

WC 2020-081-
ATTACHMENT A: FMP
2019 DRAFT VERSION

Financial Management Plan

December 31, 2019

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EXECUTIVE SUMMARY

The Castle Rock Water (CRW) Financial Management Plan (FMP) is set in place to outline the main financial policies, procedures and financial performance for past, present and future. The plan also establishes the goals and the principles to guide CRW staff, Town Finance Department, Town Manager, Town Council and Commission members to make consistent and informed financial decisions.

This Financial Management Plan is prepared in sections to ensure adequate focus on each financial component of the organization. The sections are as follows: revenues, expenses, fixed assets, fund balances (reserves), debt and financing costs, accounts receivable and the annual rates and fees study.

GOALS

The goals listed below were derived based on CRW's main vision to become a national leader in the water industry and our mission to provide our community exceptional service. Each of the goals below have been set in place to help achieve this. The financial management plan is a guide in making the best possible financial decisions to help achieve and maintain the goals. The FMP goals are as follows:

1. To minimize future rates at or below the 2013 Hybrid Model levels
2. To minimize debt carrying costs at or below industry standards
3. To minimize risk by balancing fixed versus variable revenues and expenses equal to or matching where appropriate
4. To keep costs at or under budget for capital and operational budgets each year by fund and to continuously strive towards more efficient operations
5. To keep our rates and fees competitive with surrounding communities where appropriate
6. To keep adequate reserves and maintain fund balances between minimums and maximums
7. To keep rates and fees affordable within various national affordability indices
8. To develop regional partnerships to provide economies of scale to reduce total costs of infrastructure to our customers
9. To be an industry leader in the application of financial management, benchmarking ourselves as appropriate against others locally and nationally

Where applicable, key performance indicators (KPI's) track the progress and achievement of the goals outlined above. These indicators help measure performance as well as develop conclusions and recommendations to drive continuous improvement throughout the organization.

REVENUE

CRW's revenues come from several different sources. All revenue sources are booked in their distinct enterprise fund; water, wastewater, stormwater or water resources. The largest source of revenue comes from charges for services provided to our existing customers. Water fund revenues come from both a monthly fixed service charge based on meter size and a volumetric rate per 1,000 gallons. Wastewater fund revenues also come from both a monthly fixed service charge based on meter size and a volumetric rate per 1,000 gallons. More detail on this rate structure can be found in the rates and fees section below. Water Resources fund revenues are derived solely on a fixed monthly charge based on meter size. Stormwater fund revenues are a fixed monthly charge based on Single-Family Equivalents (SFE's).

The second largest source of revenue comes from System Development Fees (SDF's). Water, wastewater and water resources fee revenue is assessed at the time of permitting and collected for the right to access existing system capacity or for payment of a proportionate share of the capital cost to add capacity to meet the new potential demand on the system. The cost to add stormwater capital facilities to manage runoff is another source of revenue associated with new permits. These revenues will vary based on location of the new development within the Cherry Creek or Plum Creek basin. More detail on this structure can be found in the rates and fees section below.

Other sources of revenue for CRW consist of contributions and donations, fines and forfeitures, intergovernmental revenue, investment earnings, transfers in, and other miscellaneous revenue.

Contributions and donations come mostly from developer contributions for specific construction projects. Fines and forfeitures are comprised of cost of service special charges such as late fees, lien fees, transfer of service fees, and disconnection notice fees, just to name a few. Intergovernmental revenue is revenue from intergovernmental agreements and capital grants. Investment earnings revenue are market fluctuations. Transfers in is mostly revenue received from short-term inter-fund loans.

CRW has tower leases that generate revenue for the organization. Currently these are with American Tower Corporation, AT&T Holdings and Verizon Wireless. These are collected on a monthly basis throughout the year and range from \$1,100 a month to over \$3,000 a month. The terms and conditions for each lease varies depending on the contract.

2019 Revenue Results

As shown in Table 1 below, actual revenues for year end 2019 came in \$10.9 million higher than budget. The variance in charges for services is attributed to approximately a \$0.4M increase in metered water sales over the budgeted amount as a result of a drier than expected irrigation season. Monthly service charges for wastewater, water, renewable water, and stormwater came in higher than budget by \$0.6M, \$0.2M, \$0.5M and \$0.2M respectively mostly due to the increase in new accounts. Bulk water sales were \$0.4M higher than budget due to a higher demand for construction water due to continued growth and development.

A developer contribution for \$0.15M in the water fund was not budgeted for in the 2019 adopted budget. Water violations under fines and forfeitures came in \$0.08M higher than budget due to more fines being given out than anticipated. Investment earnings came in better than budget by \$1.7M and recognized across all four funds in various amounts.

Other revenue includes proceeds from a stormwater loan of \$4.5M along with \$0.9M in proceeds in the water fund from the sale of assets and \$0.5M in reimbursements in water resources and wastewater. Another \$0.5M variance is in system development fees, mostly in the water resource fund. Since system development fees are based on meter size, forecasting for these line items are difficult as meter size is generally determined at permit time and not known at the time of forecasting and planning. Lastly the transfer in from water to water resources came in \$0.1M higher than expected.

Table 1: 2019 Revenue - All Enterprise Funds Combined

Revenue Category	2019 Actuals (a)	2019 Year End Estimates (b)	2019 Approved Budget (c)	Variance (a)-(b)	Variance (a)-(c)
Charges for Service	\$39,665,590	\$39,132,096	\$37,120,885	\$533,494	\$2,544,705
Contributions & Donations	\$185,935	\$162,151	\$31,825	\$23,784	\$154,110
Fines & Forfeitures	\$507,086	\$516,127	\$423,950	(\$9,041)	\$83,136
Intergovernmental Revenue	\$2,682,218	\$2,659,025	\$2,650,000	\$23,193	\$32,218
Investment Earnings	\$2,474,661	\$1,560,042	\$807,854	\$914,619	\$1,666,807
Licenses & Permits	\$1,950	\$1,820	\$0	\$130	\$1,950
Other Revenue	\$12,309,799	\$6,732,736	\$6,422,987	\$5,577,063	\$5,886,812
System Development Fees	\$22,606,623	\$21,863,191	\$22,104,591	\$743,432	\$502,032
Transfers In	\$2,342,831	\$2,253,088	\$2,239,962	\$89,743	\$102,869
Total	\$82,776,693	\$74,880,276	\$71,802,054	\$7,896,417	\$10,974,639

Revenue Last Five Years

As shown in Table 2 below, the last five years' revenue performance has been strong and increasing year over year due to the increase in customer accounts, growth and development and revenue associated with intergovernmental agreements. The 2016 actuals reflect approximately \$60M in proceeds from conversion of the certificates of participation in the water resources fund. The 2015 actuals include a \$4.5M water fund and a \$3.9M water resources fund inter-fund loan payment from the transportation capital fund for the North Meadows Extension project. When correcting for these two items 2016 and 2015 revenues were \$58M and \$65M respectively.

Table 2: 5 Year Revenue - All Enterprise Funds - 2014 through 2018

Revenue Category	2014 Actuals	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals
Charges for Service	\$ 29,152,337	\$ 31,661,133	\$ 34,166,299	\$ 35,405,185	\$ 38,533,038
Contributions & Donations	\$ 316,454	\$ 78,593	\$ 317,340	\$ 34,410	\$ 653,415
Fines & Forfeitures	\$ 410,667	\$ 390,801	\$ 423,445	\$ 428,299	\$ 476,629
Intergovernmental Revenue	\$ 108,270	\$ 58,500	\$ 100,000	\$ 3,480,795	\$ 436,851
Investment Earnings	\$ 555,975	\$ 461,873	\$ 664,840	\$ 1,196,294	\$ 1,911,393
Licenses & Permits	\$ -	\$ -	\$ -	\$ -	\$ 13,710
Other Revenue	\$ 303,058	\$ 6,907,655	\$ 60,807,586	\$ 2,217,458	\$ 3,033,919
System Development Fees	\$ 14,950,273	\$ 20,984,486	\$ 19,475,958	\$ 21,084,458	\$ 24,701,209
Transfers In	\$ 2,860,913	\$ 13,016,229	\$ 2,248,656	\$ 3,823,825	\$ 2,366,621
Total	\$ 48,657,947	\$ 73,559,270	\$ 118,204,123	\$ 67,670,724	\$ 72,126,785

Revenue 5 Year Forecast

The financial outlook indicates a steady growth rate over the next five years averaging 700 new residential permits per year.

