



## **STAFF REPORT**

**To:** Honorable Mayor and Members of Town Council

**From:** Mark Marlowe, P.E., Utilities Director  
Anne Glassman, Business Solutions Manager

**Title:** Ordinance Amending Titles 3, 4, and 13 of the Castle Rock Municipal Code by Changing the Water, Wastewater and Storm Water Monthly Services Charges and Fees, the Renewable Water Resource Fees, the Water and Wastewater System Development Fees and the Storm Water Development Impact Fee, and Making Certain Administrative Updates to Definitions and Provisions Related to Application for Service, Information Provided to Customers, Utility Discontinuance Liens, Utility Service Disconnection Procedures, Customer Dispute and Appeal, and Limitations on Disconnection

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Table 1 summarizes the recommended 2017 rates relative to the 2016 adopted rates and projected 2017 rates from last year's study for a typical single family equivalent (SFE).

**Table 1: Summary of Recommended Residential Rates**

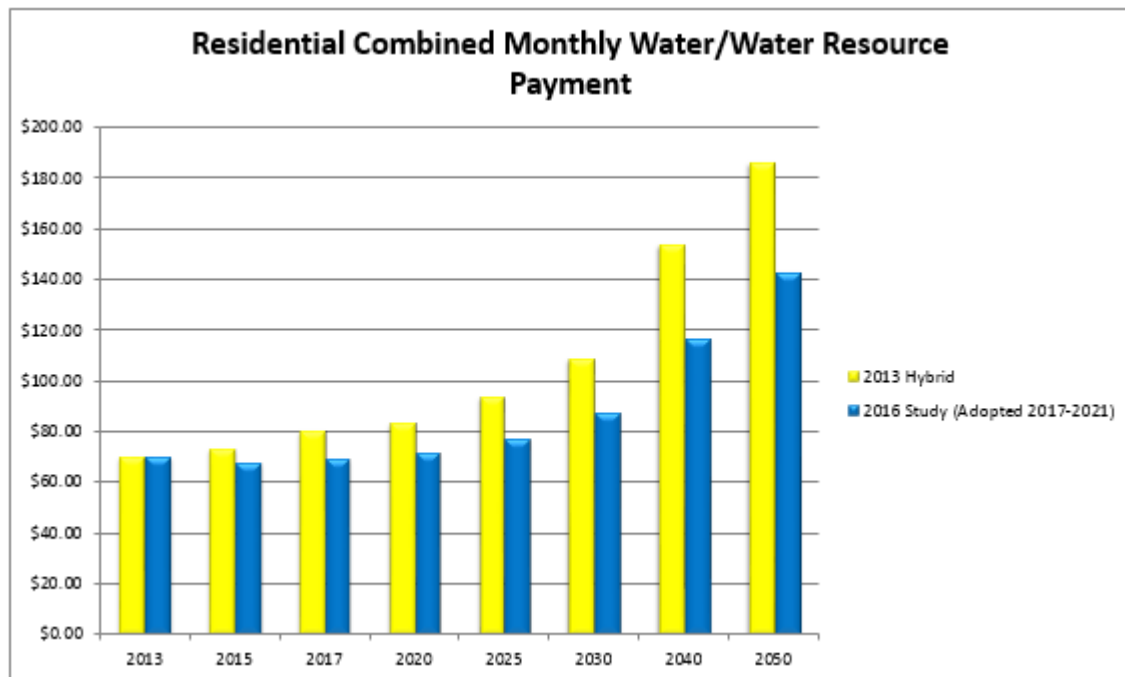
|                           | 2016<br>Adopted<br>Rates | "2016<br>Study"<br>Proposed<br>2017<br>Rates | \$ Increase<br>(Decrease) | % Change | 2015 Study<br>Proposed<br>2017 Rates |
|---------------------------|--------------------------|--|---------------------------|----------|--------------------------------------|
| Water, Fixed              | \$9.54                   | \$9.54                                       | \$0.00                    | 0%       | \$9.54                               |
| Water, Tier 1, Volumetric | \$2.75                   | \$2.82                                       | \$0.07                    | 2.5%     | \$2.75                               |
| Water, Tier 2, Volumetric | \$5.39                   | \$5.53                                       | \$0.14                    | 2.6%     | \$5.39                               |
| Water, Tier 3, Volumetric | \$8.08                   | \$8.29                                       | \$0.21                    | 2.6%     | \$8.08                               |
| 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         | \$6.85                   | \$7.12                                       | \$0.27                    | 4.0%     | \$6.92                               |
| Total Fixed               | \$51.84                  | \$52.11                                      | \$0.27                    | 0.5%     | \$52.83                              |

