



## **Fall River Valley CSD Rate Review**

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## 1. Rate Review Introduction

I was asked by SWRCB staff to take a look at the water rates, and to provide some information on where the system currently stands and what the future holds for the system.

Rates are always controversial and difficult to deal with from the perspective of the public versus the District. I have attended many public meetings, Prop 218 meetings, committee meetings, and staff meetings over the years and they all typically have the same set of issues:

- Public perception
- Regulatory requirements
- Rate amount or increment amounts
- Implementation plans
- Public information and education

In most cases, the individuals involved in the process consist of a mixture of District staff, and board members. The issues are typically straight forward, but almost always get lost in the politics and personal concerns of all those involved, including the general public, and in this case, the District's customers.

When I look at the rates and rate structures in any situation, I will try and answer specific questions such as:

- Are they currently able to fund expenditures?
- Do they have appropriate reserves and CIP/CRP reserves?
- What kind of shape is the infrastructure in?
- Are they in regulatory compliance?
- Are they able to schedule needed projects as identified in a master plan?
- Do they have a master plan?

All of these issues create a picture of the system that will dictate the financial requirements of the enterprise accounts, be it water or sewer. So it is really up to the system where they want the rates to be. You have to do just a couple of things; pay the bills and be in compliance with regulatory requirements. Anything else is a choice made by the District staff and Board members.

In most cases, you also have certain financial criteria mandated by all of the different funding agencies within the State. So if you intend to seek public funding for infrastructure projects, the terms and conditions of receiving any loans or grants will apply to the District, and typically carry certain criteria for reserves of debt service and insurance requirements that will ultimately affect the cost of providing service to your customers.

There are also accepted standards and practices within municipal finance and operations that are considered good business; such as establishing reserves for equipment, funding preventative maintenance programs, funding normal system infrastructure maintenance, funding system depreciation, establishing and funding capital replacement programs (CRP), etc. There is a big difference between paying the bills and managing your System's infrastructure.

Based on my review of the District's operating budgets and financial information, I believe that overall the system is meeting financial obligations, but is not setting enough money aside for reserves and needed projects to keep up with the system's maintenance needs.

The rate study as presented is divided into 4 sections as follows:

### **Section 1. Capital Replacement and New Project Calculations**

This section is used to calculate several items that are instrumental in determining the appropriate rates. We utilize this worksheet to determine the annual and monthly payments for any new loans or debt service, and to perform capital improvement calculations to ensure the funds are set aside and in place for both short term and long term needed improvements to the system. We also can calculate the value of your current infrastructure and determine the amount the system would like to set aside to fund capital improvements to the existing system.

In this case, we used existing water master plan and engineering information and amounts for the Capital Replacement section (CRP) and the New Project program. These numbers represent the approximate cost of the various improvement projects amortized over a certain amount of years.

The totals in each area are then carried over to the next section.



