

County Service Area #23 – Crag View Water

Rate Report

January 31, 2018



INTRODUCTION

County Service Area No. 23 – Crag View Water (CSA) is located in northern Shasta County along the I-5 corridor and near Siskiyou County. It currently has 69 active meters and 6 standby accounts. Crag View Community Services District (CSD) was formed in the early 1970's. By 1991, the CSD had difficulty maintaining a full Board of Directors and retaining licensed operating staff. In 1992 the CSD became a county service area.

At a public hearing on September 15, 2015, the Board of Supervisors adopted Ordinance No. 710, which established rates for water use. At a public hearing on July 25, 2017, the Board of Supervisors adopted an Ordinance No. 728 establishing fees in order to recover the cost to the CSA of certain services such as processing late payments, collecting unpaid balances, shut-offs for failure to pay, backflow prevention testing, and other similar services.

EXISTING OPERATIONAL FUND

Financial information for the three most recent Fiscal Years (FY) years is available. Complete financials for FY 2014-15, FY 2015-16 and FY 2016-17 are included in **Exhibit A**. This period was selected because it matches with assumption of regulatory oversight by the State Water Resources Control Boards, Division of Drinking Water (DoDW). Regulatory requirements drive water treatment costs.

This period includes some events not related to ongoing maintenance. For instance, in FY 2015-16, there was a hydrant failure which led to an emergency response. **Exhibit B** makes changes to **Exhibit A** to remove some of the unexpected expenses and provides end notes to highlight financial anomalies.

Table 1 shows revenue and expense as modified in **Exhibit B**.

Table 1 – Water Revenue and Expense

	FY 2014-15	FY 2015-16	FY 2016-17	Average
Revenue	\$43,855	\$49,668	\$57,623	\$50,382
Expense	\$58,227	\$72,034	\$50,044	\$60,101
Difference	-\$14,372	-\$22,366	\$7,579	-\$9,720

Depreciation is not shown in **Table 1**.

Revenues and expenses reflect reduced use during two years of drought (2014 and 2015) and two wetter years (2016 was slightly drier than average and 2017 is the wettest year on record for the Northern California Eight Station Index). Water years, calendar years and fiscal years do not align, but, dry year revenue shortfalls are roughly double wet year revenue surpluses. California experiences large variations in annual precipitation. The CSA cannot rely on four more wet years in a row to restore lost revenue.

FINANCIAL NEEDS

Financial needs fall into three broad categories: operations and maintenance, utilities and contingency.

Operations and Maintenance

Average operating expenses over the last three years were \$60,000. **Exhibit A** and **Exhibit B** show the single largest expense is Professional Maintenance Services. This is utility staff time.

Division of Drinking Water (DoDW) provides regulatory oversight of the CSA. It is a regulatory requirement that the plant be visited by staff every day. To control costs, this is currently achieved with lower paid, part-time help whenever possible. Responding to national and local events, DoDW has increased testing requirements which, for many tests, must be completed by water plant operators with higher levels of licensing than the part time staff. In addition to the time gathering and delivering samples, there are increased testing costs (more tests) and more time spent reviewing results.

Utilities

The CSA uses electricity from Pacific Power. The largest part of this cost is to maintain pressure in the water system. There is a direct correlation between the amount of water pumped and power use. Long term rates are likely to rise, but recent California Public Utilities Commission filings indicate that rates will remain stable in the short term.

The CSA pays others for the privilege of diverting out of Little Castle Creek. These wholesale water purchase costs are significant and have been highly variable.

Water rights are administered by the State Water Resources Control Board, Division of Water Rights. The CSD obtained the CSA's water right in 1971. That water right is generally junior (inferior) to all pre-1971 water rights. Senior water rights holders in the Sacramento Valley had already appropriated

all available summer flows prior to 1971 so the CSA must find other supplies from July 1 through August 31 every year. The CSA's water right also contains "Standard Water Right Permit Term 91." The July and August window may be extended when there is not enough water in the system to meet senior needs elsewhere in the Sacramento-San Joaquin Delta. In 2014 and 2015, Term 91 was enacted early (April 30 at the earliest) and extended late (December 15 at the latest). When Term 91 is in effect, CSA water must be replaced in the same manner as it is for the July-August restriction.

