551	\$763,551	\$763,551	\$763,551	\$763,551
Transfers from Operating Reserve				\$0	\$0	\$0	\$0	\$0
Transfers Out - Expenditure				\$0	\$0	\$0	\$0	\$0
<b>Ending Balance</b>				<b>\$763,551</b>	<b>\$763,551</b>	<b>\$763,551</b>	<b>\$763,551</b>	<b>\$763,551</b>



Figure C-1 shows the Water Capital Projects Reserve ending balances for each fiscal year in the study period. As shown in the figure, the District will be utilizing reserves during the study period to help fund capital projects and to help mitigate the impact to rate payers. However, the reserves will meet the minimum target by FYE 2020.

**Figure C-1: Water Capital Reserve**

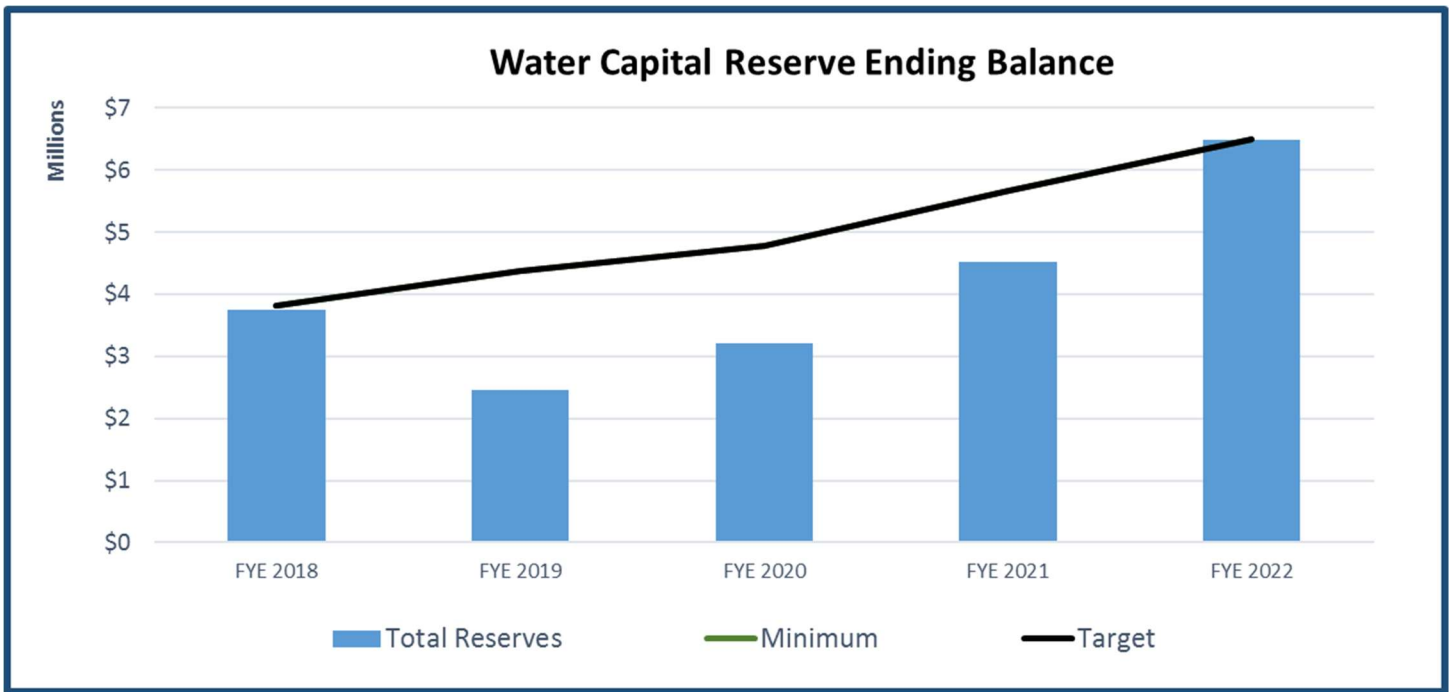


Figure C-2 shows the Liability Self Insurance Reserve. Based on the financial plan selected by the Board, this reserve will be funded at the targeted level of \$100,000 for each year during the study period.