Exhibit 1

Capital Replacement Program Reserve Calculation										Exhibit 1
						Date:	12/28/2015			
						System Number:				
System Name: Fall River Valley CSD						Service Connections:	479			
Qty	Component	Unit Cost	Installed Cost	Existing Reserve	Avg. Life Rem.	Annual Reserve	Mon. Res.	Res. Per Cust.		
<b>Capital Replacement Program</b>										
2	Wells/Pumping	\$100,000	\$200,000	\$0	25	\$8,000.00	\$666.67	\$1.39		
2000	2" Pipe line/footage	\$80	\$160,000	\$0	5	\$32,000.00	\$2,666.67	\$5.57		
1873	6" Pipe line/footage	\$100	\$187,300	\$0	5	\$37,460.00	\$3,121.67	\$6.52		
25807	8" Pipe line/footage	\$125	\$3,225,875	\$0	30	\$107,529.17	\$8,960.76	\$18.71		
12507	10" Pipe line/footage	\$140	\$1,750,980	\$0	20	\$87,549.00	\$7,295.75	\$15.23		
509	Meter installations Sep-13	\$175	\$89,075	\$0	8	\$11,134.38	\$927.86	\$1.94		
2	Pick-up Trucks	\$5,000	\$10,000	\$0	2	\$5,000.00	\$416.67	\$0.87		
6	Buildings	\$50,000	\$300,000	\$0	30	\$10,000.00	\$833.33	\$1.74		
1	Handtools	\$3,000	\$3,000	\$0	5	\$600.00	\$50.00	\$0.10		
1	Specialty Equipment (Hot Tap)	\$3,000	\$3,000	\$0	15	\$200.00	\$16.67	\$0.03		
3		\$0	\$0	\$0	20	\$0.00	\$0.00	\$0.00		
1			\$0	\$0	20	\$0.00	\$0.00	\$0.00		
1	Storage Facility	\$50,000	\$50,000	\$0	30	\$1,666.67	\$138.89	\$0.29		
<b>Subtotal New Capital Replacement Program</b>			\$5,979,230			\$301,139.21	\$25,094.93	\$52.39		
<b>New Project Program</b>										
		\$0	\$0	\$0	30	\$0.00	\$0.00	\$0.00		
		\$0	\$0	\$0	30	\$0.00	\$0.00	\$0.00		
1	McArthur Water Tank & Pumping Station	\$1,206,000	\$1,206,000	\$0	30	\$40,200.00	\$3,350.00	\$6.99		
<b>Subtotal New Project Program</b>			\$1,206,000	\$0		\$40,200.00	\$3,350.00	\$6.99		
<b>Total Capital Programs</b>										
			\$7,185,230			\$341,339.21	\$28,444.93	\$59.38		

## **Section 2. System Budget**

This worksheet utilizes the system's current budget numbers, the CRP and New Project numbers from Section 1, and any reserves or set asides that the system desires for future improvements or additions to the system's infrastructure.

In Section 2, we determine the total amount of the desired revenue that the system needs to operate on a day to day basis, fund any infrastructure loans - meaning debt service and reserve requirements of the loans, and set aside reserve funds for needed improvements to the system over a given time.

This worksheet also provides a 5 year projection of budgeted expenses based on a 3% increase each year. The budget increase corresponds to the 3% inflation factor, and rates will go up each year to accommodate this rise in cost. This will enable the District to keep the rates in tune with the rising cost of doing business, and eliminate that drastic increase that happens every 5 or 10 years when utility rates are not adjusted over a long period of time.

