



Town of Castle Rock

Agenda Memorandum

Agenda Date: 8/21/2018

Item #: 17. **File #:** TMP 2018-660

To: Honorable Mayor and Members of Town Council

From: Mark Marlowe, P.E., Director of Castle Rock Water
Anne Glassman, Business Solutions Manager

Discussion/Direction: Castle Rock Water 2018 Annual Rates and Fees Study

Executive Summary

The purpose of this memorandum is to update Town Council on the 2018 rates and fees study and seek direction on rates and fees for 2019. The annual study is critical to ensure the utility fully re-evaluates cost of service and updates financial plans to ensure revenue requirements going into the future are based on the best available current information.

All other information is continued in the Staff Report.

Proposed Motion

"I move to direct staff to prepare the appropriate ordinances in accordance with the rates and fee recommendations presented."

Attachments

Staff Report



STAFF REPORT

To: Honorable Mayor and Members of Town Council

From: Mark Marlowe, P.E., Director of Castle Rock Water
Anne Glassman, Business Solutions Manager

Title: Discussion/Direction: Castle Rock Water 2018 Annual Rates and Fees Study

Executive Summary, continued

Table 1 summarizes the recommended 2019 rates relative to the 2018 adopted rates and projected 2019 rates from last year's study (2017 Study) for a typical single family equivalent (SFE).

Table 1: Summary of Recommended Residential Rates

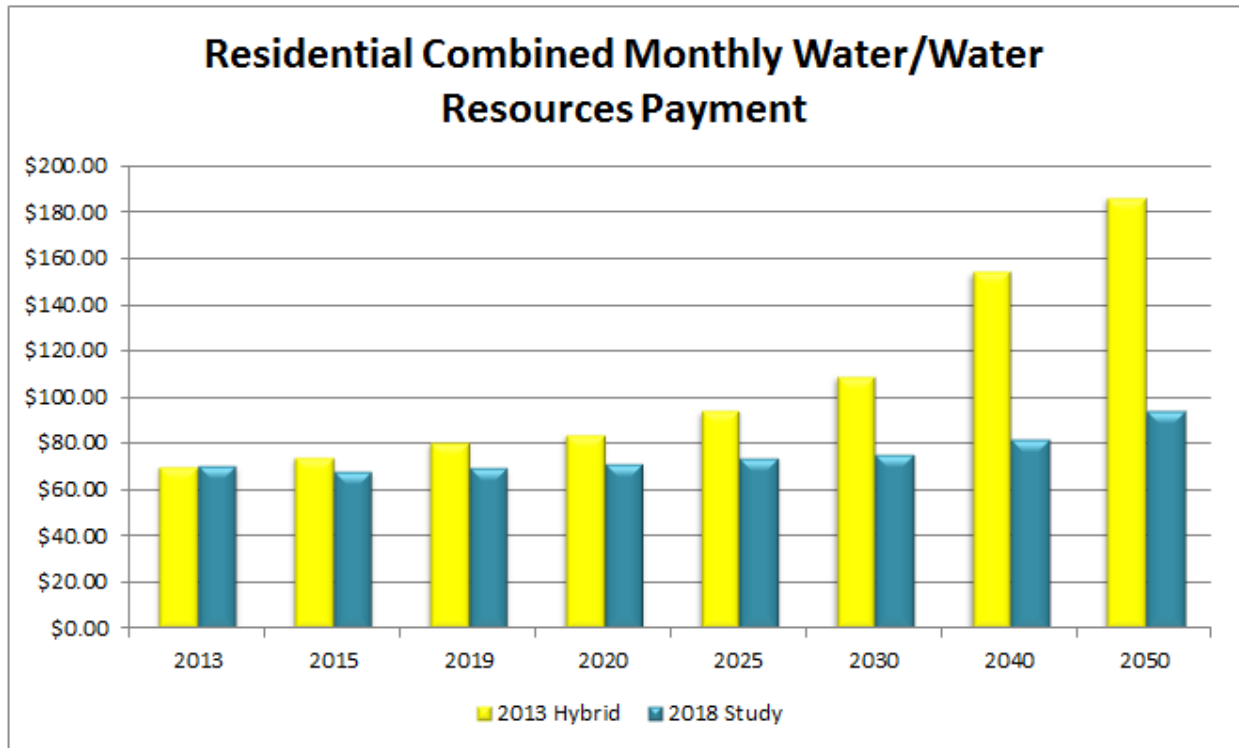
	2018 Adopted Rates	"2018 Study" Proposed 2019 Rates	\$ Increase (Decrease)	% Change	"2017 Study" Proposed 2019 Rates
Water, Fixed	\$9.54	\$9.54	\$0.00	0%	\$9.54
Water, Tier 1, Volumetric	\$2.82	\$2.82	\$0.00	0%	\$2.82
Water, Tier 2, Volumetric	\$5.53	\$5.74	\$0.21	4%	\$5.53
Water, Tier 3, Volumetric	\$8.29	\$8.56	\$0.27	3%	\$8.29
Water Resources, Fixed	\$26.15	\$26.15	\$0.00	0%	\$27.07
Wastewater, Fixed	\$9.30	\$9.30	\$0.00	0%	\$9.30
Wastewater, Volumetric	\$6.59	\$6.59	\$0.00	0%	\$6.59
Stormwater, Fixed	\$7.12	\$7.12	\$0.00	0%	\$7.12
Total Fixed	\$52.11	\$52.11	\$0.00	0%	\$52.11

Increase in Tiers 2-3 volumetric rates will be collected and remitted to the Water Resources Fund instead of a 3% increase in the fixed charge for Water Resources, which results in \$283K of additional revenues needed.

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 1 below. This positive result has been driven by keeping operating expenditures and needed capital investments under budget, successful implementation of regional partnerships and creative approaches to optimize Castle Rock Water's finances. Going forward, the results of the "2018 Study" predict the need for modest increases of around 3.0 percent in the water resources fee each year in order to continue to fund the long term renewable water plan.

A small rate change is being recommended for 2019 which still keeps Castle Rock competitive with other surrounding South Metro water providers (see page 13 for benchmarking details in Chart 5).

Chart 1: Comparison of 2019 Proposed Rates to 2013 Hybrid



For SDFs related to new development, Castle Rock Water recommends an increase of \$1,894 per single family equivalent (SFE), about an 8 percent increase depending on the basin. This recommendation is consistent with Town Council's policy on system development fees that growth pays for growth.

Three factors are driving the recommended increase in SDFs. First, updates to the WRSMP indicate build out entitlements and future population projections have increased from 105,000 to as much as 145,000. Additional renewable water projects are needed to keep pace with this increase. Next the pace of growth has exceeded projections as show in Chart 2 below. This drives the need to build projects sooner which creates the need to generate more revenue sooner. Finally, project costs continue to rise. Recent growth has driven the need for additional water SDFs for new wells, an increase in water resources to continue renewable water projects and an increase in the SDFs for wastewater for an expansion to the treatment plant.