**Figure C-2: Liability Self Insurance Reserve**

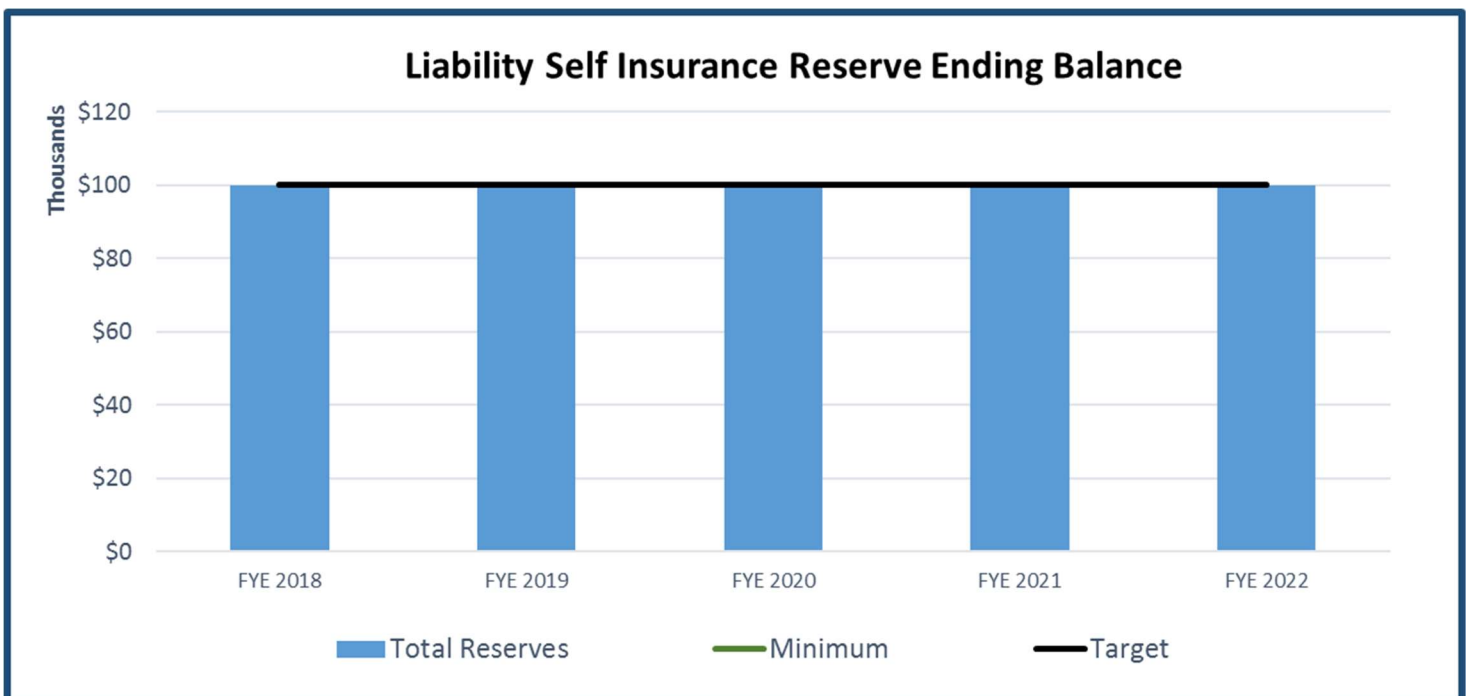


Figure C-3 shows the New Water Resource Reserve. This reserve is intended to fund new projects for developing new sources of water supply. During the study period, no additional funds were transferred in or out of the reserve.