The CSA is often able to purchase Central Valley Project (CVP) replacement water for the summer months. CVP water is purchased and released from storage downstream so that senior downstream water right holders are kept whole. CVP supplies were curtailed to 50% of average use in 2014 and 25% in 2015. The balance of summer demand had to be met with supplies purchased on the open market, which was expensive.

The Division of Water Rights charges a flat fee annually to administer the water right, regardless of the amount used. Water Rights cost \$153 in FY 2016-17. CVP water cost about \$55 per acre-foot at that time. Transferred water cost \$260 per acre-foot. **Table 2** shows the variability of utilities costs.

Table 2 – Variable Utility Costs

	FY 2014-15	FY 2015-16	FY 2016-17	Average
Total Utilities Expense	\$8,439	\$11,622	\$7,323	\$9,128
Electric Expense	\$5,160	\$4,951	\$6,069	\$5,393
Water Expense	\$3,279	\$6,671	\$1,254	\$3,735

Depreciation

Financial solvency enables the CSA to deliver water to its users. Revenue collected must cover all operating costs, overhead and some depreciation. Depreciation is collected to offset the cost of future equipment replacement and repairs. Thompson-Reuters assigns a fifty year useful life to water systems as a whole, though individual components may wear out sooner. Full annual depreciation, as determined by standard accounting practices, is \$30,976.

OTHER FINANCIAL CONSIDERATIONS

Ordinance 710 does not contain a specific mechanism to recover extra costs associated with water transfers which are required from time to time when drought conditions exists. Because these costs cannot be recovered immediately, additional reserve funding should be set aside.

On July 25, 2017, the Board of Supervisors adopted an ordinance establishing fees in order to recover the cost to the CSA of certain services such as processing late payments, collecting unpaid balances, shut-offs for failure to pay, backflow prevention testing, and other similar services. This CSA has historically had a low rate of late payments and requires few other services. Fees established on July 25, 2017, are not expected to change revenues appreciably in the long term.

Raw Water Pumps

The system begins with a pair of 150 GPM, 7.5 HP pumps that lift water from Little Castle Creek to the treatment plant. Thompson-Reuters assigns a fifteen year useful life to pumps. The current pumps

were installed in 2012, so have about nine years of planned life in them. To ensure adequate funds are available for their replacement at the end of their useful lives, additional funds should be collected.

Filter Media Replacement

Water is pumped from Little Castle Creek is filtered to remove impurities. This is accomplished with three filter tanks containing layers of graded gravel, sand and anthracite coal. Their estimated life is fifteen years. The current filter media was installed in 2012, so have about nine years of planned life in them. To ensure adequate funds are available for media replacement, additional funds should be collected.

EXISTING WATER USE PATTERNS

The treatment and distribution systems are adequately sized to serve the current district.

During development of this rate report, individual meter use from bi-monthly billings for the service period from July 1, 2014, through June 30, 2017, was examined. Part of this period coincided with a drought. Non-zero average and median use is shown in **Table 3**. The “Aggregate” column considers all of the data together; because different fiscal years contain different numbers of non-zero transactions, the average is different than the average of the fiscal year averages.

Table 3 – Non-Zero Average and Median Use in Cubic Feet

	FY 2014-15	FY 2015-16	FY 2016-17	Aggregate
Average	5,217	3,868	5,183	4,763
Median	1,802	2,000	2,000	2,000

Fiscal years split summers. The averages indicate an increase in use in late summer, probably due to high outdoor demand. Average use decreased during FY 2015-16 reflecting low use in late 2015. Median use shows that most billing periods, most metered use is at or below the base quantity established in Rate Ordinance 710. Median use likely reflects seasonal meter-reading difficulties; when a meter cannot be read, 2,000 cubic feet is assumed. Quantities are normalized in the next billing cycle.