Exhibit 2

Budget						Exhibit 2
Fall River Valley CSD				Inflation Factor (%):	3.00%	
				Date:	12/28/2015	
				System Number:	0	
EXPENSES AND SOURCES OF FUNDS	2015	2016	2017	2018	2019	
<b>OPERATIONS &amp; MAINTENANCE EXPENSES</b>						
Equipment Rental	390.00	228.00	234.84	241.89	249.14	
Equipment Purchase	0.00	6,218.00	6,404.54	6,596.68	6,794.58	
Fuel	4,550.00	4,790.00	4,933.70	5,081.71	5,234.16	
Truck Expense	1,560.00	1,560.00	1,606.80	1,655.00	1,704.65	
Maintenance	7,800.00	10,000.00	10,300.00	10,609.00	10,927.27	
Repairs	7,800.00	10,000.00	10,300.00	10,609.00	10,927.27	
Shop Supplies	4,000.00	3,120.00	3,213.60	3,310.01	3,409.31	
Small Tools	2,340.00	1,200.00	1,236.00	1,273.08	1,311.27	
Large Tools	4,550.00	5,000.00	5,150.00	5,304.50	5,463.64	
Utilities	26,640.00	26,640.00	27,439.20	28,262.38	29,110.25	
Water Tests	2,400.00	2,400.00	2,472.00	2,546.16	2,622.54	
Engineering	1,560.00	16,560.00	17,056.80	17,568.50	18,095.56	
<b>Total Operation and Maintenance Expenses:</b>	<b>63,590.00</b>	<b>87,716.00</b>	<b>90,347.48</b>	<b>93,057.90</b>	<b>95,849.64</b>	
<b>GENERAL &amp; ADMINISTRATIVE EXPENSES</b>						
Wages	107,247.40	111,372.30	114,713.47	118,154.87	121,699.52	
Payroll Taxes	16,266.90	16,892.85	17,399.64	17,921.62	18,459.27	
Comp Insurance	6,630.00	6,630.00	6,828.90	7,033.77	7,244.78	
Employee Benefits	19,500.00	19,500.00	20,085.00	20,687.55	21,308.18	
Retirement	18,379.40	19,086.60	19,659.20	20,248.97	20,856.44	
Adv and Promotion	312.00	312.00	321.36	331.00	340.93	
Bank Fees	312.00	180.00	185.40	190.96	196.69	
Finance Charges	273.00	5,484.00	5,648.52	5,817.98	5,992.51	
Dues and Subscriptions	3,161.00	4,011.00	4,131.33	4,255.27	4,382.93	
Permits and Fees	3,708.00	4,080.00	4,202.40	4,328.47	4,458.33	
Dump Charges	624.00	624.00	642.72	662.00	681.86	
Education	975.00	975.00	1,004.25	1,034.38	1,065.41	
Insurance	8,092.50	8,092.50	8,335.28	8,585.33	8,842.89	
Interest	10,771.29	21,460.29	22,104.10	22,767.22	23,450.24	
Consulting	650.00	650.00	669.50	689.59	710.27	
Legal and Accounting	6,760.00	7,169.50	7,384.59	7,606.12	7,834.31	
Office Supplies	1,560.00	1,560.00	1,606.80	1,655.00	1,704.65	
Outside Services	975.00	975.00	1,004.25	1,034.38	1,065.41	
Postage	1,950.00	1,950.00	2,008.50	2,068.76	2,130.82	
Software License & Hardware Maint.	1,789.45	1,789.45	1,843.13	1,898.43	1,955.38	
Property Tax	72.80	72.80	74.98	77.23	79.55	
Travel	780.00	780.00	803.40	827.50	852.33	
Mileage	390.00	390.00	401.70	413.75	426.16	
Telephone	3,276.00	3,600.00	3,708.00	3,819.24	3,933.82	
USDA Principle	9,998.71	9,998.71	9,998.71	9,998.71	9,998.71	
USDA Short Lived Assets Reserve	4,400.00	4,400.00	4,400.00	4,400.00	4,400.00	
Capital Replacement Program	0.00	301,139.21	301,139.21	301,139.21	301,139.21	
New Project Program	0.00	40,200.00	40,200.00	40,200.00	40,200.00	
<b>Total General and Administrative Expenses:</b>	<b>228,854.45</b>	<b>593,375.21</b>	<b>600,504.33</b>	<b>607,847.32</b>	<b>615,410.60</b>	
<b>TOTAL EXPENSES (Line 20+ Line 51):</b>	<b>292,444.45</b>	<b>681,091.21</b>	<b>690,851.81</b>	<b>700,905.22</b>	<b>711,260.24</b>	
<b>SOURCE OF FUNDS / REVENUES RECEIVED</b>						
Cash Revenues (Water rates)	270,900.00	618,058.86	630,420.04	643,028.44	655,889.01	
Outside water sales (includes golf course)	8,400.00	8,400.00	8,652.00	8,911.56	9,178.91	
Property Tax	18,850.00	21,450.00	22,093.50	22,756.31	23,438.99	
Reserve Balance Forward	0.00	31,200.00	32,136.00	33,100.08	34,093.08	
<b>TOTAL REVENUE (Lines 56 through 59):</b>	<b>298,150.00</b>	<b>679,108.86</b>	<b>693,301.54</b>	<b>707,796.38</b>	<b>722,599.99</b>	
<b>NET LOSS OR GAIN:</b>	<b>5,705.55</b>	<b>-1,982.35</b>	<b>2,449.73</b>	<b>6,891.16</b>	<b>11,339.75</b>	
<b>NET CASH FLOW (Contribution to Reserves)</b>	<b>5,705.55</b>	<b>339,356.86</b>	<b>343,788.94</b>	<b>348,230.37</b>	<b>352,678.96</b>	
Total non-water rates revenue	\$27,250.00	\$61,050.00	\$62,881.50	\$64,767.95	\$66,710.98	

### **Exhibit 3. Fixed Vs Variable Expenses**

In Section 3, we utilize the total budgeted expenses for the system, including funded reserves and CRP numbers, to determine the fixed versus variable expenses.