Table 3: Revenue 5 Year Forecast

Category	2020 Approved Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast
Charges for Service	\$41,308,996	\$43,409,683	\$45,287,903	\$47,657,075	\$49,982,540
Contributions & Donations	\$281,825	\$281,825	\$281,825	\$281,825	\$281,825
Fines & Forfeitures	\$447,450	\$447,450	\$447,450	\$447,450	\$447,450
Intergovernmental Revenue	\$350,000	\$350,000	\$150,000	-	-
Investment Earnings	\$463,842	\$532,975	\$657,646	\$690,648	\$690,648
Licenses & Permits	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
Other Revenue	\$2,340,826	\$2,497,998	\$1,103,324	\$649,367	\$651,831
System Development Fees	\$25,756,786	\$24,796,929	\$24,729,284	\$25,395,875	\$25,259,668
Transfers In	\$6,268,640	\$2,616,192	\$2,728,011	\$2,826,764	\$3,933,312
Total	\$77,230,365	\$74,945,052	\$75,397,443	\$77,961,004	\$81,259,274

Revenue Risks

CRW is constantly reviewing the level of risk in terms of revenues and how to deal with each type. Some of those risks include customer consumption patterns related to weather and conservation efforts, growth

and development, regulatory changes, changes in large customers especially non-residential customers and non-revenue water. The scale of potential revenue risks is:

Weather (Rainy Seasons vs. Dry Seasons)	2,327 million gallons (mg) in a wet year and 2,811 mg in a dry year, which could cost up to \$1.5 million a year Rate Revenue Stabilization Reserve: This reserve has been set up in the water fund to offset the potential loss in revenue due to weather conditions that may result in a significant decrease in water consumption and corresponding revenues. This is based on a historical average of 10% of metered water sales in any given year
Consumption (Conservation, Water Usage)	Could range from \$10 million to \$60 million total between 2020-2024
SDFs (Growth Projections vs. Actual Growth)	Could be up to \$125.0 million total between 2020-2024
Large Customers (Consumption Usage-Top 25 Users)	15% of current revenues worst case approximately \$2.1 million of water revenues
Commercial Stormwater (80% Impervious Risk Projected vs. Actual Impervious Area)	Up to \$1.12M or 35% of total service charges in a typical year
Non-Revenue Water (Apparent and Real Water Losses)	Approximately 227.587 mg/yr. or approximately \$250,000 a year

Revenue Key Performance Indicators

Apparent water loss is consumed water not properly measured, accounted or paid for. Real water loss is the physical loss of water from the distribution system, including leakage and storage overflows. Apparent water loss equates to lost annual revenue of approximately \$175K in 2019. This is important to track since we are incurring the expense to produce the water but not receiving the revenues we should be.

Table 4: Key Performance Indicators (KPI) Performance

KPI	2015	2016	2017	2018	2019	AWWA Quartile
Apparent Water Loss (MG)	35	38	39	42	40	No AWWA Quartile
Real Water Loss (MG)	135	248	236	62	147	No AWWA Quartile

Fixed Versus Variable Revenue

CRW understands that fixed versus variable revenue tracking is important to maintaining long-term viability and sustainability. It is important to ensure that the combination of fixed and variable revenues can cover 100% of the expenses needed to operate the individual enterprise funds as well as minimize future cash flow risk and maintain adequate reserves for future capital needs. Fixed versus variable revenues for CRW vary based on the enterprise fund in which they are booked.

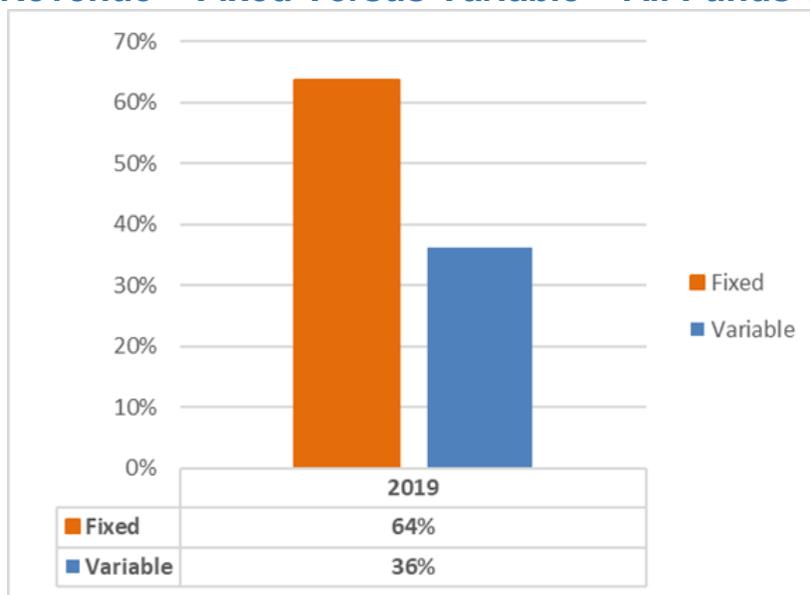
Fixed revenues for the water fund consist primarily of fixed monthly service charges. Variable revenues for the water fund are comprised mostly of metered water sales, bulk water sales, and fines and forfeitures (special charges).

For water resources, the variable revenues are watering violations to encourage water conservation. Fixed revenues are comprised mainly of fixed monthly renewable water charges.

Stormwater variable revenues are mostly DESC/GESC inspection fees. Stormwater fixed revenues are primarily fixed monthly service charges. Wastewater fixed revenues include mostly fixed monthly wastewater charges.

CRW looks at several areas of the business to mitigate revenue risk. Customer consumption patterns related to seasonal weather changes, increased conservation efforts, growth, types of development, regulatory changes and capturing and minimizing non-revenue water are amongst the revenue risk areas analyzed as part of the annual rates and fees study.

Chart 1: Revenue – Fixed Versus Variable – All Funds Combined



EXPENSE

Expenses are booked within the individual enterprise fund in which the expense is incurred. The largest expense across all four funds comes from costs incurred for construction in process (CIP) or capital outlay for fixed assets. The second largest expense for CRW is personnel costs, followed by energy and chemical costs.

2019 Expense Results

As shown in Table 5 below, expenses in 2019 were \$64.0M lower than budget. The majority of this variance relates to capital projects not completed in 2019 of approximately \$56.1M. The two largest capital items carrying over to 2020 are \$18.1M for the advanced oxidation facility and \$9.8M for the Plum Creek diversion structure. Other projects of note making up the \$56.1M variance which have been carried over to 2020 are \$5.5M for the Newlin Gulch pipeline and pump station, \$4.5M in new water supply wells, \$4.1M for Chatfield reallocation, and \$3.0M in Wise infrastructure.

Services and Other were under budget by \$8.2M. This is due to \$3.4M for the PCWRA capacity expansion being pushed and completed in 2020, \$1.0M in the CIP operations and maintenance account also related to the PCWRA capacity expansion, \$1.2M in the repair and maintenance well accounts for wells started but not completed until 2020, and \$1.2M in the wastewater treatment-PC account change in accounting treatment.

Table 5: Expense - All Enterprise Funds Combined - 2019

Category	2019 Actuals (a)	2019 Y E Estimates (b)	2019 Approved Budget (c)	Variance (a)-(b)	Variance (a)-(c)
Capital	\$45,951,866	\$57,123,201	\$102,004,777	(\$11,171,335)	(\$56,052,911)
Debt & Financing	\$5,832,816	\$5,790,012	\$5,789,500	\$42,804	\$43,316
Personnel	\$8,888,832	\$8,896,707	\$8,858,637	(\$7,875)	\$30,195
Services & Other	\$33,408,757	\$40,535,247	\$41,517,302	(\$7,126,490)	(\$8,108,545)
Supplies	\$2,304,365	\$2,327,852	\$2,357,074	(\$23,487)	(\$52,709)
Transfers Out	\$3,132,964	\$3,033,702	\$3,033,699	\$99,262	\$99,265
Total	\$99,519,600	\$117,706,721	\$163,560,989	(\$18,187,121)	(\$64,041,389)

Expense Last Five Years

As shown in Table 6 below, the last five years' total expenses have varied year to year based on the timing of capital projects, with operational expenses increasing by an average of 7% per year.

Table 6: 5 Year Expense - All Funds Combined - 2014 through 2018

Category	2014 Actuals	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals
Capital	\$ 20,306,151	\$ 10,391,914	\$ 17,736,101	\$ 70,147,171	\$ 28,405,164
Debt & Financing	\$ 4,522,983	\$ 10,795,156	\$ 71,376,978	\$ 5,730,871	\$ 5,753,283
Personnel	\$ 5,882,323	\$ 6,525,154	\$ 7,082,753	\$ 7,515,098	\$ 8,129,870
Services & Other	\$ 8,542,426	\$ 11,611,791	\$ 11,427,009	\$ 14,026,538	\$ 14,208,003
Supplies	\$ 1,497,076	\$ 1,619,313	\$ 1,762,613	\$ 1,799,310	\$ 2,095,516
Transfers Out	\$ 17,246,213	\$ 1,614,379	\$ 1,534,557	\$ 1,630,756	\$ 5,341,125
Total	\$ 57,997,172	\$ 42,557,707	\$ 110,920,012	\$ 100,849,743	\$ 63,932,962

Expense 5 Year Forecast

One of the largest future expenses for CRW includes developing and maintaining the renewable water components of the system as well as maintaining the existing infrastructure.

Expense risks or future issues that we see are possible WISE rate increases, rising energy costs and more capital replacement due to aging infrastructure.

Table 7: Expense 5 Year Forecast

Category	2020 Approved Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast
Capital	\$42,290,389	\$32,591,467	\$21,203,362	\$26,627,867	\$24,837,466
Debt & Financing	\$5,794,725	\$5,816,825	\$5,838,800	\$5,866,600	\$5,523,985
Personnel	\$9,684,004	\$10,657,703	\$11,332,434	\$11,962,326	\$12,470,673
Services & Other	\$19,869,737	\$20,916,010	\$21,097,228	\$21,717,524	\$21,974,150
Supplies	\$2,681,842	\$2,677,928	\$2,690,475	\$2,751,598	\$2,806,113
Transfers Out	\$6,829,114	\$3,113,094	\$3,230,762	\$3,337,615	\$3,430,051
Total	\$87,149,811	\$75,773,027	\$65,393,061	\$72,263,530	\$71,042,438

Expense Risks

Along with revenue risks CRW also faces expense risks. These two items can be tied together in terms of variable revenues affecting variable expenses and vice versa. With fluctuations in variable revenues, CRW tracks expenses closely to ensure that these are also fluctuating in a similar fashion. If revenues are projected to go down, then expenses should be watched closely and go down in a similar fashion.