Increase in Tiers 1-3 volumetric rates will be collected and remitted to the Water Resources Fund instead of a 3% increase in the fixed charge for Water Resources

The good news is that rates have been 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 the utilities finances. Going forward, the results of the 2016 Study predict the need for continued 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. Future needed capital investments for stormwater infrastructure indicate the need for 4.0 percent increases each year from 2018 to 2021.

**Chart 1: Comparison of 2017 Proposed Rates to 2013 Hybrid**



The proposed rate change keeps Castle Rock competitive with other surrounding South Metro water providers (see page 12 for details).

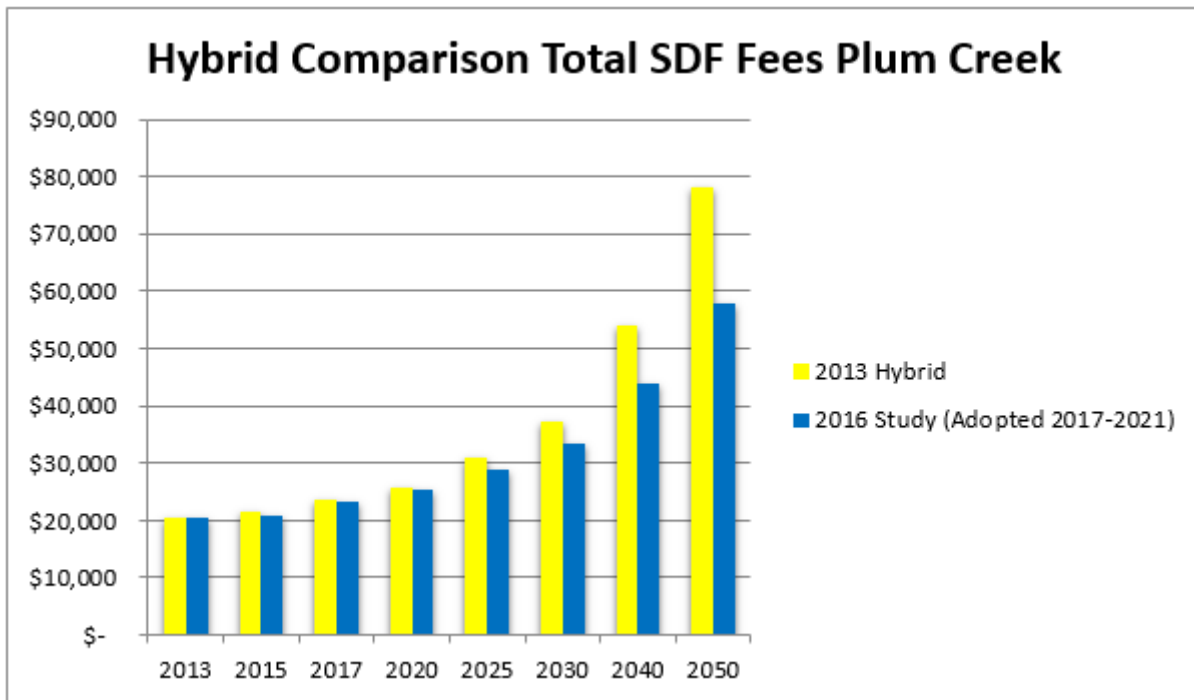
For SDFs related to new development, Utilities recommends an increase between \$396 and \$493 (depending on which watershed in which the development is proposed) per single family equivalent (SFE), a 1.8 to 2.2 percent increase. This recommendation is consistent with Town Council's policy on system development fees. Recent growth has driven the need for additional water, water resources and stormwater capital improvements and a ramping up of the portion of the SDFs for wastewater for needed expansions to the treatment plant. Table 2 summarizes the proposed SDFs for 2017 per SFE.