A fixed expense, by accounting definitions, is an expense that is regularly reoccurring for all of your customers. In determining fixed expenses for the rate study, we looked at the expenses that all customers should share in, no matter what size meter or classification the customer may be within the current billing system.


A variable expense, by accounting definitions, is an expense that fluctuates for whatever reason and is not typically the same from month to month. In determining the variable expenses for the rate study, we look at expenses that are directly related to water use, such as power or treatment chemicals.

This worksheet allows us to assign a percentage of each expense being a fixed or variable expense, and then calculates the total percentage of fixed versus variable expenses.

In the case of Fall River Valley CSD, we took all of budgeted items and broke them down and assigned them in the model as a fixed or variable cost. The end results came back with 72.65% of your budgeted costs as fixed and 27.35% of costs as variable.



Exhibit 3

Fixed Vs Variable Expenses					Exhibit 3
		Amount	% Fixed	\$ Fixed	\$ Variable
<b>OPERATIONS &amp; MAINTENANCE EXPENSES</b>					
Equipment Rental		\$228.00	50%	\$114	\$114
Equipment Purchase		\$6,218.00	50%	\$3,109	\$3,109
Fuel		\$4,790.00	50%	\$2,395	\$2,395
Truck Expense		\$1,560.00	50%	\$780	\$780
Maintenance		\$10,000.00	50%	\$5,000	\$5,000
Repairs		\$10,000.00	50%	\$5,000	\$5,000
Shop Supplies		\$3,120.00	50%	\$1,560	\$1,560
Small Tools		\$1,200.00	50%	\$600	\$600
Large Tools		\$5,000.00	50%	\$2,500	\$2,500
Utilities		\$26,640.00	50%	\$13,320	\$13,320
Water Tests		\$2,400.00	50%	\$1,200	\$1,200
Engineering		\$16,560.00	50%	\$8,280	\$8,280
<b>Total Operation and Maintenance Expenses:</b>		<b>\$87,716.00</b>		<b>\$43,858</b>	<b>\$43,858</b>
<b>GENERAL &amp; ADMINISTRATIVE EXPENSES</b>					
Wages		\$111,372.30	70%	\$77,961	\$33,412
Payroll Taxes		\$16,892.85	70%	\$11,825	\$5,068
Comp Insurance		\$6,630.00	70%	\$4,641	\$1,989
Employee Benefits		\$19,500.00	70%	\$13,650	\$5,850
Retirement		\$19,086.60	70%	\$13,361	\$5,726
Adv and Promotion		\$312.00	70%	\$218	\$94
Bank Fees		\$180.00	70%	\$126	\$54
Finance Charges		\$5,484.00	70%	\$3,839	\$1,645
Dues and Subscriptions		\$4,011.00	70%	\$2,808	\$1,203
Permits and Fees		\$4,080.00	70%	\$2,856	\$1,224
Dump Charges		\$624.00	70%	\$437	\$187
Education		\$975.00	70%	\$683	\$293
Insurance		\$8,092.50	70%	\$5,665	\$2,428
Interest		\$21,460.29	70%	\$15,022	\$6,438
Consulting		\$650.00	70%	\$455	\$195
Legal and Accounting		\$7,169.50	70%	\$5,019	\$2,151
Office Supplies		\$1,560.00	70%	\$1,092	\$468
Outside Services		\$975.00	70%	\$683	\$293
Postage		\$1,950.00	70%	\$1,365	\$585
Software License & Hardware Maint.		\$1,789.45	70%	\$1,253	\$537
Property Tax		\$72.80	70%	\$51	\$22
Travel		\$780.00	70%	\$546	\$234
Mileage		\$390.00	70%	\$273	\$117
Telephone		\$3,600.00	70%	\$2,520	\$1,080
USDA Principle		\$9,998.71	80%	\$7,999	\$2,000
USDA Short Lived Assets Reserve		\$4,400.00	80%	\$3,520	\$880
Capital Replacement Program		\$301,139.21	80%	\$240,911	\$60,228
New Project Program		\$40,200.00	80%	\$32,160	\$8,040
<b>Total General and Administrative Expenses:</b>		<b>\$593,375.21</b>		<b>\$450,936.44</b>	<b>\$142,438.77</b>
<b>Total All Expenses</b>		<b>\$681,091.21</b>		<b>\$494,794.44</b>	<b>\$186,296.77</b>
<b>Total Expense amount to be funded by rate revenue</b>		<b>\$620,041.21</b>		<b>\$464,269.44</b>	<b>\$155,771.77</b>
<b>Fixed-Variable as % of all Expenses</b>				<b>72.65%</b>	<b>27.35%</b>