Each fund is at risk in terms of capital expenditures from year to year. These items are projected long term, but increases in costs, changes in scope, project changes, extreme weather events, changes in growth, and changes in the needs of CRW can cause large shifts in dollar amounts as well as in which year investments need to be funded. There is also the risk that the infrastructure in place does not last as long as expected, requiring more rehab and replacement in a quicker timeframe.

Some other expense risks include significant increases in inflation. Engineering estimates for capital projects reviewed on an annual basis ensure costs are current. CRW uses the Engineering News Records Construction Cost Index as a guide.

Staffing, energy and long term operating costs can also be a large risk for CRW. We evaluate the requests for staffing each year and determine the viability of costs for adding additional staff members. If costs are too high, CRW may not be able to obtain needed staff members to complete the CIP. Also if revenues decrease significantly there is always a possibility of the risk of having to decrease staffing levels. Energy and long term operating costs can be unpredictable which can cause a risk for expenses.

Regulatory risk is another important factor. There are ever changing regulations with which we must remain in compliance. Changing regulations can also cause a risk if compliance can't be met in time or the costs to remain in compliance change as updates are needed to the system.

Expense Key Performance Indicators

The operating ratio shows CRW is efficiently managing to keep costs low while generating adequate revenue. The energy consumption efficiency shows that CRW is producing the same amount of water over time but the energy costs are coming down. The water operational cost has been increasing since the WISE water came into the system as it is very expensive. The wastewater operational costs have trended slowly higher due to current costs of treating wastewater.

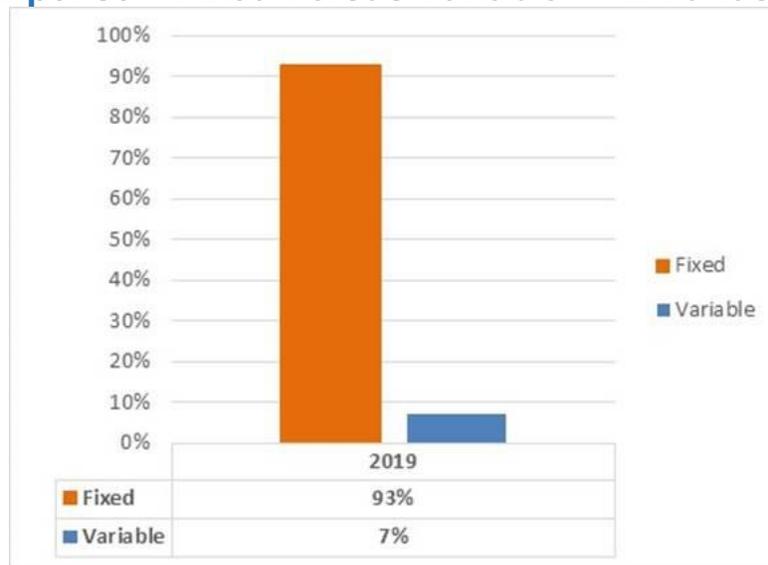
Table 8: Key Performance Indicators (KPI) Performance

Key Performance Indicator	2015	2016	2017	2018	2019	AWWA Quartile
Operating Ratio	34%	32%	28%	31%	33%	Top
Energy consumption Efficiency (kBTU/MG/Year)	39,098	42,585	36,668	32,946	34,703	Bottom
Water Operational Cost (\$/MGD)	\$4,384	\$4,307	\$4,490	\$5,214	\$6,730	Bottom
Wastewater Operational Cost (\$/MGD)	\$3,358	\$3,482	\$3,532	\$3,821	\$4,034	Bottom

Fixed versus Variable Expenses

Fixed versus variable expenses for CRW vary depending on the enterprise fund similar to that of the revenues. For all funds combined, the ratio typically averages a little over 93% fixed and 7% variable. The variable expenses include items such as gas, electricity and chemicals. All other expenses are fixed with personnel being the largest.

Chart 2: Expense – Fixed Versus Variable – All Funds Combined



FIXED ASSETS

Castle Rock Water is responsible for daily operations, maintenance, long-term asset management, infrastructure upgrades, water conservation and expansions, and associated activities such as system planning, engineering, and administration. The Town’s Water, Wastewater, Water Resources and Stormwater enterprises are four financially self-sufficient funds with expenditures for capital and operational requirements derived primarily from rates and system development fees. As of December 2019, Castle Rock Water has a staff of 98 professionals and manages over \$703 million dollars in total assets including five water treatment plants, more than 928 miles of water, sewer, and stormwater pipes, 19 pump stations, 15 water storage tanks, 30 well facilities (over 70 wells), and other infrastructure.

Table 9: Total Capital Assets (Net of Accumulated Depreciation)

Fund	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals	2019 Actuals
Water	\$179,567,717	\$182,867,809	\$194,901,413	\$202,815,281	\$206,490,442
Water Resources	\$119,031,039	\$132,862,748	\$184,890,672	\$189,654,651	\$224,383,293
Stormwater	\$ 52,542,766	\$ 55,082,220	\$ 58,362,666	\$ 67,410,306	\$ 70,140,299
Wastewater	\$ 58,611,395	\$ 60,476,200	\$ 61,122,115	\$ 64,937,049	\$ 65,060,632
Total	\$409,752,917	\$431,288,977	\$499,276,876	\$524,817,287	\$566,074,666

The 2020 capital budget proposed across the four enterprises is approximately \$42.3 million as shown in Table 10 below. Key items in the 2020 budget by Castle Rock Water enterprise fund are as follows:

- In the water fund, the major capital projects for 2020 include \$3.85M for the Liberty Village tank, \$3.0M for new water supply wells, \$1.7M for the new administrative building, and \$1M for the Glovers waterline replacement.
- Major water resources’ capital projects for 2020 include \$5.8 for alternative source of supply projects, \$5.0M for water rights acquisition, \$4.8M for WISE Infrastructure, and \$3.0M for Newlin Gulch.

- The major projects for 2020 in the stormwater fund include \$1.3M for Craig and Gould, \$800K for the administrative building, \$660K for Parkview tributary stabilization, and \$500K for other miscellaneous stabilization projects.
- The major projects for the wastewater fund in 2020 include \$2.5M for Plum Creek interceptor, \$729K for the administrative building, \$500K for sewer line rehab, and \$425K for Craig and Gould.

Table 10: Forecasted CIP Additions by Year

Fund	2020 Approved Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast
Water	\$11,991,326	\$7,103,482	\$4,845,000	\$6,908,000	\$4,607,000
Water Resources	\$21,453,510	\$20,483,807	\$9,613,447	\$10,837,691	\$14,393,027
Stormwater	\$3,504,162	\$1,326,178	\$3,056,15	\$3,534,176	\$2,556,439
Wastewater	\$5,341,391	\$3,678,000	\$3,688,000	\$5,348,000	\$3,281,000
Total	\$42,290,389	\$32,591,467	\$21,203,362	\$26,627,867	\$24,837,466

FUND BALANCES (RESERVES)

Town Council has designated that Castle Rock Water maintain minimum operating reserves of at least 60 days of operating and maintenance costs as well as debt and legally required reserves. In addition to this requirement instituted in code by Town Council, Castle Rock Water has identified other key reserves in order to ensure responsible financial management of the enterprise funds.

- **Operating Reserve:** Held in all four funds and provides for 60 days of operating and maintenance costs.
- **Catastrophic Failure Reserve:** Held in all four funds and is intended for emergency repairs or replacements in response to catastrophic events. This reserve has been set at approximately 2% of original fixed asset value.
- **Rate Revenue Stabilization Reserve:** This reserve has been set up in the Water Fund only to offset the potential loss in revenue due to weather conditions that result in a significant decrease in water consumption and corresponding revenues. This reserve is 10% of the metered water sales in any given year.
- **Capital Reserve:** Held in all four funds and is intended for future capital improvement project funding.

Fund Balances by Year

Charts 3 thru 6 below show the fund balances by year for each individual fund from 2011 through 2019 actuals and 2020 through 2024 forecast. A minimum unobligated reserve balance of \$500k is maintained in both the water resources and stormwater fund. A minimum unobligated reserve balance of \$1.0M is maintained in both the water and wastewater fund.