**Figure C-3: New Water Resource Reserve**

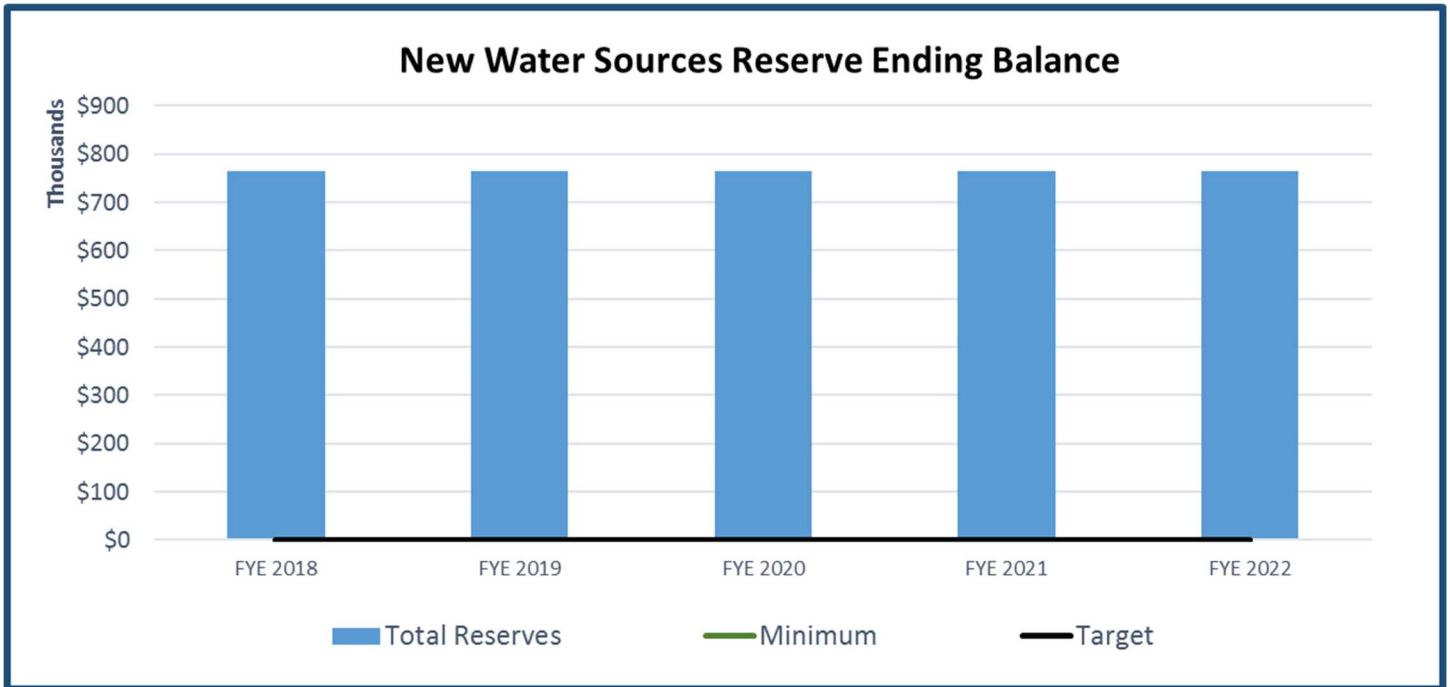
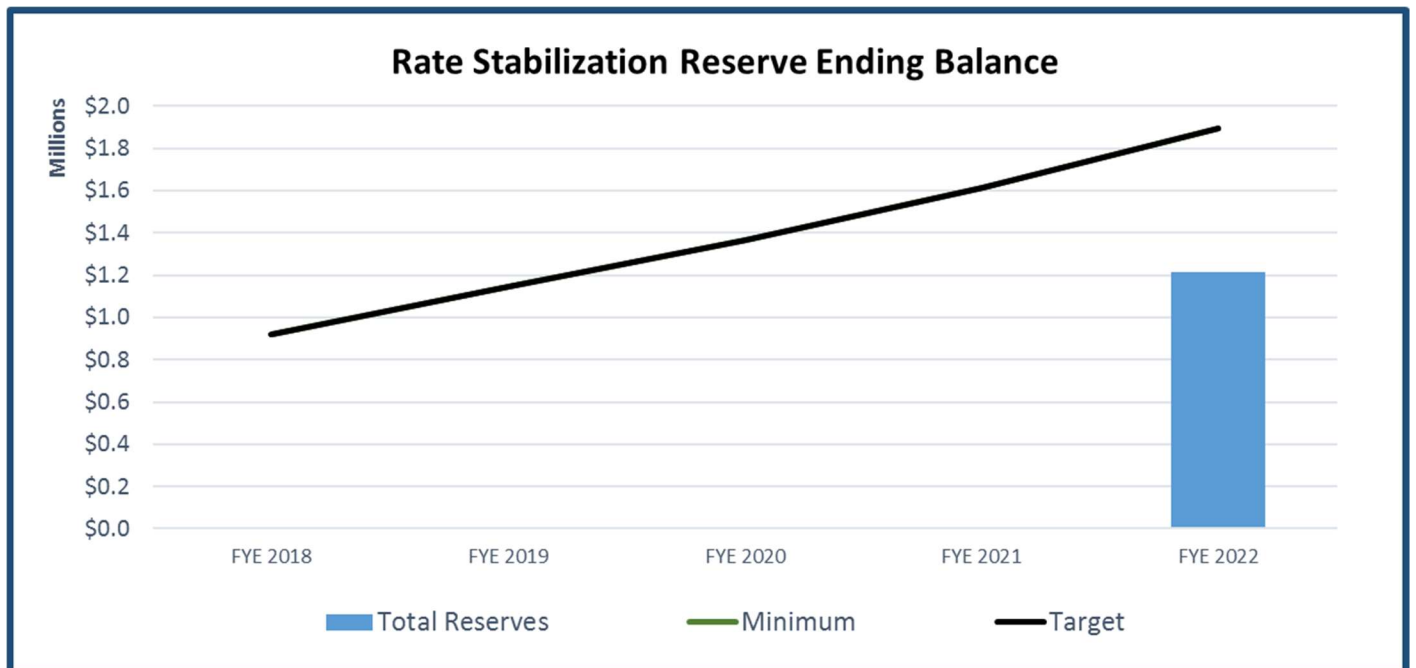