Chart 2: Residential Actual Growth Compared to Projected Growth

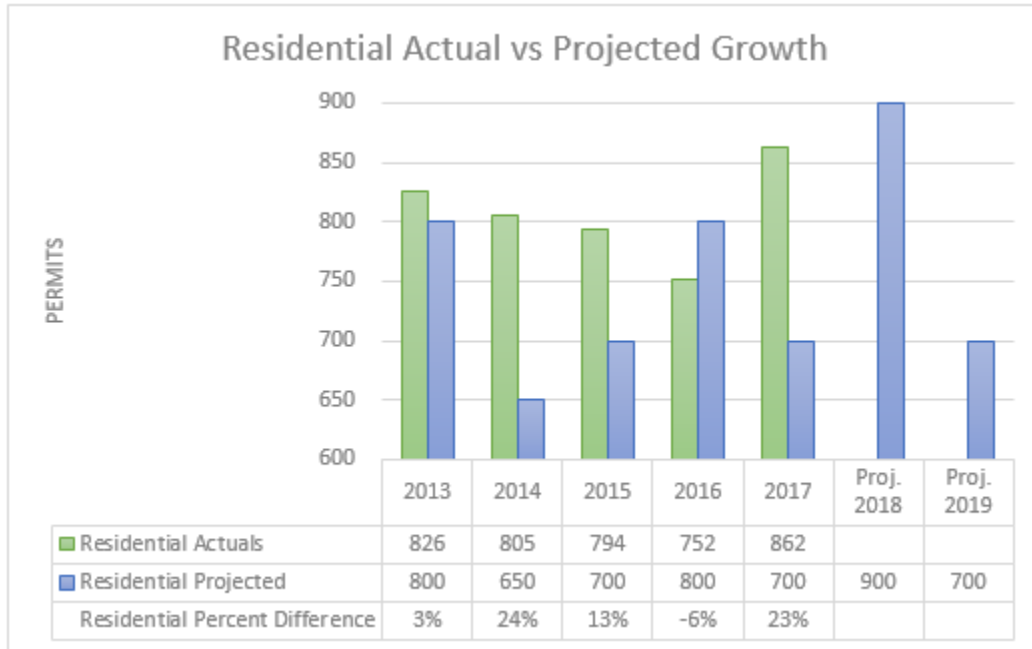
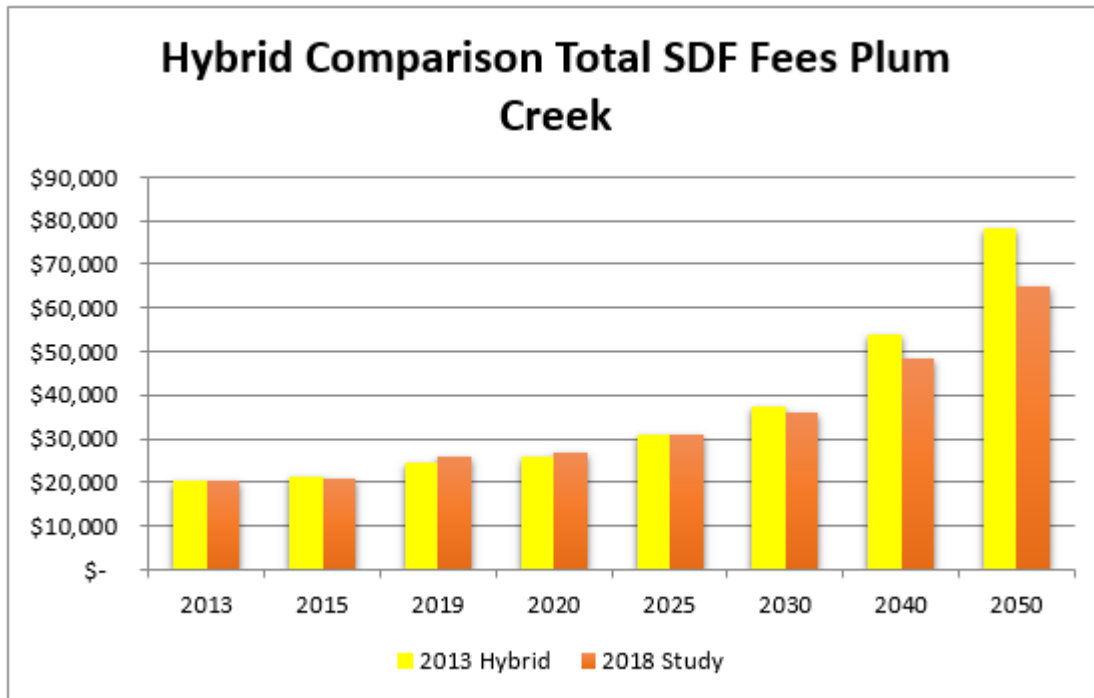


Table 2 summarizes the proposed SDFs for 2019 per SFE. The 2019 proposed system development fees are very similar to the projected 2013 hybrid system development fees for 2019 as shown in Chart 3 below. Longer term the current model shows fees below the 2013 hybrid projections.

Table 2: Summary of Recommended System Development Fees (SDFs)

	2018 Adopted SDFs	"2018 Study" Proposed 2019 SDFs	\$ Increase (Decrease)	% Change	"2017 Study" Proposed 2019 SDFs
Water	\$3,510	\$3,557	\$47	1.3%	\$3,633
Water Resources	\$15,248	\$17,031	\$1,783	11.7%	\$15,782
Wastewater	\$3,959	\$4,023	\$64	1.6%	\$4,098
Stormwater, Plum Creek	\$1,317	\$1,317	\$0	0.0%	\$1,363
TOTAL Plum Creek	\$24,034	\$25,928	\$1,894	7.9%	\$24,876
Stormwater, Cherry Creek	\$843	\$843	\$0	0.0%	\$873
TOTAL Cherry Creek	\$23,560	\$25,454	\$1,894	7.9%	\$24,386

Chart 3: Comparison of 2019 Proposed System Development Fees to 2013 Hybrid



The proposed SDF changes keep Castle Rock competitive with other surrounding South Metro water providers that also need to fund investments in a long term renewable water supply as shown in Table 3 below:

Table 3: Comparison of System Development Fees (SDFs) – Plum Creek Basin

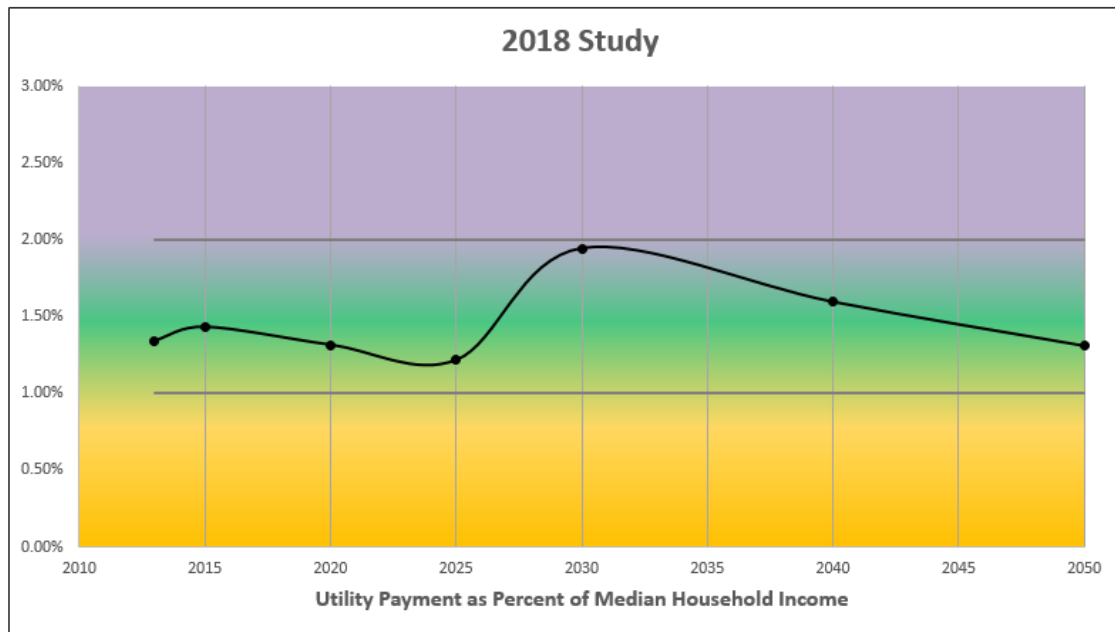
Community	2018 Rates w/CR 2019 Proposed
City of Fort Collins	\$7,097
Denver Water	\$7,660
Colorado Springs Utilities	\$8,401
City of Loveland	\$8,817
Inverness Water and Sanitation District	\$9,174
City of Fort Lupton	\$9,655
Meridian Service Metropolitan District	\$15,000
Centennial Water and Sanitation District (5 units/acre)	\$14,901
City of Greeley	\$17,100
East Larimer County Water District	\$20,293
City of Fountain (Fountain Creek Basin area)	\$19,449
Centennial Water and Sanitation District (3 units/acre)	\$19,709
Cottonwood Water and Sanitation District	\$23,502
City of Fountain (Jimmy Camp Creek Basin area)	\$23,314
Castle Rock Water	\$25,928
Parker Water and Sanitation District (includes additional/other fee of "Water Resource Toll")	\$26,740
Thornton Water	\$30,632
City of Brighton (Metro Wastewater Reclamation District area)	\$33,063
Thornton Water (within Big Dry Creek Basin Area)	\$31,124
City of Brighton (Metro Wastewater Reclamation District area)	\$33,568
Stonegate Village Metropolitan District	\$31,350
Arapahoe County Water and Wastewater Authority	\$34,647
East Cherry Creek Valley Water and Sanitation District (Piney Creek Storm Drainage Basin)	\$35,441
East Cherry Creek Valley Water and Sanitation District (West Toll Gate Creek Storm Drainage Basin)	\$35,491
East Cherry Creek Valley Water and Sanitation District (No Name Creek Storm Drainage Basin)	\$37,316
Castle Pines North Metropolitan District	\$39,948
Pinery Water and Sanitation District	\$40,483
Roxborough Water and Sanitation District	\$41,524

Staff recommends moving forward with these proposed rates and fees, finalizing the “2018 Study” report and all of the associated data, bringing the appropriate ordinances to Town Council for approval on September 4, 2018, and September 18, 2018 and incorporating the proposed rates and fees into the 2019 proposed budget. Concurrent with the preparation of the proposed rates and fees for 2019, staff has updated the Financial Management Plan (FMP), to ensure the study is consistent with the goals of the FMP, which are:

- To minimize future rates at or below the 2013 Hybrid Model levels.
- To minimize debt carrying costs at or below industry standards.
- To minimize risk by keeping fixed versus variable revenues and expenses equal to or matching where possible.
- To keep costs at or under budget for capital and operational budgets each year by fund and to continuously strive towards more efficient operations.
- To keep our rates and fees competitive with surrounding communities.

- To keep adequate reserves and maintain fund balances between minimums and maximums.
- To keep rates and fees affordable within various national affordability indices, see Chart 4 where utility payments below 2 percent of Median Household Income are considered affordable.

Chart 4: Median Household Income Affordability Index Chart Comparison



- To develop regional partnerships to provide economies of scale to reduce total costs of infrastructure to our customers.
- To be an industry leader in the application of financial management benchmarking ourselves against others locally and nationally.

The key assumptions used in developing the rates and fee recommendations for 2019 to 2023 in the “2018 Study” include:

- The department is planning on an Interfund loan from the water fund to the wastewater fund for the needed expansion to the wastewater treatment facility (PCWRA).
- Capital projects continue to be funded with capital reserves in fund balances, rates and system development fees.
- Current Town growth forecasts for 2019 are incorporated.
- The operational budget is set to maintain levels of service as customer base and infrastructure grows.
- Minimum fund balance levels are maintained at \$1 million for water and wastewater, and \$500K for water resources and stormwater.
- Two new FTEs are added for the 2019 budget including 1 water plant operator and a SCADA Analyst.

Two major drivers in the “2018 Study” have had a significant impact on the proposed rates and fees for 2019. First, growth in the customer base has continued to increase significantly in 2018, and resulting projections on future growth have also continued to

increase by 18.3% for the five year study period. Next, the timing and content of the projected capital needs for the system has changed as expected in the five year planning window.

Some of the major updates to the capital plan for the “2018 Study” include:

- For the 5 year period in the water fund the CIP changes included pushing forward new wells from 2021 to 2019 for \$3.9M.
- For water resources added Castle Rock Reservoir Projects for \$2.5M and added the WISE Option Agreement for \$5.9M for the five year period and \$30.6M for the total project over time, and increased the projected cost of the upgrades to PCWPF to be consistent with the initial guaranteed maximum price.
- In the stormwater fund five year study period increased for added Chase Drain Installation by \$150K and Craig and Gould costs increased by \$350K.

History of Past Town Council, Boards & Commissions, or Other Discussions

On November 23, 2010 with its adoption of 2011 – 2015 Rates and Charges, Town Council requested annual updates which have been done each year thereafter with Castle Rock Water Commission participation and Town Council adoption of endorsed recommendations. Aspects of the 2018 Study were presented to the Castle Rock Water Commission at each meeting starting September 2017 through July 2018.

The “2018 Study” results were initially presented at the Castle Rock Water Commission Meeting on July 25, 2018 and further needed details will be presented to commission on August 22, 2018. CRW will look to get a recommendation for approval of the needed increases in both rates and fees from Commission during the August 22 meeting.

Discussion

For common understanding, “rates” refers to the collective monthly fixed charges and volumetric rates billed to existing customers. “System Development Fees” is a general term used for water, water resources and wastewater system development fees (SDFs) and stormwater development impact fees (DIFs). 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 required for capacity to meet the potential demand the new customer is expected to place on the system. SDFs ensure that growth pays for the cost of growth. Also paid at permitting, stormwater development impact fees 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.