Chart 3: Water Fund Balance by Year

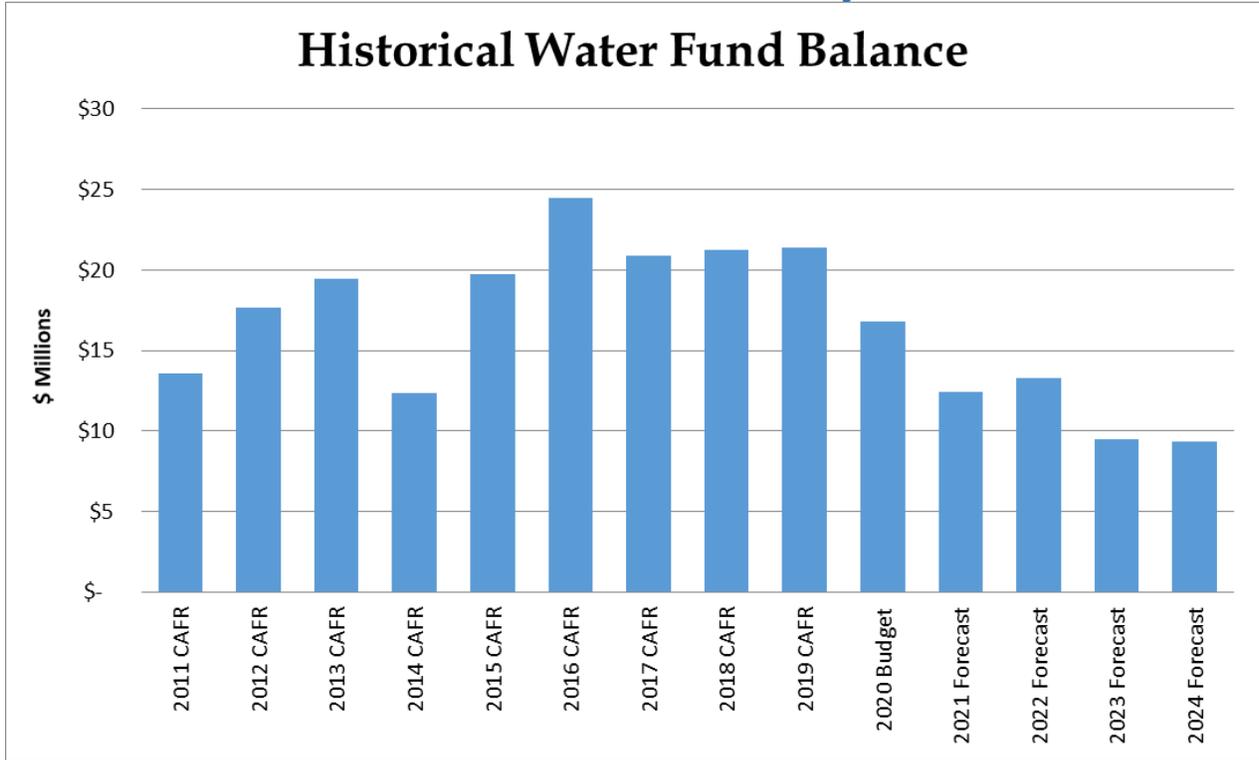


Chart 4: Water Resources Fund Balance by Year

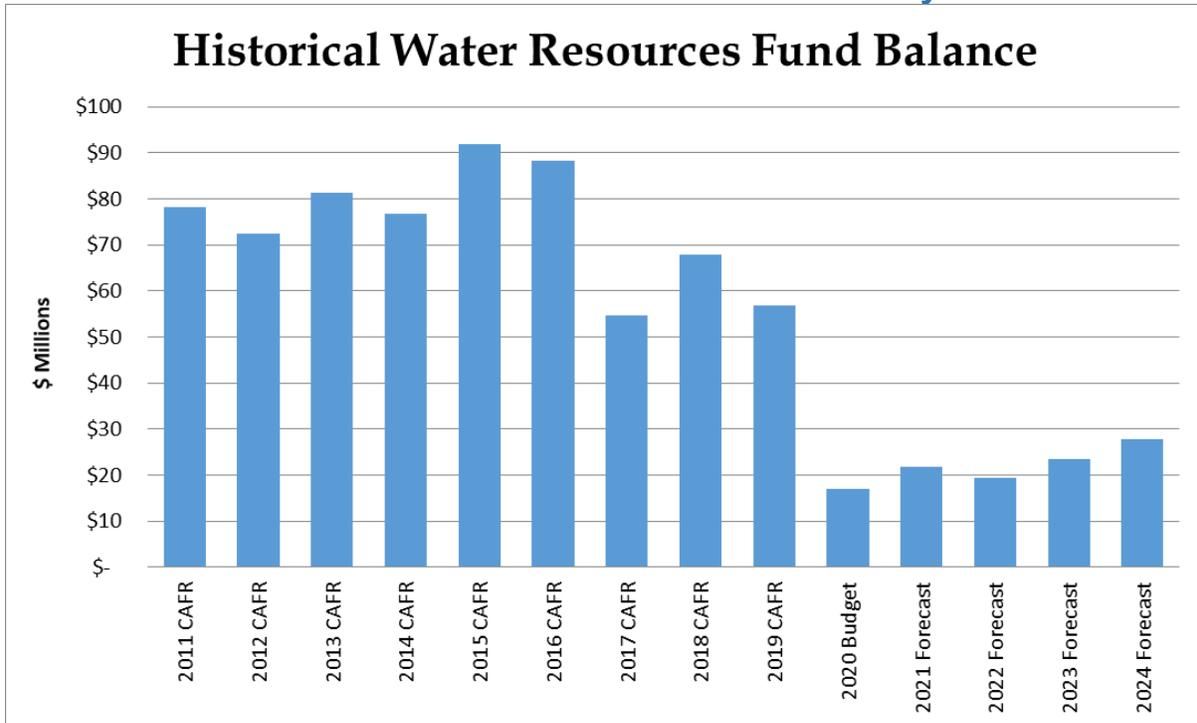


Chart 5: Stormwater Fund Balance by Year

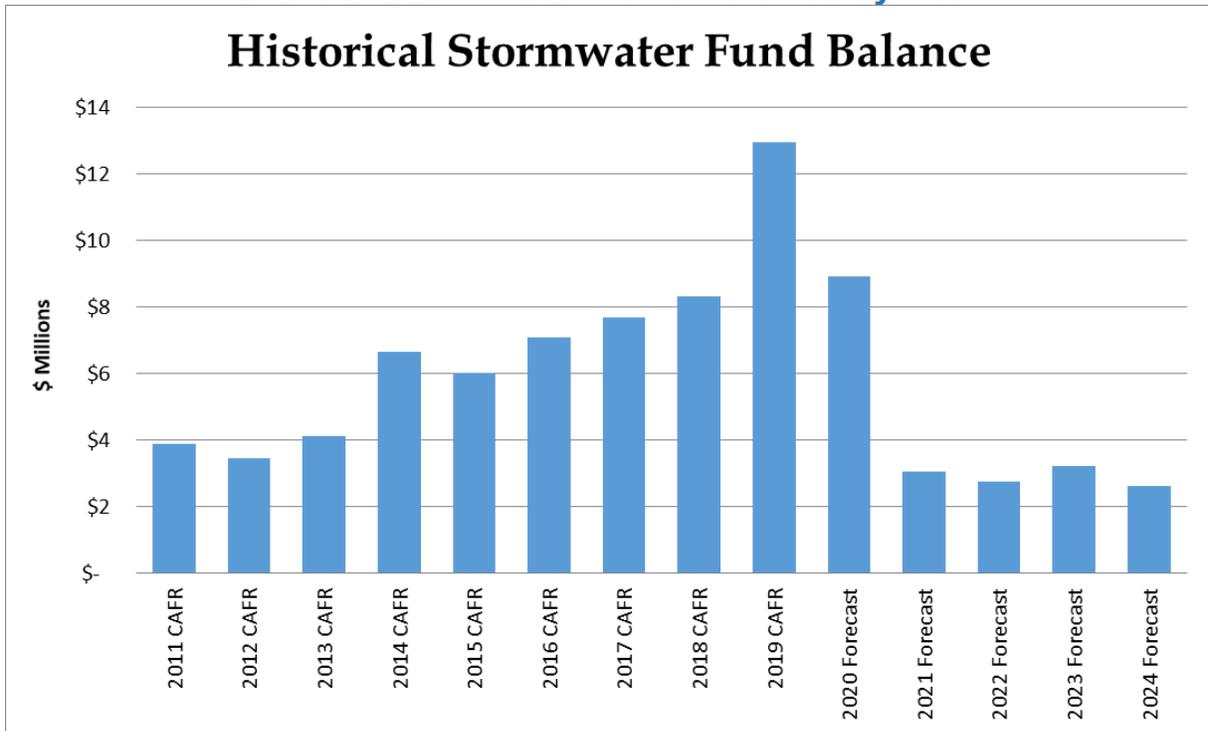
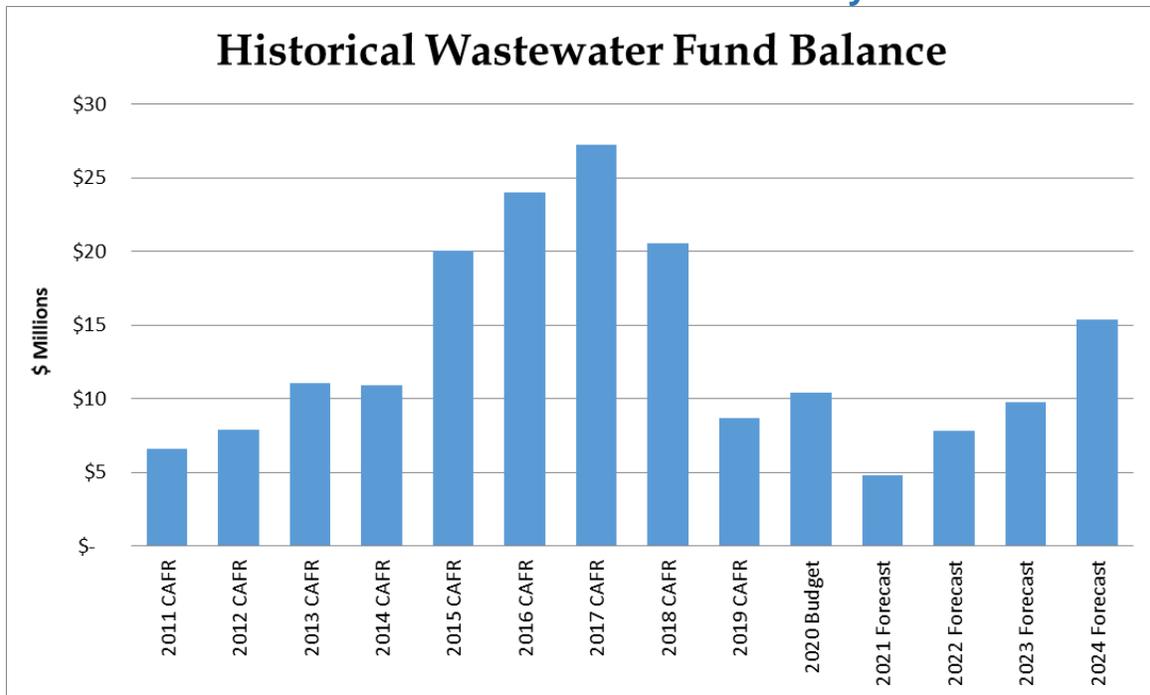