REVENUE GOALS

The CSA had average annual expenses of \$60,101 during the study period. During that period, an average of \$5,345 in pre-Proposition 13 property and other taxes were annually received, so total, break-even income needs are \$54,756. Average utility costs were \$9,128 during that time. So, average annual fixed costs are about \$45,628.

The rate structure is designed to recover fixed costs in the base rate and variable costs in the volumetric (per-hundred cubic foot) rate.

PROPOSED WATER RATES

Rate Ordinance 710 went into effect on September 15, 2015. It established the bi-monthly charge for the first 2,000 cubic feet of water at \$90.00 and \$0.60 per 100 cubic feet thereafter.

The new rate structure more closely matches recurring fixed costs to the base rate and variable costs to the volumetric charge. Fixed costs are those that occur independent of the quantity of water produced. For instance, an operator must check the plant daily and meters must be read bi-monthly as long as the system is operating. The most obvious variable cost is for utilities; chemical costs and a certain amount of maintenance is also based on the amount of water produced. Standby and vacation rates are unchanged and are set at \$36 per billing cycle and treated as fixed.

Based on the three years examined, a rate structure using a simple meter fee (no water use) of \$107.10 and a per-hundred cubic feet rate of \$0.63 would cover the basic cost of providing service provided there is not another water supply curtailment or electrical rate increase. However, this overlooks the need to maintain minimum turnover in the system for water quality and other reasons. CSA customers have historically preferred a base water use quantity. This rate structure will not be further examined.

Based on the three years examined, a rate structure allowing 2,000 cubic feet of base use could work with a \$111.35 base rate and a per-hundred cubic feet rate of \$0.63. That would cover the basic cost of providing service until there is another water shortage, electrical rate increase or other unexpected expense. No money is set aside for future emergencies or equipment replacement needs. Phasing in future rates will help prepare for the future.

Additional funds should be collected to ensure replacement of the intake pumps and filter media.

Raw Water Pumps

Two raw water pumps were installed in 2012 for a total cost of approximately \$22,000. Using the average quantity of water sold annually over the study period (1,664,008 cubic feet) and the average customer use under the 2,000 cubic foot base quantity (1,057 cubic feet) adds \$1.55 to the base rate and \$0.15 per 100 cubic feet to the variable rate. This revenue would equate to replacement in nine years.

Filter Media Replacement

The graded gravel, sand and anthracite coal filter media in three tanks was installed in 2012 for a total cost of approximately \$20,000. Using the average quantity of water sold annually over the study period (1,664,008 cubic feet) and the average customer use under the 2,000 cubic foot base quantity (1,057 cubic feet) adds \$1.41 to the base rate and \$0.14 per 100 cubic feet to the variable rate. This revenue would equate to replacement in nine years.

Table 4 shows a rate proposal which meets the short-term financial needs of the CSA.

Table 4 – Four Year Proposal – 2,000 Cubic Foot Base Quantity

	Current	Year 1	Year 2	Year 3	Year 4
Base Rate	\$90.00	\$114.31	\$118.76	\$123.41	\$128.26
Per 100 Cubic Feet	\$0.60	\$0.92	\$0.96	\$1.00	\$1.04
Average Bi-Monthly	\$109.20	\$143.75	\$149.48	\$155.41	\$161.54
Percent Increase	-	31.6	3.1	4.0	3.9
Median Bi-Monthly	\$90.00	\$114.31	\$118.76	\$123.41	\$128.26
Percent Increase	-	27.0	3.9	3.9	3.9
Model Revenue	\$45,568	\$59,372	\$61,682	\$64,074	\$66,550

The base rate increases annually to generate revenue against general maintenance and regulatory needs. The variable rate increases four cents annually to generate revenue against future water shortages when larger quantities of water must be purchased occasionally at higher prices.