Assume this relationship between fix/var expenses remains the same over the next five years.



## **Section 4. Actual Calculated Rates**

### **Base Rate Calculation**

This method we use to calculate the base rate takes the total amount of the fixed costs and divides it by the number of customers. We will then calculate the monthly rate by dividing the total annual cost by 12 months. The monthly base rate that is established is for 5/8 inch residential meter size. We then calculate the base rate for larger meters based on the readily available amount of water that will flow through a 3/4 inch meter and larger increasing the base rate by the amount of water that is available based on the meter size. The goal is to represent all the meter sizes you have in your system. This is much more fair than using residential, business, or industrial classifications for customers.

In the case of Fall River Valley CSD, District Staff determined that the rates for the larger sized meters that this method produced were not feasible, so we worked with staff to come up with a structure that spread out the rate cost more evenly.

### **Usage Rate Calculation**

This section takes the variable costs amount from Section 3, and shows us the usage charge per 100/ft<sup>3</sup> (Cubic Feet) of water. In this section, the method we use to calculate usage rates utilizes the water usage and production numbers to determine an appropriate average for each customer classification that the system has, and then that number is used to determine the price per 100/ft<sup>3</sup>. This then will calculate the amount of expected revenue from water sales based on the system's current usage numbers.

This is called a tiered usage structure, which is used in the water utility industry to both encourage conservation, and fairly charge customers who are only using small amounts of water, putting a smaller cost burden on the system versus customers who are using larger amounts of water, which costs the System more money to pump.

The District's Board and Staff had concerns about this structure, so we used a flat rate instead. The flat rate is calculated by taking the variable costs amount, dividing that by how much water the Districts sells in a 1 year period, which gives us the flat rate usage charge.

### **Rate Costs with Adjustments**

This table shows what rates we recommend at different funding scenarios. If the CRP reserve amount or New Project cost is reduced, the base rate, where the majority of these items are allocated to, will also be able to go down. The CRP reserve amount will go down if the District Staff and/or Board decide to only fund a percentage of the actual cost. The New Project cost will go down if the District receives a grant to cover the partial or full cost of the project.

Exhibit 4.a

**Rates**

Total Rate Revenue (Base and Estimated Usage)	
Needed Total Revenue	\$620,041.21
Estimated Water Revenue with Below rates	\$618,058.86

**Base Rates**

Reccomended Average Yearly Base Rate Per Customer	\$969.25
Reccomended Average Monthly Base Rate Per Customer	\$80.77
Reccomended Total Yearly Base Rate Revenue	\$464,269.44

**Base Rate Calculation**

				2017	2018	2019	2020
Multiplier	Customer Class	# of Connections	Proposed Base Rate	2%	2%	2%	2%
	5/8"	434.00	\$36.00	\$36.72	\$37.45	\$38.20	\$38.97
	3/4"	0.00	\$45.00	\$45.90	\$46.82	\$47.75	\$48.71
	1"	27.00	\$50.00	\$51.00	\$52.02	\$53.06	\$54.12
	1.5"	3.00	\$200.00	\$204.00	\$208.08	\$212.24	\$216.49
	2"	13.00	\$400.00	\$408.00	\$416.16	\$424.48	\$432.97
	3"	0.00	\$5,000.00	\$5,100.00	\$5,202.00	\$5,306.04	\$5,412.16
	4"	2.00	\$8,000.00	\$8,160.00	\$8,323.20	\$8,489.66	\$8,659.46
				\$0.00	\$0.00	\$0.00	\$0.00
				\$0.00	\$0.00	\$0.00	\$0.00
			Average Total Monthly Base Rate Per Customer				
			\$80.95				
			Average Total Yearly Base Rate Per Customer				
			\$971.37	990.8011691	1010.617192	1030.829536	1051.446127
		Total # of Connections	Total Yearly Revenue from Base Rate				
		479.00	\$465,288.00	\$474,593.76	\$484,085.64	\$493,767.35	\$503,642.69