Chart 6: Wastewater Fund Balance by Year



DEBT AND FINANCING COSTS

Castle Rock Water strives to minimize our debt carrying costs and to maximize our bond rating. The performance of our debt also helps in the prediction of debt carrying costs going forward and is a key input in our rates and fees modeling.

CRW's debt policy is important to many aspects of the Financial Management Plan. The current philosophy is not to issue new debt beyond what has already been committed. However, CRW is flexible with this policy depending on the future needs based on the financial planning models. Debt will be issued on a case-by-case basis if that is determined the best action to take for our customers.

The current debt portfolio for CRW primarily contains revenue refunding bonds and inter-fund loans between the different enterprise funds. The current revenue refunding bonds include the following:

- *Water and Sewer Revenue Refunding Bonds, Series 2012*
 - Remaining Principal at year end 2019 - \$4,975,000
 - 2.60% Interest Rate
 - Maturity Date - 2023
- *Water and Sewer Revenue Refunding Bonds, Series 2015*
 - Remaining Principal at year end 2019 - \$4,060,000
 - 2.79% Interest Rate
 - Maturity Date - 2026
- *2016 Refunding of COP Bonds*
 - Remaining Principal at year end 2019 - \$42,435,000
 - 2.51% Interest Rate
 - Maturity Date - 2034

Table 11: Annual Financing Costs – All Funds - 2014 through 2019

Category	2014 Actuals	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals	2019 Actuals
Debt & Financing Costs	\$4,522,983	\$10,795,155	\$ 71,376,978	\$ 5,730,871	\$ 5,753,283	\$ 5,832,816

Table 12: Annual Financing Costs Forecast

Category	2020 Approved Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast
Debt & Financing Costs	\$5,794,725	\$5,816,825	\$5,838,800	\$5,866,600	\$5,523,985

Financing Costs Key Performance Indicators

Debt ratio measures the ratio of total debt to total assets.

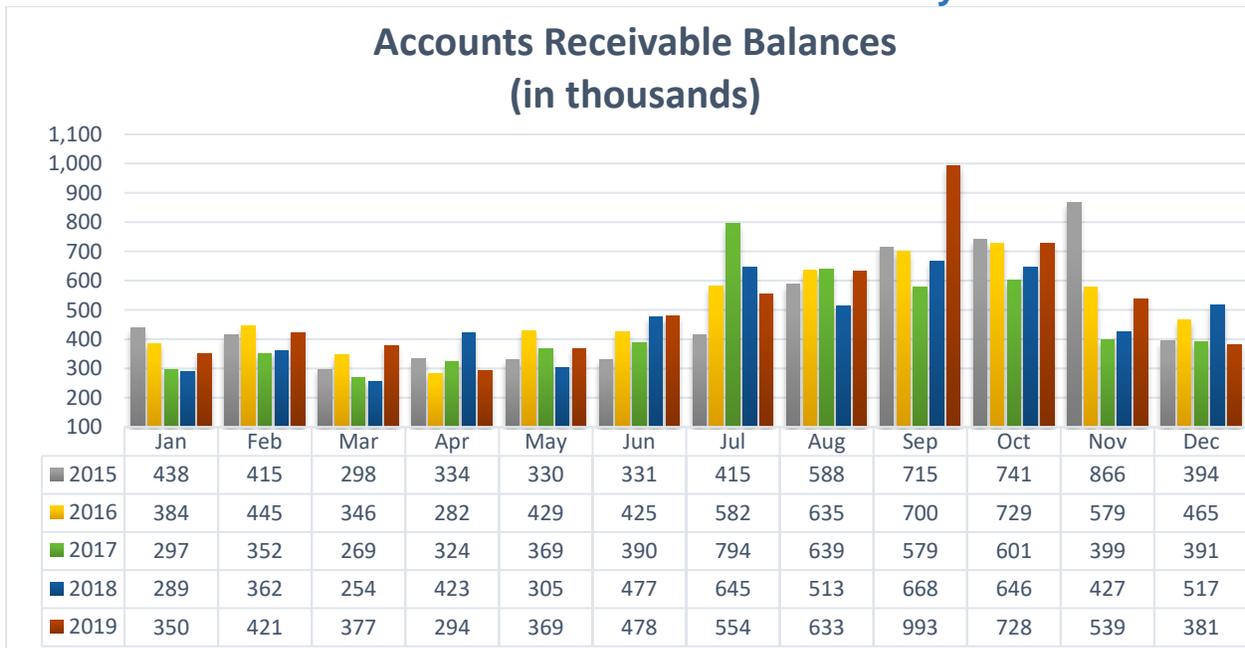
Table 13: Key Performance Indicators (KPI) Performance

Key Performance Indicators	2015	2016	2017	2018	2019	AWWA Quartile
Debt Ratio	15%	15%	13%	12%	11%	Top
Debt Carrying Costs	32%	25%	43%	39%	37%	No AWWA Quartile
Standard & Poor's (S&P) Bond Rating	AA+	AA+	AA+	AA+	AA+	No AWWA Quartile
Moody's Bond Rating	Aa3	Aa3	Aa3	Aa3	Aa2	No AWWA Quartile

ACCOUNTS RECEIVABLE

Over the last several years, Castle Rock Water staff has worked to clean up accounts receivable and to put new processes and policies in place that allow for this to be maintained going forward. Some of the policies and processes put in place include a disconnection of service, lien, and non-sufficient fund process, just to name a few.

Chart 7: Accounts Receivable Balances by Year



CRW Accounts Receivable (AR) Turnover ratio goal is to keep within 90 days or less. As shown in Chart 8 below, the average accounts receivable collection period in the last several years is well below the 90 days. Chart 9 shows the increase year over year of annual revenue billed. As the annual rate revenue has increased, the collection period has remained steady.