CONCLUSION

The rate structure and schedule proposed in **Table 4** recovers current operating costs in the first year and begins accruing funds against the eventual replacement of the intake pumps and media filters. Money is set aside for other future operating needs beginning in the second year, barring a return of drought conditions or infrastructure failure. After the planning horizon (or sooner, if operational circumstances demand), the rate structure should be reconsidered in order to maintain the long-term ability to provide water in the CSA.

Attachment:

Exhibit A: Expense and Revenue Statement

Exhibit B: Revised Expense and Revenue Statement

EXHIBIT A

Shasta County DPW CSA #23 Cragview Water Admin. Organization Code 00396				
ACCT NOS.	CLASSIFICATION	ACTUAL BALANCE 2014-15	ACTUAL BALANCE 2015-16	ACTUAL BALANCE 2016-17
EXPENSES:				
<u>SERVICES AND SUPPLIES</u>				
032500	COMMUNICATIONS	357	408	307
033103	INSURANCE EXP MISC	24	24	20
033500	MAINTENANCE OF EQUIPMENT	4,507	1,571	1,337
033900	MEDICAL DENTAL LAB SUPPLIES	460	0	0
034100	MEMBERSHIPS	153	163	161
034310	MISC XP PRIOR PERIOD EXP ADJ	0	0	0
034500	OFFICE EXPENSE	0	0	0
034591	CHGS OC POSTAGE SVS	563	545	400
034800	PROF & SPECIAL SERVICES	0	653	0
034802	PROF ADMIN SERVICES	3,076	12,937	1,750
034826	PROF LAB SVS	2,691	3,510	3,010
034829	PROF MAINTENANCE SVS	23,731	35,325	24,685
034893	CHGS AUD PROP TAX SVS	151	161	142
034900	PUB & LEGAL NOTICES	0	180	112
035500	SMALL TOOLS & EQUIPMENT	29	0	0
035700	SPECIAL DEPARTMENTAL EXPENSE	2,241	1,167	610
035743	SPECIAL DEPT EXP PERMITS/LICENSES	0	0	0
035900	TRANS/TRAVEL	6,296	6,116	6,257
036100	UTILITIES	8,439	11,622	7,323
	TOTAL SERVICES AND SUPPLIES	52,718	74,381	46,115
<u>OTHER CHARGES</u>				
050001	CENTRAL SERVICE COST A-87	5,514	2,089	3,931
050900	DEPRECIATION	30,976	30,976	30,976
051100	BAD DEBTS	(4)	(9)	(2)
096630	TRANS OUT CSA #23 CRAGVIEW S/A	244	0	0
	TOTAL OTHER CHARGES	36,729	33,056	34,904
	TOTAL EXPENDITURES	89,447	107,438	81,020
REVENUE:				
<u>TAXES</u>				
101000	CURRENT SECURED TAXES	4,471	4,828	4,912
101001	CURRENT UNITARY TAXES	219	219	221
101011	CURR SEC TAX DEL ADV TEETER	75	80	77
101100	SUPPLEMENTAL TAXES CURRENT	41	48	55