Figure C-4 shows the Rate Stabilization Reserve. Raftelis recommends establishing a rate stabilization reserve with a target reserve level of 10% of District rate revenues. A Rate Stabilization Reserve is used in the event of any unforeseen circumstances or critical asset failures to help mitigate the impact to the District and ultimately the District’s customers.

**Figure C-4: Rate Stabilization Reserve**



# APPENDIX D: EQUIVALENT METERS

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## Equivalent Meters

To allocate meter-related costs appropriately, the concept of “equivalent meters” is utilized. Most rate studies calculate equivalent meters based on meter hydraulic capacity. The ratio of hydraulic capacity is calculated by dividing large meter capacities by the base meter capacity. The actual number of meters by size is multiplied by the corresponding capacity ratio to calculate equivalent meters. By using equivalent meters instead of a straight meter count, the analysis reflects the fact that larger meters impose larger demands, are more expensive to install, maintain, and replace than smaller meters and commit a greater capacity in the system.

Table D-1 shows the District’s customers by class and by meter size. Equivalent meters are used in calculating meter service costs. The equivalent meter ratios used for this study are shown in Table D-2 and were based on AWWA Safe Maximum Operating Capacity (gallons per minute) by meter type. The ¾” meter is the base capacity against which all other meter ratios are scaled. For the purposes of both the RMWD O&M monthly charge and the SDCWA monthly charge, the ⅝” and ¾” meters are assumed to be equivalent.

**Table D-1: Meter Counts by Class**

Meter Size	Single Family Residential		Multi-Family Residential	Commercial	Institutional	Agriculture		TSAWR - Domestic	TSAWR Commercial	Total
	Residential	Residential				w/o Residence	w/ Residence			
5/8"	214	0	1	0	1	2	1	1	220	
3/4"	2,300	4	32	3	35	91	92	13	2,570	
1"	2,353	39	88	2	191	381	586	97	3,737	
1-1/2"	165	7	36	4	73	55	204	96	640	
2"	97	32	47	5	80	31	134	106	532	
3"	8	1	7	1	10	1	6	12	46	
4"	0	3	4	0	4	0	1	3	15	
6"	0	0	0	0	1	0	0	0	1	
<b>Totals</b>	<b>5,137</b>	<b>86</b>	<b>215</b>	<b>15</b>	<b>395</b>	<b>561</b>	<b>1,024</b>	<b>328</b>	<b>7,761</b>	

**Table D-2: AWWA Meter Capacity Ratios**

AWWA		
Meter Size	Capacity (gpm)	AWWA Ratio
5/8"	20	1.00
3/4"	30	1.00
1"	50	1.67
1-1/2"	100	3.33
2"	160	5.33
3"	350	11.67
4"	630	21.00
6"	1300	43.33

Table D-3 shows the equivalent meters by customer class. The equivalent meters were determined by multiplying the number of meters from Table D-1 by the corresponding capacity ratio from Table D-2. The equivalent meters can be multiplied by the number of billing periods in a year to determine the annual equivalent units.

**Table D-3: Equivalent Meters**

Meter Size	AWWA Ratio	Agriculture									Total
		Single Family Residential	Multi-Family Residential	Commercial	Institutional	Agriculture w/o Residence	Agriculture w/ Residence	TSAWR - Domestic	TSAWR Commercial		
5/8"	1.00	214	-	1	-	1	2	1	1	220	
3/4"	1.00	2,300	4	32	3	35	91	92	13	2,570	
1"	1.67	3,922	65	147	3	318	635	977	162	6,228	
1-1/2"	3.33	550	23	120	13	243	183	680	320	2,133	
2"	5.33	517	171	251	27	427	165	715	565	2,837	
3"	11.67	93	12	82	12	117	12	70	140	537	
4"	21.00	-	63	84	-	84	-	21	63	315	
6"	43.33	-	-	-	-	43	-	-	-	43	
<b>Totals</b>		<b>7,596</b>	<b>338</b>	<b>716</b>	<b>58</b>	<b>1,268</b>	<b>1,088</b>	<b>2,555</b>	<b>1,264</b>	<b>14,884</b>	