Chart 8: Accounts Receivable Collection Period

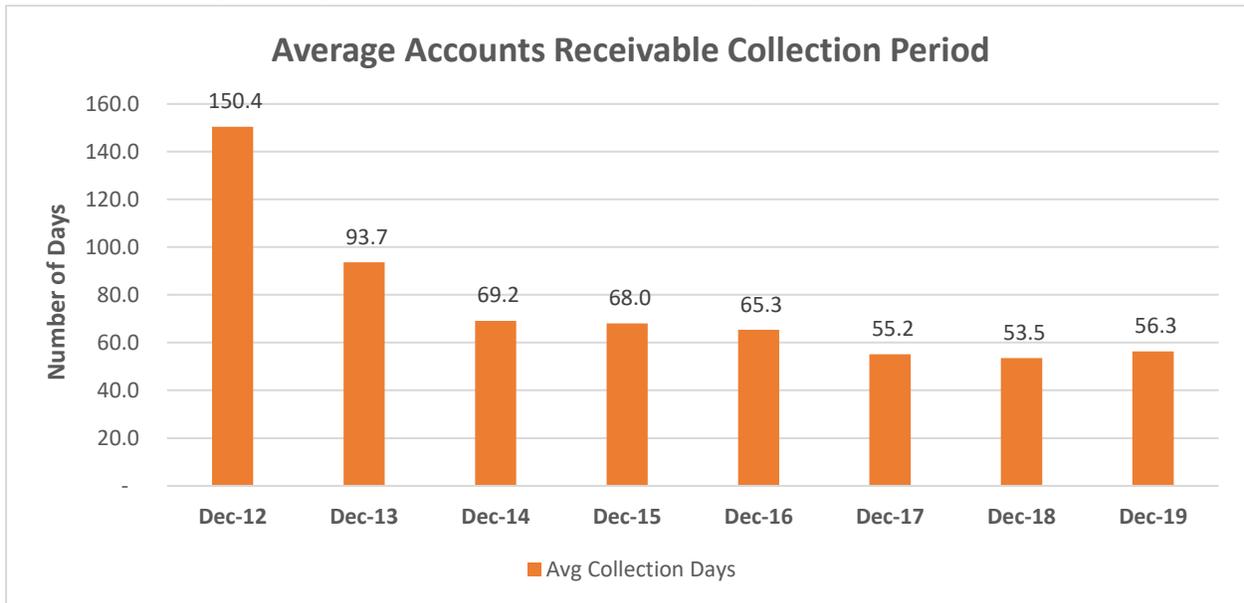
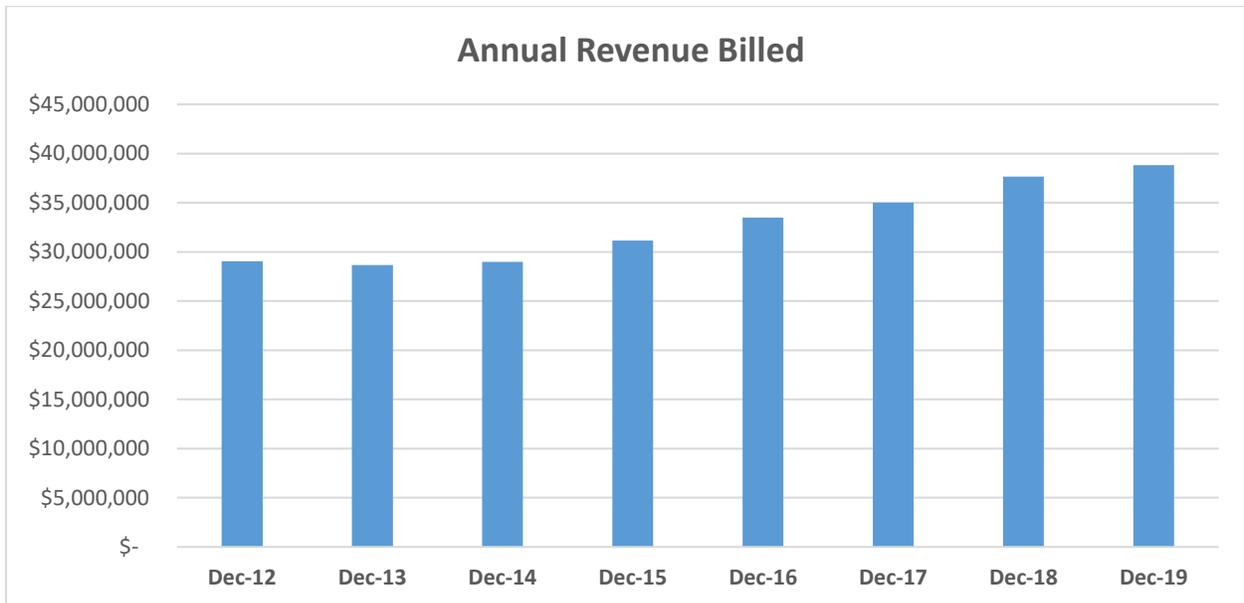


Chart 9: Annual Rate Revenue Billed



2019 RATES AND FEES STUDY

The purpose of the rates and fees study is to calculate the cost-of-service (COS) based rates for each enterprise fund that meet CRW’s financial goals while being defensible and promoting water conservation. The annual rates and fees study update ensures that any changes in revenue requirements are accounted for based on changes in customer characteristics and both operational and capital costs.

Customer Rates

CRW uses a water budget tiered rate structure including variable and fixed rate components to encourage water conservation and water efficiency. Each account pays a fixed monthly water service charge, water resources charge and wastewater charge based on their individual meter size.

The volumetric water rate structure consists of three increasing tiered rates:

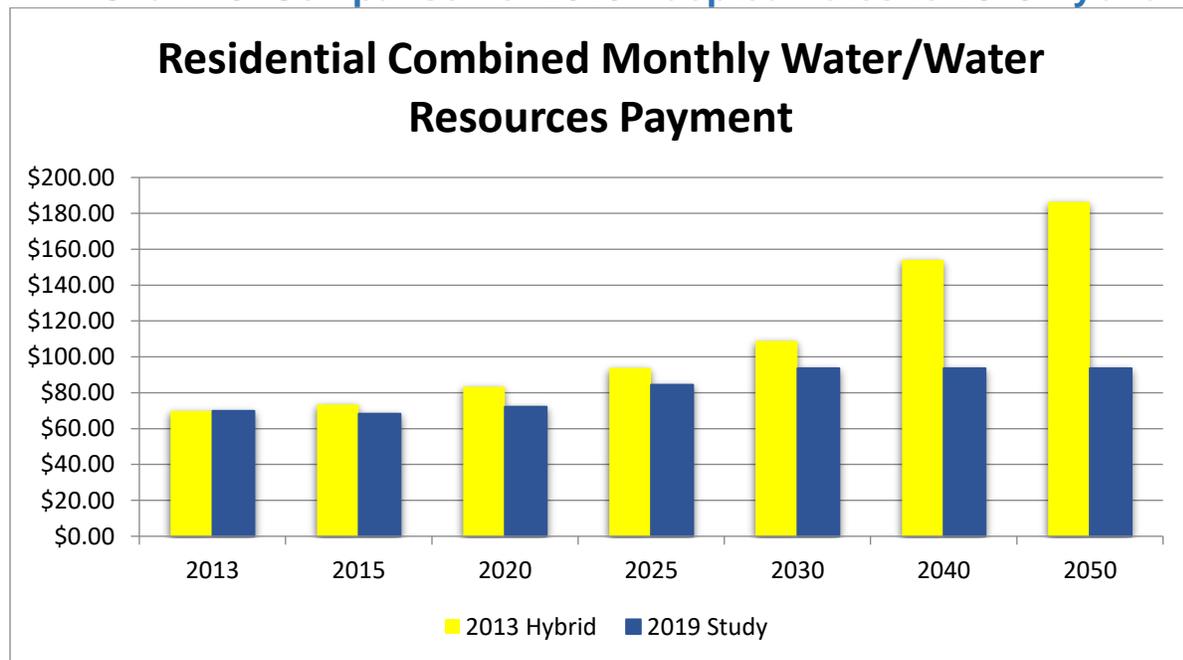
- Tier 1 = AWMC or Average Winter Monthly Consumption = Base COS rate (Typically considered indoor use)
- Tier 2 = Outdoor Usage = Base plus extra capacity rates by customer class (Typically considered outdoor use)
- Tier 3 = Excess use rate to recover the remaining revenue requirements

Residential accounts are subject to a water conservation surcharge for usage greater than 40,000 per month. This surcharge represents Tier 4 and sends a conservation price signal to customers with excessive usage. The revenue collected from this tier helps fund water conservation rebate programs.

Customer Rates Hybrid Model

The good news is that rates have continued to be lower than projected when compared to the 2013 hybrid (Box Elder / WISE alternate source of supply projects) long-term renewable water plan approved by Council in 2013 as shown in Chart 10 below. These positive results are a result of keeping operating expenditures and needed capital investments under budget, successful implementation of regional partnerships and utilizing creative approaches to optimize finances

Chart 10: Comparison of 2020 Adopted Rates to 2013 Hybrid



Future Rates Strategy

- ◆ Focus on outdoor irrigation rates for any needed increases
- ◆ Update outdoor water budgets to actual values based on area and landscape type (non-residential first, then residential)
- ◆ Non-residential water budget adjustments will be effective January 1, 2021
- ◆ Generate extraterritorial service revenue to help spread costs of service
- ◆ Lease excess renewable/reusable water
- ◆ Reduce operational costs

System Development Fees

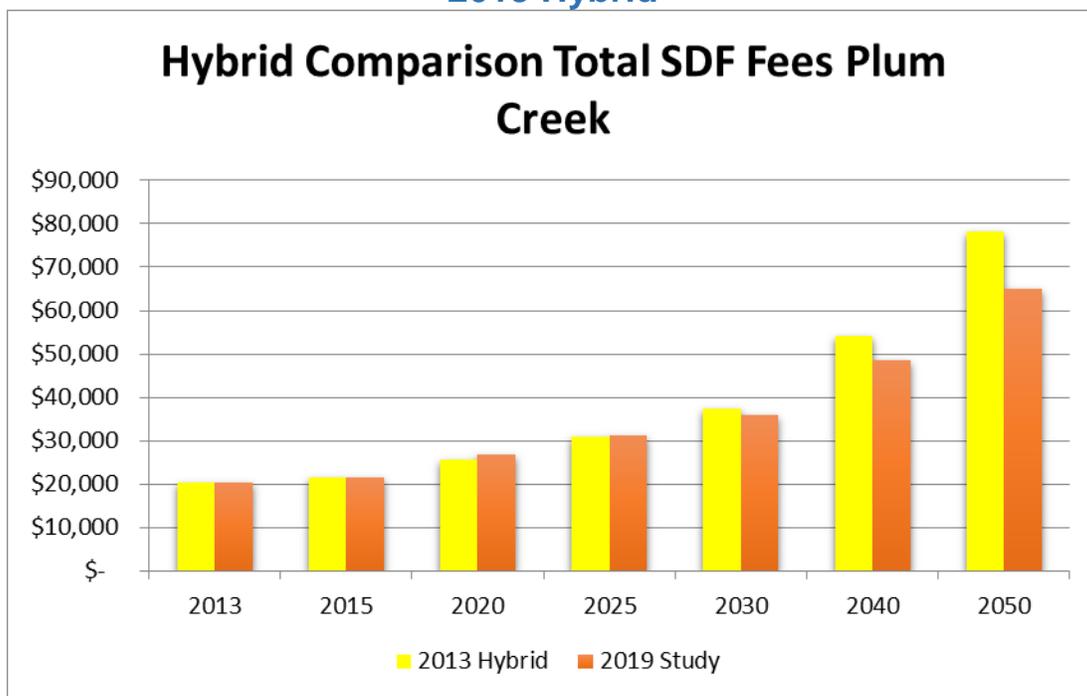
The term System Development Fee (SDF) is used interchangeably with other similar terms in the water and wastewater utility industry to describe any fee or charge that recovers capital costs associated with system growth. Also known as tap fees, impact fees, system investment charges, plant investment fees and other terms; these fees are designed to recover the capital costs of growth from those causing the growth to occur, rather than from the utility's existing customer base.