EXHIBIT A

Shasta County DPW CSA #23 Cragview Water Admin. Organization Code 00396				
ACCT NOS.	CLASSIFICATION	ACTUAL BALANCE 2014-15	ACTUAL BALANCE 2015-16	ACTUAL BALANCE 2016-17
101111	SUPPLEMENTAL TAXES CURR	15	5	6
102000	CURRENT UNSECURED TAXES	248	257	249
104000	PRIOR YEAR UNSECURED TAXES	2	3	2
	TOTAL CHARGES FOR SERVICES	5,072	5,441	5,522
<u>REVENUE FROM MONEY & PROPERTY</u>				
420000	INTEREST	144	9	(19)
	TOTAL REVENUE FROM MONEY & PROPERTY	144	9	(19)
<u>INTERGOVERNMENTAL REVENUES</u>				
546000	STATE HOMEOWNERS EXEMPTION	86	88	85
	TOTAL INTERGOVERNMENTAL REVENUES	86	88	85
<u>CHARGES FOR SERVICES</u>				
668132	S/A CURR NON OPER	0	0	0
668194	S/A DEL WATER CURR	436	72	517
693020	WATER SERVICE COLLECTIONS	38,117	44,058	51,518
	TOTAL CHARGES FOR SERVICES	38,553	44,129	52,034
<u>MISCELLANEOUS REVENUES</u>				
799300	MISCELLANEOUS REVENUE	0	12	0
799391	PRIOR PERIOD REV ADJUSTMENT	238,428	0	0
795000	AUDITOR VOID/STALE DATED CHECK	0	0	0
806356	TRAN IN CSA #23 CRAGVIEW	53	0	0
	TOTAL MISCELLANEOUS REVENUES	238,481	12	0
	TOTAL REVENUES	282,336	49,680	57,623
	EXPENSES (OVER) UNDER REVENUES	192,889	(57,758)	(23,397)

EXHIBIT B

Shasta County DPW CSA #23 Cragview Water Admin. Organization Code 00396				
ACCT NOS.	CLASSIFICATION	ACTUAL BALANCE 2014-15	ACTUAL BALANCE 2015-16	ACTUAL BALANCE 2016-17
EXPENSES:				
<u>SERVICES AND SUPPLIES</u>				
032500	COMMUNICATIONS	357	408	307
033103	INSURANCE EXP MISC	24	24	20
033500	MAINTENANCE OF EQUIPMENT	4,507	1,571	1,337
033900	MEDICAL DENTAL LAB SUPPLIES	460	0	0
034100	MEMBERSHIPS	153	163	161
034310	MISC XP PRIOR PERIOD EXP ADJ	0	0	0
034500	OFFICE EXPENSE	0	0	0
034591	CHGS OC POSTAGE SVS	563	545	400
034800	PROF & SPECIAL SERVICES	0	653	0
034802	PROF ADMIN SERVICES ¹	3,076	8,509	1,750
034826	PROF LAB SVS	2,691	3,510	3,010
034829	PROF MAINTENANCE SVS ²	23,731	35,325	24,685
034893	CHGS AUD PROP TAX SVS	151	161	142
034900	PUB & LEGAL NOTICES	0	180	112
035500	SMALL TOOLS & EQUIPMENT	29	0	0
035700	SPECIAL DEPARTMENTAL EXPENSE	2,241	1,167	610
035743	SPECIAL DEPT EXP PERMITS/LICENSES	0	0	0
035900	TRANS/TRAVEL	6,296	6,116	6,257
036100	UTILITIES ³	8,439	11,622	7,323
	TOTAL SERVICES AND SUPPLIES	52,718	69,953	46,115
<u>OTHER CHARGES</u>				
050001	CENTRAL SERVICE COST A-87 ⁴	5,514	2,089	3,931
050900	DEPRECIATION ⁵	0	0	0
051100	BAD DEBTS	(4)	(9)	(2)
096630	TRANS OUT CSA #23 CRAGVIEW S/A ⁶	0	0	0
	TOTAL OTHER CHARGES	5,509	2,080	3,928
	TOTAL EXPENDITURES	58,227	72,034	50,044
REVENUE:				
<u>TAXES⁷</u>				
101000	CURRENT SECURED TAXES	4,471	4,828	4,912
101001	CURRENT UNITARY TAXES	219	219	221
101011	CURR SEC TAX DEL ADV TEETER	75	80	77
101100	SUPPLEMENTAL TAXES CURRENT	41	48	55