For the second year in a row, Castle Rock Water has engaged Stantec Consulting Services Inc. to assist with preparation of the Study. To reduce costs, Castle Rock Water staff continues to prepare the Customer Characteristics Analysis in-house as well as maintains the inputs/outputs to the System Development Fees models, Financial Rate Models, Cost of Service Models and the Conservation Impact Model (CIM). This helps staff to fully understand the rates and fees implications of updated financial plans. It also provides Castle Rock Water Commission, Town Council and the community information regarding the potential rate changes that may be necessary over the five-year planning window.

The “2018 Study”

The steps for completing this year’s study as in previous studies are grounded in industry standards for cost-of-service ratemaking as summarized in the American Water Works Association’s AWWA Manual M1. As in prior years, work products include the following:

1. Growth Forecast
2. Customer Characteristics Analysis
3. Capital Improvement Projects Forecast Updates
4. Revenue and Expenditures Forecast Updates (in conjunction with budgeting)
5. Rates & Fees Modeling
6. Cost of Service Modeling
7. Conservation Impact Model (CIM) Updates
8. Community Engagement

Table 4 outlines the comparison of the 2018 Budget and 2018 YE Estimates to the 2019 Budget. The increase in the intergovernmental revenue is a result of \$2.3M from Dominion for reimbursement of well costs. Other revenue increase is due to a \$4.3M payment from Dominion for the Western Pipeline lease purchase agreement. The Transfers in and Transfers out is a \$5.5M inter-fund loan between the water enterprise fund and the wastewater enterprise fund for the PCWRA plant expansion in 2019.

Table 4: 2018-2019 Budget Comparison

Account Type	Category	2018 Budget	2018 YE Estimates	2019 Budget	2018 YE Estimates to 2019 Budget % Change
Revenues	Charges for Service	\$36,092,818	\$36,082,873	\$36,820,885	2%
	Contributions & Donations	\$61,825	\$61,825	\$31,825	-49%
	Fines & Forfeitures	\$375,950	\$421,276	\$423,950	1%
	Intergovernmental Revenue	\$125,000	\$578,240	\$2,650,000	358%
	Investment Earnings	\$755,226	\$765,817	\$781,360	2%
	Other Revenue	\$459,548	\$2,484,361	\$6,422,987	159%
	System Development Fees	\$23,064,671	\$24,527,485	\$20,695,839	-16%
	Transfers In	\$2,179,825	\$2,167,865	\$5,512,067	154%
Total Revenues		\$63,114,863	\$67,089,743	\$73,338,913	9%
Expenses	Capital	\$81,860,900	\$63,953,924	\$67,355,399	5%
	Debt & Financing	\$6,346,172	\$6,346,188	\$6,375,772	0%
	Personnel	\$8,256,365	\$8,007,237	\$8,674,090	8%
	Services & Other	\$17,827,154	\$15,851,935	\$17,743,452	12%
	Supplies	\$2,082,095	\$1,981,075	\$2,026,770	2%
	Transfers Out	\$3,037,749	\$3,025,789	\$6,272,575	107%
Total Expenses		\$119,410,435	\$99,166,148	\$108,448,058	9%

To frame the context within which the “2018 Study” was conducted, Table 5 provides a synopsis of key changes from last year’s study (the 2017 Study) that impacted proposed ratemaking for each of the enterprises for the five-year planning window, 2019 to 2023. The subsequent narrative provides additional detailed change insights.

Table 5: 2019 – 2023

Category	2018 R&F Study	2017 R&F Study	Change	% Change
New Customers	3,710	4,000	(290)	-7.25%
Rate Revenue	\$203,850,180	\$206,772,803	\$(2,922,623)	-1.41%
System Development Fees Revenue (SDFs)	\$129,596,358	\$127,610,429	\$1,985,929	1.56%
Non-Rate Revenue	\$2,250,809	\$1,842,374	\$408,435	22.17%
Capital Plans ⁽¹⁾	\$142,896,269	\$98,109,995	\$44,786,274	45.65%
Personnel	\$54,957,596	\$50,590,273	\$4,367,323	8.63%
Electricity	\$18,025,437	\$19,422,510	\$(1,397,073)	-7.19%
Operations & Maintenance (w/o electricity & Personnel)	\$85,295,708	\$87,275,442	\$(1,979,734)	-2.27%

(1) Much of the Capital Plan consists of preliminary estimates that are refined each year as better information becomes available particularly within the long-term water projects. Timing of projects in Water Resources and the Wastewater Treatment Plant Expansion have increased the 5 Year CIP Projections in that some of these expenditures were originally in 2016 and 2017 but have moved to the 2018 to 2022 window.

Growth for 2017 was strong and has continued into 2018. It looks like strong growth will continue into 2019. Growth in 2020 and beyond is difficult to predict. If growth falls short of current forecasts, revenues in 2020 and beyond could fall short of requirements without additional rate action. The estimated difference in growth related funds, if we were to return to 2012 growth rates, could be over \$55 million during the five-year study period. Additional information on the impacts of key changes in the “2018 Study” is explained in the following sections.

Fund Balances

Savings in actual costs and with the timing of spending on capital costs verses budgets each year have helped to increase fund balances throughout the years. This allows for some drawdown of fund balance to cover large capital costs in the near term without negatively impacting the longer term financial plan.

New Customers

Customers provide revenues through both system development fees to fund growth-related capital projects and monthly billed revenues to fund the remaining costs. The Town’s latest growth forecast continues the 2017 momentum in residential development. 2018 is matching expectations with 538 (as of June 2018) new customer meters set year to date compared to 450 as of June 2017.

The forecast used for 2019 through 2023 is slightly lower than the numbers seen in 2017. These numbers are higher than those seen in years 2000 through 2016. Achieving this growth forecast provides an opportunity to pursue economies of scale and reduce upward pressure on both rates and fees. If growth falls short of this forecast, revenues are at risk with the severity and service delivery impacts dependent upon the depth of the shortfall.

Rate Revenue

These revenues are subject to two primary drivers, weather and national, state and local pressure to conserve water or at least use it more efficiently. For the 5 year period, 2019-2023 CRW is forecasting a 1.41 reduction in rate revenue for this study over the previous study. This can be attributed to the 20% or 0.5% per year conservation reduction efforts offset by an increase in rate revenues from anticipated growth. As always, Castle Rock Water is aware of the need to be cautious when projecting rate revenues due to the unpredictability of weather, conservation efforts and sustainable growth, which is incorporated into these forecasts.

Non-Rate Revenues

Non-rate revenues are generated through charges and fees for miscellaneous or ancillary services that are not accessed or used by the broader customer base. Unbundling the special charges for these services results in additional revenues that can be expected that will help to alleviate rate pressures in the future. These special charges should recover the actual cost of service delivery consistent with cost-of-service principles and Town financial policies. Recovering costs directly from customers that access those services also enhances equity. These charges can also help manage demand for those services as well as address customer behavior patterns. Special charges include delinquency charges, specialized service order services, and administrative related fees just to name a few. Non-rate revenue projections being used in the “2018 Study” do, also, reflect significant improvements in customer account management, meter infrastructure maintenance, and accounts receivable collections.