Water, water resources and wastewater SDFs are assessed at the time of permitting for the right to access existing system capacity or for payment of a proportionate share of the capital cost to add capacity to meet the potential demand the new customer is expected to place on the system. Also paid at permitting, DIFs are a proportionate share of the cost to add Stormwater capital facilities to manage the runoff created by the impervious surfaces of new construction in the Plum Creek or Cherry Creek Basin.

SDF Hybrid Model

Chart 11 below shows a comparison of the 2020 adopted system development fees to the 2013 Hybrid model for Plum Creek basin. CRW's goal is to come in at or below the 2013 hybrid model. The results indicate that SDFs are tracking at or below the numbers projected in the 2013 model, which is a positive trend that CRW will evaluate annually.

Chart 11: Comparison of 2020 Adopted System Development Fees to 2013 Hybrid



Future System Development Fees Strategy

- ◆ Continue to ensure growth pays for growth
- ◆ Incentivize lower water using development
- ◆ Create an irrigation SDF component that better captures peaking costs
- ◆ Incentivize no outdoor irrigation for new development

Benchmarking

On an annual basis, Castle Rock Water participates in the American Water Works Association (AWWA) survey as shown throughout this report in the Key Performance Indicators (KPI) sections. Staff also obtains information for a myriad of other types of benchmarking through south metro providers websites and through staff contacts. As part of the annual rates and fees study, CRW benchmarks against local provider's rates as well as system development fees.

The results of the comparisons with other South Metro water providers are in charts 12 through 14 below. It is important to note that a number of the South Metro water providers have their revenues supplemented by tax mill levies to help with renewable water investments. The results of this comparison indicate that Castle Rock's rates and system development fees are comparable to other area providers.

Chart 12: Comparison of 2020 Adopted Rates – Typical Monthly Winter Bill (per 5,000 gallons)

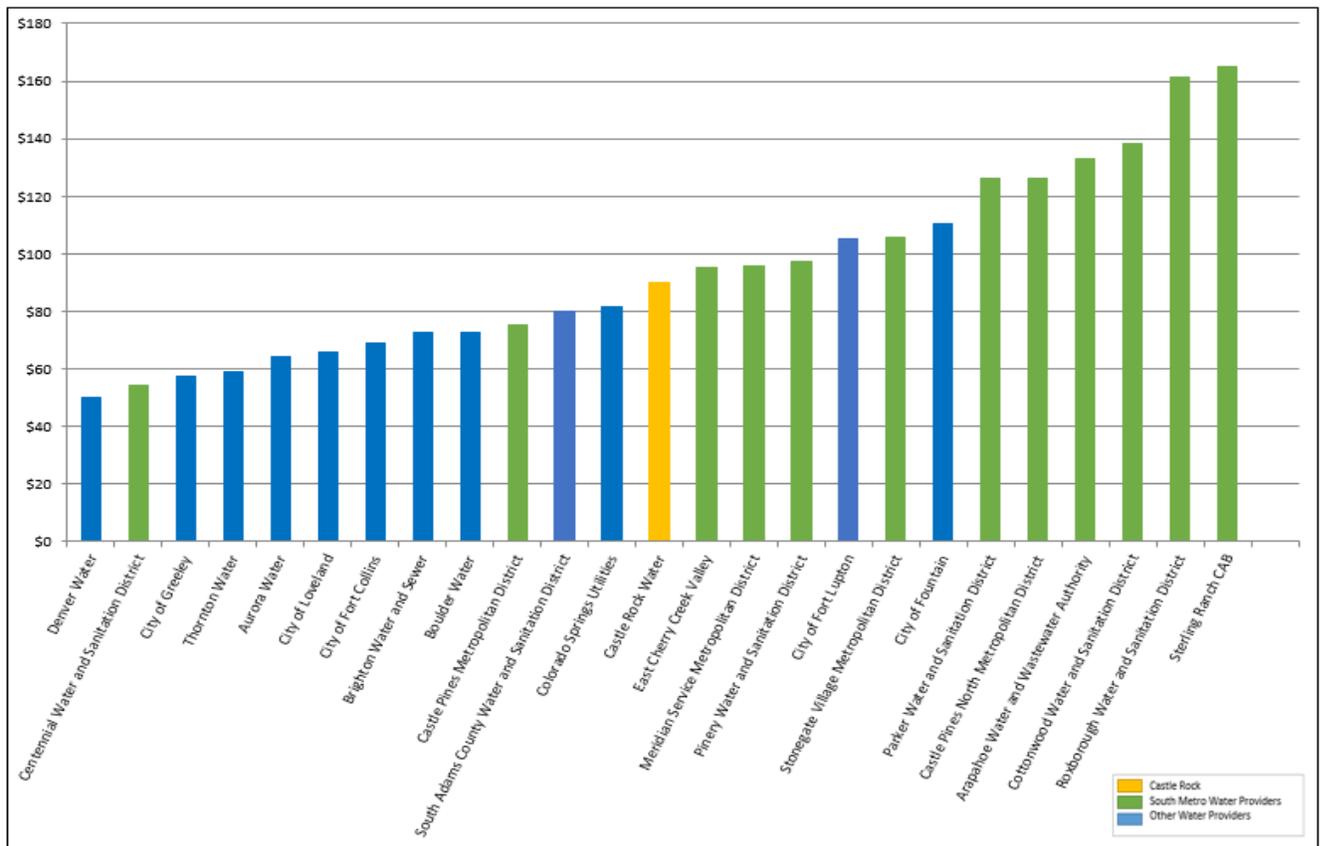


Chart 13: Comparison of 2020 Adopted Rates – Typical Monthly Summer Bill (per 15,000 gallons)