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101111	SUPPLEMENTAL TAXES CURR	15	5	6
102000	CURRENT UNSECURED TAXES	248	257	249
104000	PRIOR YEAR UNSECURED TAXES	2	3	2
	TOTAL REVENUE FROM TAXES	5,072	5,441	5,522
REVENUE FROM MONEY & PROPERTY				
420000	INTEREST	144	9	(19)
	TOTAL REVENUE FROM MONEY & PROPERTY	144	9	(19)
INTERGOVERNMENTAL REVENUES				
546000	STATE HOMEOWNERS EXEMPTION	86	88	85
560502	FED WATER SYSTEM IMPROVE GRANT	0	0	0
	TOTAL INTERGOVERNMENTAL REVENUES	86	88	85
CHARGES FOR SERVICES				
668132	S/A CURR NON OPER	0	0	0
668194	S/A DEL WATER CURR	436	72	517
693020	WATER SERVICE COLLECTIONS	38,117	44,058	51,518
	TOTAL CHARGES FOR SERVICES	38,553	44,129	52,034
MISCELLANEOUS REVENUES				
799300	MISCELLANEOUS REVENUE	0	0	0
799391	PRIOR PERIOD REV ADJUSTMENT ⁸	0	0	0
795000	AUDITOR VOID/STALE DATED CHECK	0	0	0
806356	TRAN IN CSA #23 CRAGVIEW ⁹	0	0	0
	TOTAL MISCELLANEOUS REVENUES	0	0	0
	TOTAL REVENUES	43,855	49,668	57,623
	EXPENSES (OVER) UNDER REVENUES	(14,372)	(22,366)	7,579

EXHIBIT B
ENDNOTES

1. Professional Administrative Services jumped in 2015-16. The increase can be attributed to drought response, preparation of Rate Study and subsequent additional work after the proposed rate increase was rejected in a Proposition 218 vote. A second Rate Study and Proposition 218 process were completed. Periodic rate studies and Proposition 218 processes must be completed and these should be developed thoughtfully. Periodic droughts are inevitable. Development and customer questions are referred to professional staff. 50% of professional staff time after the protest ballot is removed (\$4,428) from FY 2015-16.
2. FY2015-16 staff time is high due to a leak repair. Leaks and repairs are expected.
3. "Utilities" shows the cost of electricity to keep the system pressurized and the cost of raw water when Term 91 is in effect. During 2014 and 2015, drought water purchases drove utility costs to increase. The period of Term 91 restriction on water right use was greatly increased and Central Valley Project water was not available to backfill the full amount of need, so more expensive water was purchased on the open market. Periodic water supply restrictions and additional water costs are to be expected. It is expected that energy costs will also rise, though recent filings with the California Public Utilities Commission indicate that they will be stable for the next year or so.
4. A-87 is the cost of services provided to the CSA by County Departments other than Public Works. For instance, the Auditor does not bill time directly to the CSA, but accrues costs when materials and services are purchased for the CSA, and when funds are maintained and audited. The formula is state mandated, so the A-87 values will not be changed.
5. Depreciation is a non-cash item and is not shown. Depreciation reflects aging of the system equipment and pipes, all of which will eventually need replacement and many will need repairs during their useful life. Ideally, the full annual depreciation value would be set aside. The actual amount set aside to cover depreciation, though, based on confidence in the availability of future grants and perceived increases in operating costs.
6. Prior to FY 2015-2016, the County's practice was to run loan and bond payments through the operational finances. In FY 2014-15 \$244 passed through this account to repay a loan.
7. The Crag View Community Services District (CSD) was formed in 1971. In 1978, California's voters passed Proposition 13, changing the way taxes are calculated and distributed. Because the CSD received some tax revenue prior to passage of the Proposition, the CSA receives revenue from it now. The other tax income is small, but the average total amount will be deducted from the revenue goal when rates are considered.

8. Prior to FY 2015-2016, the County's practice was to run loan and bond payments through the operational finances. In FY 2015-16, the Auditor separated operations from debt. \$238,428 reserved for debt payments was transferred accordingly. It is not a regular source of income and so is removed.
9. \$53 remaining in an account used to pay off an existing loan was transferred into the CSA's revenues.