Capital Improvement Projects (CIP)

Costs for renewal and rehabilitation of existing infrastructure and infrastructure additions driven by the renewable water program (e.g., the WISE Water Options) and growth have been forecasted.

Highlights of capital project changes that are included in the “2018 Study” are as follows:

Water Fund:

- Moved up timing of \$3.9 million into 2019 for Lantern’s Wells.
- Increased cost for Waterline Rehab/Replacement \$250,000.

Water Resources Fund:

- Added \$3.0 million for Plum Creek Diversion Structure & Pump Station.
- Added \$2.5 million for Castle Rock Reservoir Improvements.
- Added \$3.3 million for Nevada Ditch Water rights.
- Added \$14 million for Advanced Treatment Facility.
- Added \$10.5 million for Newlin Gulch Pipeline and Pump Station.
- Added \$5.9 million for WISE Option Agreement.

Stormwater Fund:

- Changed the timing and anticipated costs of several projects including Hangmans Gulch, Parkview Tributary, Industrial Tributary and Douglas Lane Tributary work.

Wastewater Fund:

- No major changes in the five year plan.

Personnel

Two new FTEs are proposed in the 2019 budget. These include one water plant operator and a Supervisory Contract and Data Acquisition (SCADA) analyst. The Study reflects updated personnel cost allocations across the four enterprises to capture cost-of-service impacts on personnel resources, as well as Town-wide preliminary changes to the pay and benefits plans. The study also reflects the staffing needs for the rest of the study period from 2020-2023 based upon growth forecasts within the Town and the personnel needed to maintain customer service levels based upon this growth.

Electricity

The third largest operating cost, electricity, reflects full operation of the Plum Creek Water Purification Facility and both alluvial and groundwater well operations. Additional costs will be incorporated as appropriate when rate increases are announced by IREA. Castle Rock Water has implemented an energy management and system optimization plan to maximize the efficiency of electrical usage. Future savings have been projected as part of the study. Electricity costs are shown to be fairly flat over the previous five-year period based on the continued implementation of the energy management plan with a slight increase in the 2018 budget due to electric costs rising.

Operations & Maintenance

Cost projections include operating costs for CRW. These costs are fairly steady for the five-year period comparison. These were reviewed in depth this year to ensure that only those costs that are needed are included in the budget with the 2018 rate study.

Proposed Rates and Fees for 2019 through 2023

Based on impacts of the revised capital plan and assumed system growth by fund as well as the other key changes, the “2018 Study” has resulted in projected required rate revenue increases as shown in Table 6 below.

Table 6: Rate Required Revenue Increases by Enterprise – “2018 Study”

	2019	2020	2021	2022	2023
Water Fund	0.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%
Water Resources	3.0%	3.0%	3.0%	3.0%	3.0%
Stormwater	0.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%
Wastewater	0.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%	0.0%-3.0%

Note: The current model indicates rate increases may not be required if O&M costs stay flat.

Continued growth and the change in timing of the capital plan in this year’s study have impacted the funds allowing for a small increase in rate required revenue for 2019, which is better than the projection from last year’s study. Projected rate required revenue for water resources in the 2019 to 2023 planning period is consistent with the financial planning done when the Town adopted the hybrid approach to renewable water. However, rates must ramp up slowly over time in order to ensure we can fund the large capital needs associated with these projects over the next 10 years without taking on new debt.

For the “2018 study” it has been calculated that only a small increase in the total typical annual residential utility bill will occur relative to the 2018 adopted rates due to a

proposed 3% increase in water resources for 2019. This is summarized in Table 6 below.

Table 7: 2018 Rate Adjustment Recommendations and Total Typical Annual Utility Bills

Customer Class	2018 Actual Typical Annual Bill	"2018 Study" Proposed 2019 Typical Annual Bill	\$ Increase (Decrease) Relative to 2018 Actual	% Change Relative to 2018 Actual	"2017 Study" Proposed 2019 Typical Annual Bill
Residential ¾" Meter	\$1,368.11	\$1,379.26	\$11.15	0.8%	\$1,379.09
Commercial Indoor ¾" Meter	\$2,008.89	\$2,009.87	\$0.98	0.0%	\$2,019.88
Commercial Indoor 1 ½" Meter	\$9,213.07	\$9,219.65	\$6.58	0.1%	\$9,291.82
Commercial w/Irrigation ¾" Meter	\$2,560.47	\$2,566.77	\$6.30	0.2%	\$2,571.46
Commercial w/Irrigation 2" Meter	\$15,080.66	\$15,185.00	\$104.34	0.7%	\$15,212.36
Multi-family Indoor ¾" Meter	\$1,069.02	\$1,069.41	\$0.39	0.0%	\$1,080.01
Multi-family w/Irrigation 1 ½" Meter	\$11,190.05	\$11,239.21	\$49.16	0.4%	\$11,268.80
Irrigation ¾" Meter	\$2,070.07	\$2,130.74	\$60.67	2.9%	\$2,081.05
Irrigation 2" Meter	\$15,241.74	\$15,506.90	\$85.16	0.6%	\$15,553.43

As a part of the presentation of the proposed rates and fees for 2019, Castle Rock Water compared the 2019 proposed rates and fees with other similar water providers in the South Metro area. Stormwater fees were done separately as many of the water providers do not provide that service. The comparisons do include any and all fees related to the water, water resources, and wastewater services. These fees have different names across the various providers including for example water and sewer service fixed and volumetric fees, water resource fees, renewable water fees, capital improvement fees, sewer system replacement fund fees, and groundwater protection fees.

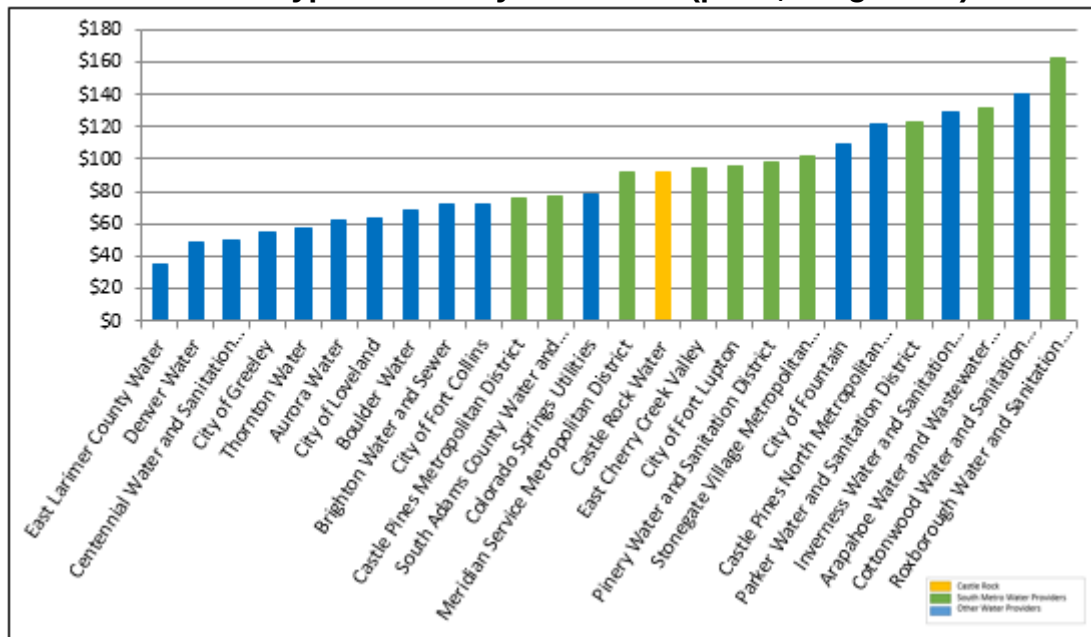
Rates were compared with other South Metro water providers for a typical winter usage of 5,000 gallons and a typical summer usage of 15,000 gallons. While we did compare the proposed rates and fees with other providers in Colorado, these comparisons are not apples to apples comparisons due to the local challenges faced by South Metro water providers. In summary, the South Metro water providers are generally currently operating on deep groundwater and are in the midst of building renewable surface water systems. A number of the systems have implemented monthly fees similar to Castle Rock's water resources fee including Castle Pines Metro, Meridian, Pinery, Stonegate, East Cherry Creek and Roxborough. Others have incorporated these fees into their standard water rates or utilized tax mill levies.