Exhibit 4.b

Usage Rates

Reccomended Yearly Usage Revenue	\$155,771.771
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Usage Rate Calulation							
				2017	2018	2019	2020
			Price per 100/cubic feet	2%	2%	2%	2%
			\$1.98	\$2.02	\$2.06	\$2.10	\$2.14

Estimated Yearly Usage Revenue=	\$152,770.86	\$155,826.28	\$158,942.80	\$162,121.66	\$165,364.09
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Exhibit 4.c

**Rates with Cost Adjustments**

Base Rate	Year 1 Proposed Base Rates		Rates at 75% CRP Cost	Rates at 50% CRP Cost	Rates at 0% CRP Cost			Rates at 80% Project Cost (20% Grant)	Rates at 70% Project Cost (30% Grant)	Rates at 60% Project Cost (40% Grant)	Rates at 50% Project Cost (50% Grant)	Rates at 40% Project Cost (60% Grant)	
5/8"	\$36.00		33.38	30.76	25.52			35.86	35.72	35.58	35.44	35.30	35.16
3/4"	\$45.00		42.38	39.76	34.52			44.86	44.72	44.58	44.44	44.30	44.16
1"	\$50.00		47.38	44.76	39.52			49.86	49.72	49.58	49.44	49.30	49.16
1.5"	\$200.00		197.38	194.76	189.52			199.86	199.72	199.58	199.44	199.30	199.16
2"	\$400.00		397.38	394.76	389.52			399.86	399.72	399.58	399.44	399.30	399.16
3"	\$5,000.00		4997.38	4994.76	4989.52			4999.86	4999.72	4999.58	4999.44	4999.30	4999.16
4"	\$8,000.00		7997.38	7994.76	7989.52			7999.86	7999.72	7999.58	7999.44	7999.30	7999.16

## **Section 5. Rate Study Summary and Conclusions**

The District is in a good position to get projects funded via one of the State or Federal agencies that have infrastructure funding programs. One of the things that funding agencies will look at is the system's rates and rate structures and how they maintain and operate, both in the field and from a management stand point. The criteria they use to evaluate a district or a City is an assessment tool referred to as a TMF. This tool measures or rates the system in its ability to operate efficiently in a **T**echnical, **M**anagerial, and **F**inancial capacity.

A few of the questions you should be looking to answer when considering a rate increase are listed below:

- Are you able to fund expenditures/budget?
- Are you able to fund appropriate reserves and CIP reserves?
- Are you in regulatory compliance?
- Are you able to fund needed projects as identified in a master plan?

The District will need to educate the customers in an ongoing manner on:

- How to read the new water bills
- Water use information and conservation ideas
- Water use practices do's and don'ts for your customers
- Public information on upcoming projects for the system
- Promote the system's viability
- Partnering in the system's conservation efforts
- Promote water quality

The District will need to consult with legal counsel on the Prop 218 process and be prepared to answer questions and concerns regarding the rate increase and the reasons for the new rates.

I would encourage the District to have operations and administrative staff begin comparing the system's production with water sales through the meters, and track that every billing cycle if they are not already doing so. Most modern billing programs will provide you with that feature built into the program. This is valuable information to be able to confirm, as it will be an indicator of how efficiently your infrastructure moves the water from the source to your customers. You will also be able to analyze your water usage in ways that will assist you in tracking unauthorized and authorized uses of the water via appurtenances like hydrants and bulk filling stations within the distribution system. Currently the state considers 10% unaccounted for water as normal. This means that if you produce 1,000 gallons of water and you can only account for 900 gallons then that is an acceptable amount of water loss, or unaccounted for water.

If myself or any other CRWA/SUSP staff can be of assistance in this process, please do not hesitate to contact us.