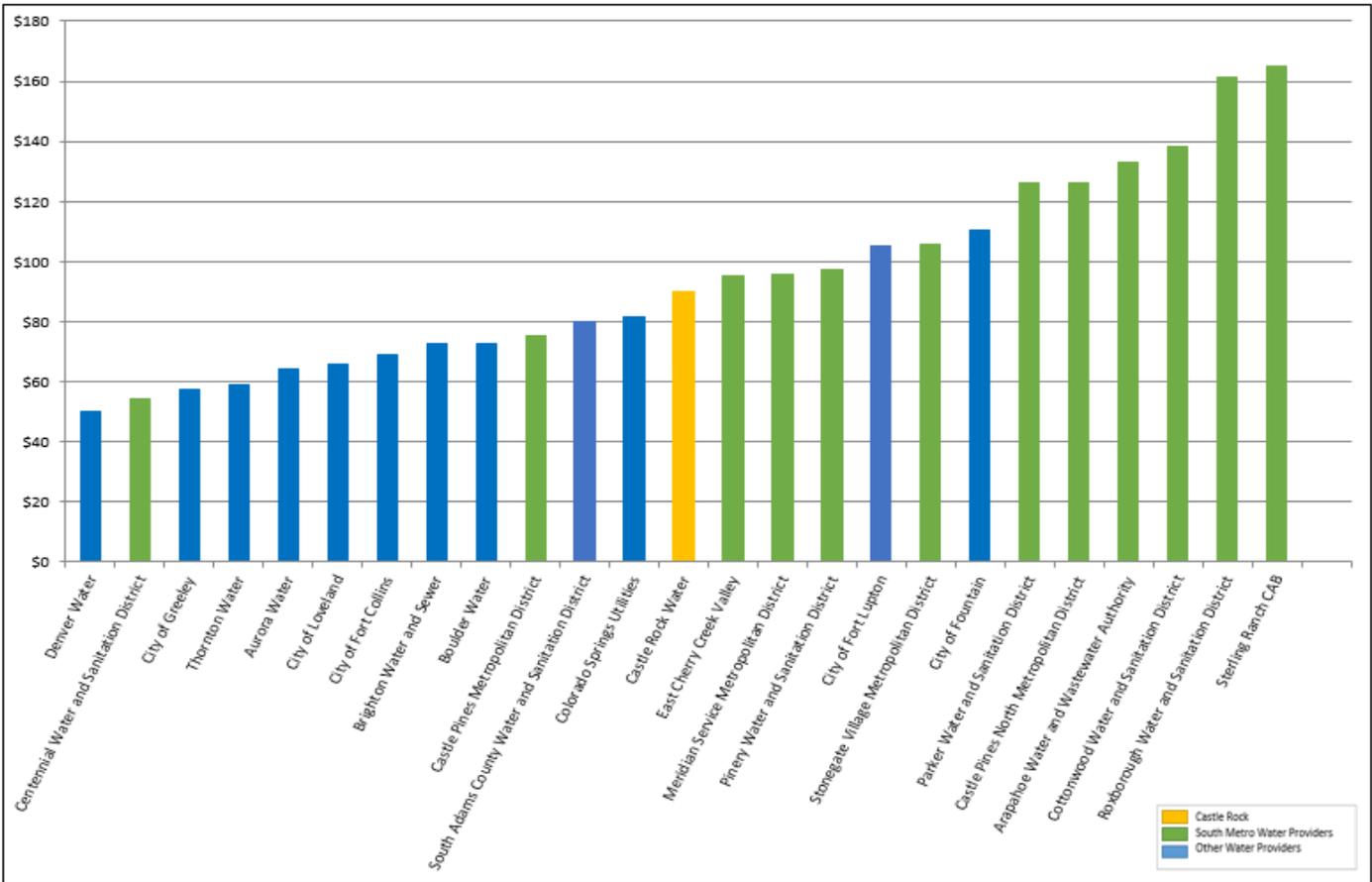


Chart 14: 2020 Adopted System Development Fees

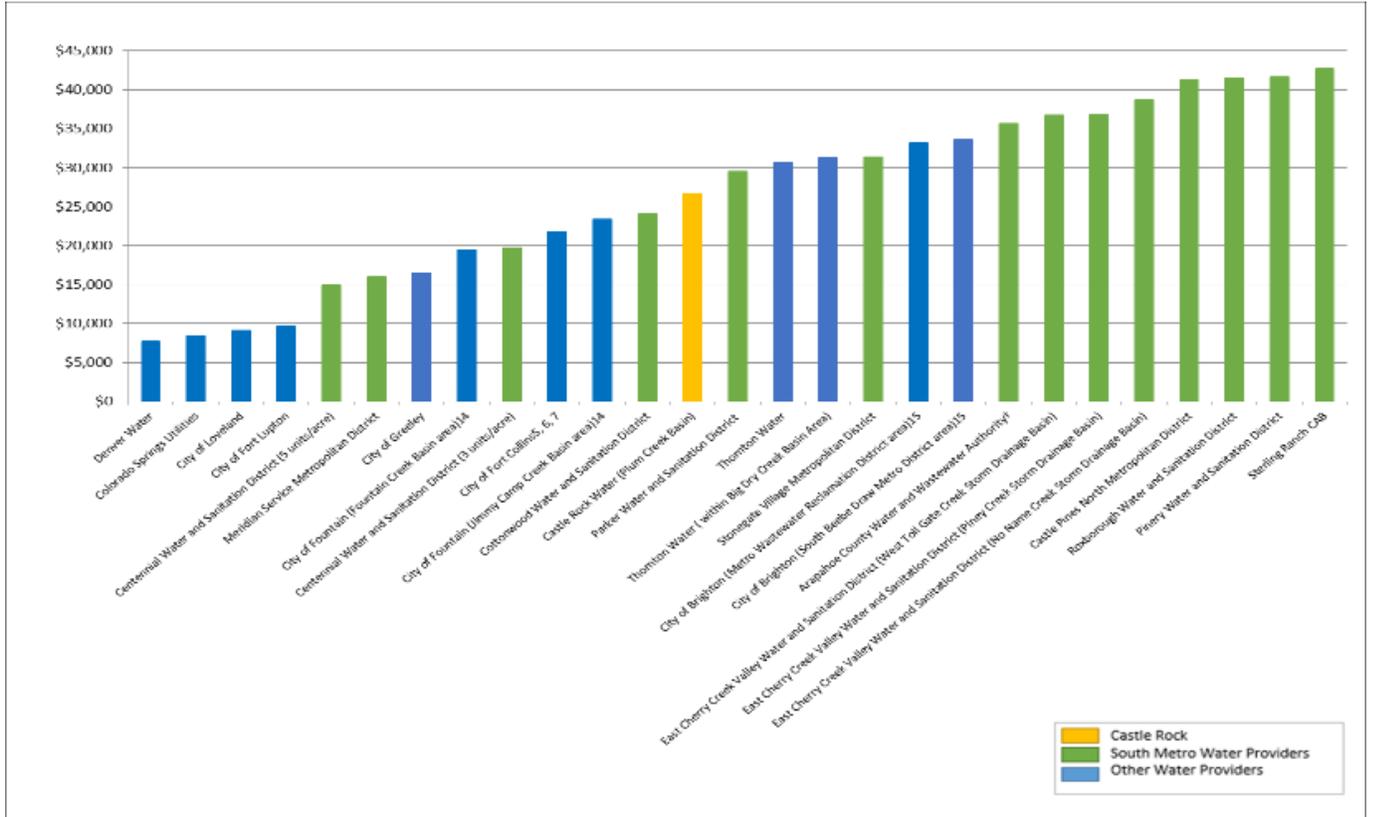


Table 14: Key Performance Indicators (KPI) Performance

KPI	2015	2016	2017	2018	2019	AWWA Quartile
Cost of Residential Service (Average Monthly Bill)	\$103.17	\$109.32	\$116.28	\$126.11	\$106.97	Bottom

National Affordability Index

This year CRW had Stantec's help in looking at two new affordability methods created by Teodoro. The first of these shown below in Chart 15 is the Affordability at the 20th Income Percentile (AR20). This method measures the affordability of the average water and wastewater bill to the 20th percentile income. This indicates that of the monthly disposal income for this group, 4.57% is spent on essential water and wastewater usage for CRW. The average for large cities is 11.4%, which puts CRW well below average, a positive result.

The second method, shown in Chart 15 below is the Basic Household Water and Sewer Cost Expressed in Terms of Hours of Labor at Minimum Wage (HM). This metric shows the number of hours required for one to work at minimum wage to pay the monthly water bill. For CRW this has come in at 8.36 hours. The average for large cities is at 9.0, which puts CRW slightly below average, again a positive result.

Chart 15: Affordability Index Comparisons

Affordability At The 20th Income Percentile (AR ₂₀)		
		Source
People Per Household	4	Journal AWWA January 2018 (values from Teodoro article)
Essential Water Volume*	50	Journal AWWA January 2018 (values from Teodoro article)
Typical Monthly Household Essential Volume	6,000	
Water Monthly Consumption		
Tier 1	4,300	
Tier 2	1,700	
Water 3/4" Residential Base Charge	\$ 9.54	
Wastewater Monthly Consumption		
Tier 1	4,300	
Wastewater 3/4" Residential Base Charge	\$ 9.02	
Monthly Household Cost Of Essential Water Services	\$ 31.42	FY 2020 CRW Water Rates
Monthly Household Cost Of Essential Wastewater Services**	\$ 36.51	FY 2020 CRW Wastewater Rates
Monthly Household Cost Of Essential Renewable Water Services	\$ 17.52	FY 2020 CRW Renewal Water Rates
Monthly Household Cost Of Essential Stormwater Services	\$ 7.33	FY 2020 CRW Stormwater Rates
Total Cost of Essential Water and Sewer Services	\$ 92.79	
Annual Household Income (20th Percentile)***	\$ 50,466	American FactFinder: American Community Survey (Castle Rock Town)
Annual Essential Household Expenses****	\$ 26,120	Consumer Expenditure Survey - Table 3133 West Region
Annual Disposable Income	\$ 24,346	
Monthly Disposable Income	\$ 2,029	
AR₂₀	4.57%	Teodoro Study average of 11.4% for 25 largest US cities.

* Essential water volume in gallons per capita per day based upon *Measuring Household Affordability for Water and Sewer Utilities*, M.P. Teodoro, *Journal AWWA*, January 2018, 110:1.
 ** Wastewater services charged based on average winter monthly consumption of 4,300 gallons.
 *** "This focus on the 20th percentile household aligns the analysis of water and sewer affordability with mainstream assessments of welfare economics, which typically identify the 20th percentile as the lower boundary of the middle class." - Teodoro
 **** Does not include water and sewer services. Reflects expenses at an income level between \$50,000 and \$69,999 in the western region.

Basic Household Water And Sewer Cost Expressed In Terms Of Hours Of Labor At Minimum Wage (HM)		
		Source
People Per Household	4	Journal AWWA January 2018 (values from Teodoro article)
Essential Water Volume*	50	Journal AWWA January 2018 (values from Teodoro article)
Typical Monthly Household Essential Volume	6,000	
Monthly Household Cost Of Essential Water Services	\$ 31.42	FY 2020 CRW Water Rates
Monthly Household Cost Of Essential Wastewater Services**	\$ 36.51	FY 2020 CRW Wastewater Rates
Monthly Household Cost Of Essential Renewable Water Services	\$ 17.52	FY 2020 CRW Renewal Water Rates
Monthly Household Cost Of Essential Stormwater Services	\$ 7.33	FY 2020 CRW Stormwater Rates
Total Cost of Essential Water and Sewer Services	\$ 92.79	
Minimum Wage	\$ 11.10	http://www.ncsl.org/research/labor-and-employment/state-minimum-wage-chart.aspx#Table
HM	8.36	Teodoro Study average of 9.0 for 25 largest US cities.

* Essential water volume in gallons per capita per day based upon *Measuring Household Affordability for Water and Sewer Utilities*, M.P. Teodoro, *Journal AWWA*, January 2018, 110:1.

Regional Partnerships

One of Castle Rock Water's goals is to develop regional partnerships to provide economies of scale to reduce total costs of infrastructure to our customers. A few examples of some of Castle Rock Water's bigger regional partnerships are South Metro Water Supply Authority, WISE Authority, Plum Creek Water Reclamation Authority, Chatfield Watershed Authority, and the Cherry Creek Basin Water Quality Authority. A full list of regional partnerships can be obtained from Castle Rock Water.

If you would like a copy of the full 2019 Rates and Fees Study, please contact Castle Rock Water at mywaterbill@crgov.com or call 720-733-6000.