The results of the comparisons with other South Metro water providers are shown in charts 5 and 6. As indicated above, 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 charts below show the approximate impact this has on the cost of service for a typical residential customer based on the average median price of a home in Douglas County of \$456,013

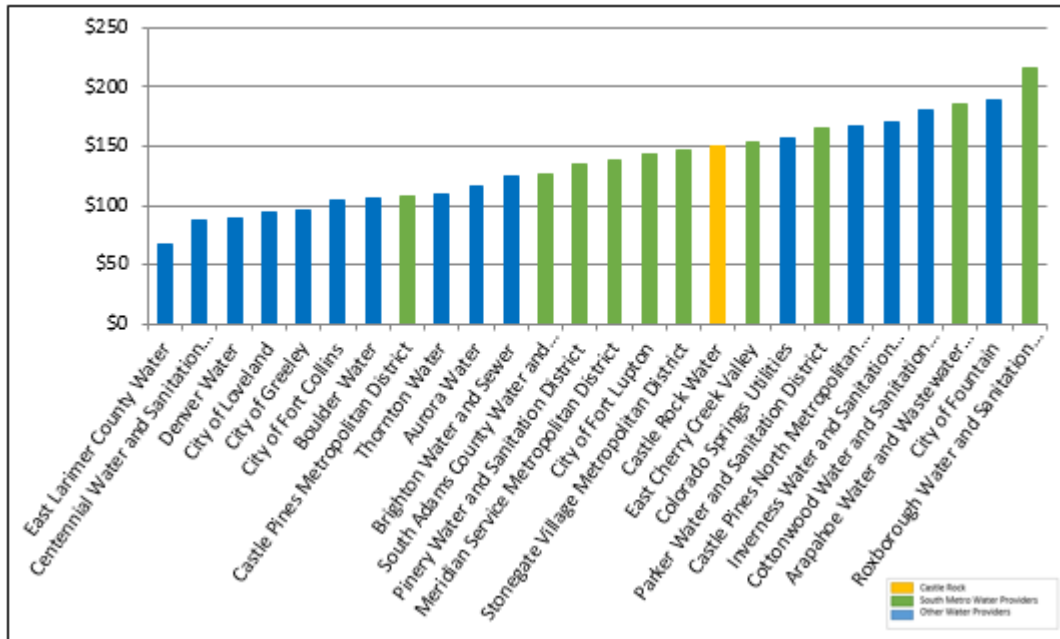
<http://www.douglas.co.us/documents/douglas-county-demographics-summary.pdf>). This mill levy was then distributed across twelve equal payments for comparison sake even though this will typically be paid in fewer installments. The results of this comparison indicate that Castle Rock's rates and fees are comparable to other area providers.

Chart 5: Typical Monthly Winter Bill (per 5,000 gallons)



**Includes tax mill levy based on median home price distributed equally over 12 months.*

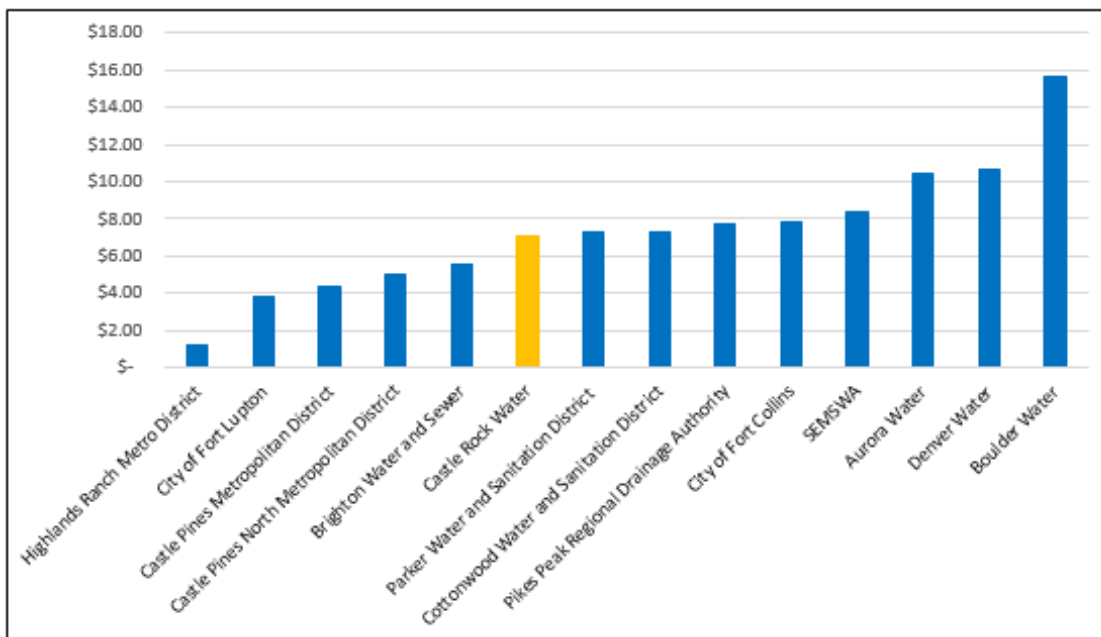
Chart 6: Typical Monthly Summer Bill (15,000 gallons)



*Includes tax mill levy based on median home price distributed equally over 12 months.

For stormwater fees, a similar comparison was performed. While this is not a comprehensive list of all providers, it shows some of the key stormwater providers in our area. The data indicates that Castle Rock's proposed fees are consistent with many of the other local providers. It is important to note that some jurisdictions handle stormwater through general taxes instead of having a stormwater utility. The results of the comparisons are as follows:

Chart 7: Typical Monthly Stormwater Fee per Single Family Equivalent



Note: SEMSWA, stands for Southeast Metro Stormwater Authority and includes East Cherry Creek Valley Water and Sanitation District, Arapahoe County Water and Wastewater Authority, and Inverness. The rate shown for Parker Water and Sanitation District is through the Town of Parker and is the 2018 rate.

With respect to the fixed charges for a typical single family residential bill, study results indicate a zero percent increase. Table 8 summarizes proposed fixed charges for 2019 from this year's study.

Table 8: Single Family Residential Fixed Charges

	2018 Actual Typical Bill	"2018 Study" Proposed 2019 Typical Bill	\$ Increase (Decrease)	% Change	"2017 Study" Proposed 2019 Typical Bill
Water	\$9.54	\$9.54	\$0.00	0.0%	\$9.54
Water Resources	\$26.15	\$26.15	\$0.00	0.0%	\$27.07
Wastewater	\$9.30	\$9.30	\$0.00	0.0%	\$9.30
Stormwater	\$7.12	\$7.12	\$0.00	0.0%	\$7.12
TOTAL	\$52.11	\$52.11	\$0.00	0.0%	\$53.03

System Development Fees

System development fees (SDFs) are a function of year-end 2017 fixed assets, 2018 year-end estimate of capital improvement project costs, 2019 through 2055 capital improvement project plans, and system capacity (for water, water resources, and wastewater) or developable acres for stormwater.

Growth forecasts and increases to the capital plans in the "2018 Study" indicate that total system development fees for a typical single family equivalent will need to increase from the 2018 adopted fees. The 2018 Study indicates fees will need to increase in 2019 by 7.9% percent as shown in Table 9.

Table 9: Single Family Equivalent System Development Fee Comparison

PLUM CREEK BASIN

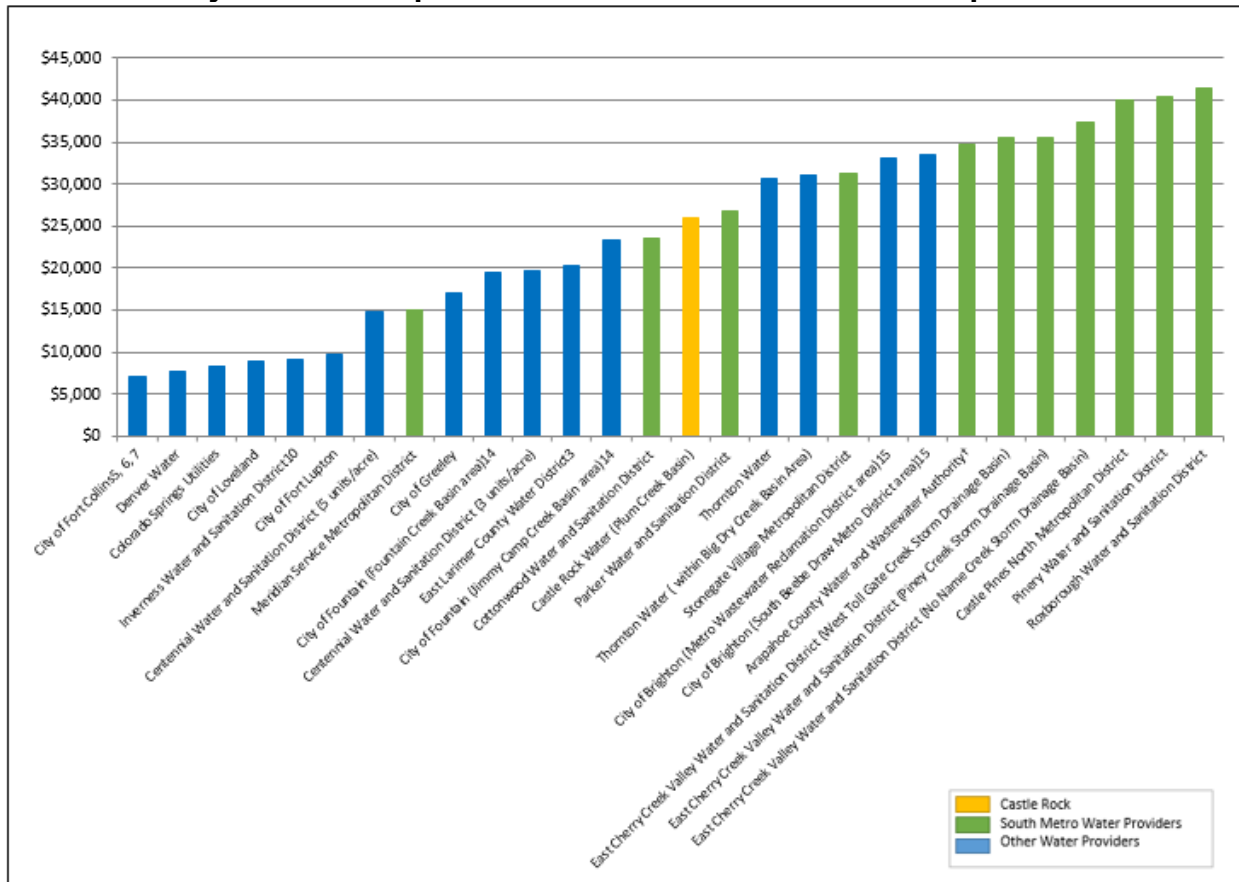
	2018 Actual Fees	"2018 Study" Proposed 2019 Fees	\$ Increase (Decrease)	% Change	"2017 Study" Proposed 2019 Fees
Water	\$3,510	\$3,557	\$47	1.3%	\$3,633
Water Resources	\$15,248	\$17,031	\$1,783	11.7%	\$15,782
Wastewater	\$3,959	\$4,023	\$64	1.6%	\$4,098
Stormwater	\$1,317	\$1,317	\$0	0.0%	\$1,363
TOTAL	\$24,034	\$25,928	\$1,894	7.9%	\$24,876

CHERRY CREEK BASIN

	2018 Actual Fees	"2018 Study" Proposed 2019 Fees	\$ Increase (Decrease)	% Change	"2017 Study" Proposed 2019 Fees
Water	\$3,510	\$3,557	\$47	1.3%	\$3,633
Water Resources	\$15,248	\$17,031	\$1,783	11.7%	\$15,782
Wastewater	\$3,959	\$4,023	\$64	1.6%	\$4,098
Stormwater	\$843	\$843	\$0	0.0%	\$873
TOTAL	\$23,560	\$25,454	\$1,894	8.0%	\$24,386

As part of the review of proposed fees, Castle Rock Water reviewed Castle Rock Water system development fees compared to other providers in our area and Colorado. Stormwater development impact fees were not included in the evaluation due to the fact that many providers do not provide this service. System development fees that were incorporated include water and sewer tap fees, water development fees, outfall development fees (for reservoirs), metro sewer charges, construction water charges, renewable water fees, and water resource fees. Results of the comparison are shown in the following chart.

**Chart 8: SDF Rate Comparison with Surrounding Communities
2018 System Development Fees w/ Castle Rock 2019 Proposed Fees**

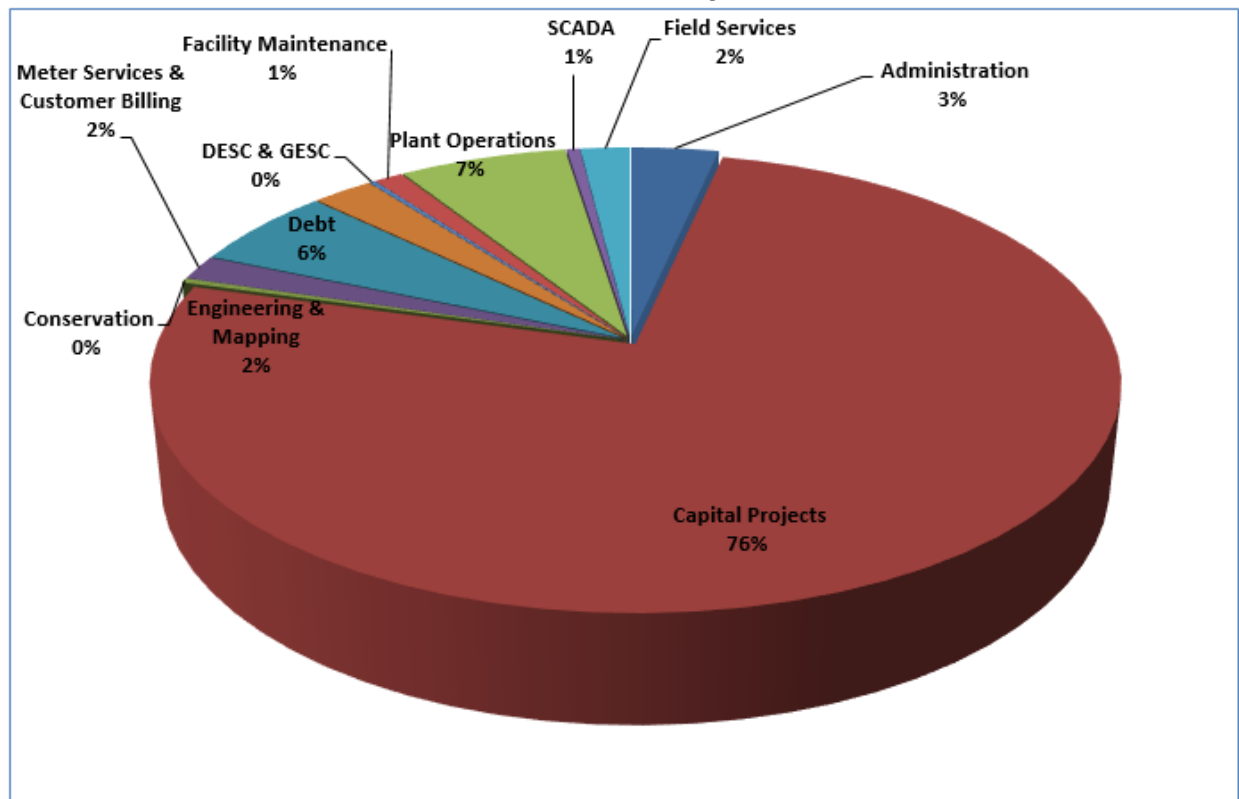


*The Parker Water SDF includes a \$5,000 Water Resource's Toll, for a ¾" meter, in the above calculation, which may not apply to all customers.

Utilization of Rates and Fees

The four enterprise services are funded by rates and fees. Chart 9 depicts Castle Rock Water year-end 2017 actuals from a water services functional perspective. Administration includes centralized services provided by other town departments.

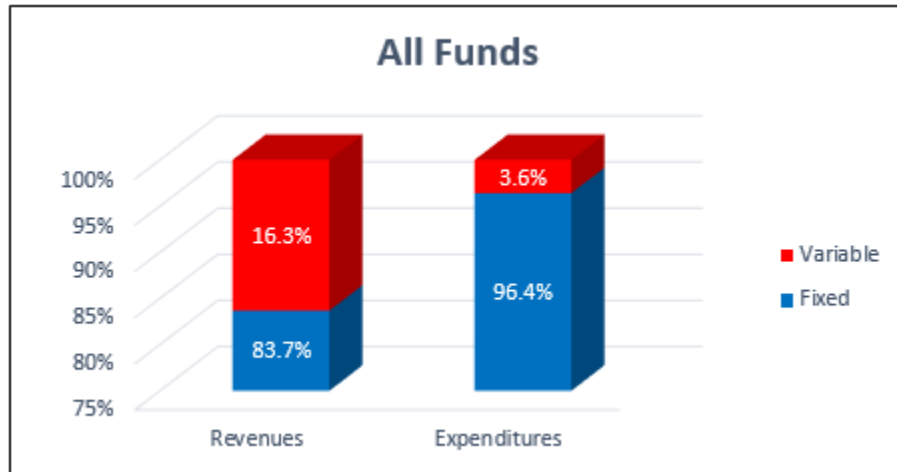
Chart 9: 2017 Costs by Function



It is clear from this chart that the Capital Project Plan is a very significant portion of the rates and fees needed for operation of the funds. The infrastructure intensive nature of the business results in significant fixed costs. Castle Rock Water wants to continue to implement a strategy, to the extent possible within our cost-of-service model, which matches fixed revenues with fixed costs to ensure revenue stability thereby minimizing the potential for future rate shocks. For year-end 2017 actuals, Chart 10 compares fixed costs to fixed revenues and variable costs to variable revenues.

The chart shows that CRW is in a relatively strong position with minimal risk due to variable revenue. This year's rate recommendation will increase the risk slightly but send a much needed conservation message to customers regarding outdoor water use.

Chart 10: Fixed Costs/Fixed Revenues; Variable Costs/Variable Revenues



All reserves for operating expenditures, debt service coverage requirements and variable interest rates were maintained. Net fund balances were reviewed to help ensure smooth future rate increases.

Schedule

The current schedule for the 2018 Rates and Fees Study targets the following milestones.

- July 25 – Castle Rock Water Commission update/discussion
- August 21 – Town Council discussion/direction
- August 22 – Castle Rock Water Commission recommendation
- September 4 – Town Council Rates and Fees recommendation, 1st Reading
- September 18 – Town Council Rates and Fees recommendation, 2nd Reading
- January 2019 – Rates and Fees Implementation

Staff Recommendation

The recommended changes to 2019 adopted charges, rates and system development fees for single family equivalents based upon the results of the “2018 Study” are summarized below by enterprise fund.

Water Fund

1. Fixed Monthly Charge – no change
2. Volumetric Rates – Add Water Resources Increase to Tiers 2-4
3. System Development Fee – 1.3% increase

Water Resources Fund

1. Fixed Monthly Charge – 3.0% increase
2. System Development Fee – 11.7% increase

Stormwater Fund

1. Fixed Monthly Charge – no change
2. Development Impact Fee - no change

Wastewater Fund

1. Fixed Monthly Charge – no change
2. Volumetric Rate – no change
3. System Development Fee – 1.6% increase

Staff recommends moving forward with these recommended rates and fees, finalizing the “2018 Study” report and all of the associated data, and bringing the appropriate ordinances to Town Council for approval in accordance with the proposed schedule.