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

|                           | 2016 Adopted SDFs | "2016 Study" Proposed 2017 SDFs | \$ Increase (Decrease) | % Change    | 2015 Study Proposed 2017 SDFs |
|---------------------------|-------------------|---------------------------------|------------------------|-------------|-------------------------------|
| Water                     | \$3,237           | \$3,314                         | \$77                   | 2.4%        | \$3,333                       |
| Water Resources           | \$15,218          | \$15,248                        | \$30                   | 0.2%        | \$15,668                      |
| Wastewater                | \$3,243           | \$3,437                         | \$194                  | 6.0%        | \$3,339                       |
| Stormwater, Plum Creek    | \$1,125           | \$1,317                         | \$192                  | 17.1%       | \$1,158                       |
| <b>TOTAL Plum Creek</b>   | <b>\$22,823</b>   | <b>\$23,316</b>                 | <b>\$493</b>           | <b>2.2%</b> | <b>\$23,498</b>               |
| Stormwater, Cherry Creek  | \$748             | \$843                           | \$95                   | 12.7%       | \$770                         |
| <b>TOTAL Cherry Creek</b> | <b>\$22,446</b>   | <b>\$22,842</b>                 | <b>\$396</b>           | <b>1.8%</b> | <b>\$23,110</b>               |

The 2017 proposed system development fees are also below the projected 2013 hybrid system development fees as shown in Chart 2 below.

**Chart 2: Comparison of 2017 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 on the next page.

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

| <b>Community</b>   | <b>2016 Rates w/ CR 2017 Proposed</b> |
|--|---------------------------------------|
| City of Greeley  | \$ 5,150.00                           |
| City of Fort Collins   | \$ 7,097.00                           |
| Denver Water   | \$ 7,400.00                           |
| Colorado Springs Utilities   | \$ 8,401.00                           |
| City of Loveland   | \$ 8,436.00                           |
| Inverness Water and Sanitation District <sup>10</sup>  | \$ 9,174.00                           |
| City of Fort Lupton  | \$ 9,655.00                           |
| Meridian Service Metropolitan District   | \$ 14,000.00                          |
| Centennial Water and Sanitation District (5 units/acre)  | \$ 14,901.00                          |
| Centennial Water and Sanitation District (3 units/acre)  | \$ 19,709.00                          |
| Cottonwood Water and Sanitation District   | \$ 22,647.00                          |
| <b>Town of Castle Rock</b>   | <b>\$ 23,316.00</b>                   |
| Parker Water and Sanitation District (includes additional/other fee of "Water Resource Toll")      | \$ 25,380.00                          |
| City of Fountain   | \$ 28,189.00                          |
| City of Brighton (South Beebe Draw Metro District area)  | \$ 29,079.00                          |
| East Larimer County Water District <sup>3</sup>  | \$ 29,576.00                          |
| East Cherry Creek Valley Water and Sanitation District (West Toll Gate Creek Storm Drainage Basin) | \$ 29,871.00                          |
| East Cherry Creek Valley Water and Sanitation District (Piney Creek Storm Drainage Basin)          | \$ 29,896.00                          |
| Thornton Water   | \$ 30,372.00                          |
| East Cherry Creek Valley Water and Sanitation District (No Name Creek Storm Drainage Basin)        | \$ 30,696.00                          |
| Stonegate Village Metropolitan District  | \$ 31,350.34                          |
| Arapahoe County Water and Wastewater Authority†  | \$ 33,050.00                          |
| City of Brighton (Metro Wastewater Reclamation District area)                                      | \$ 34,319.00                          |
| Pinery Water and Sanitation District   | \$ 37,495.00                          |
| Roxborough Water and Sanitation District   | \$ 39,564.00                          |
| Castle Pines North Metropolitan District   | \$ 39,930.00                          |

Staff recommends moving forward with these proposed rates and fees, finalizing the “2016 Study” report and all of the associated data, bringing the appropriate ordinances to Town Council for approval on September 6, 2016, and September 20, 2016, and incorporating the proposed rates and fees into the 2017 proposed budget. Concurrent with the preparation of the proposed rates and fees for 2017, 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 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.
- 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.

A few key conclusions, recommendations and action items from the FMP and the Rates study this year include:

- Study the option of using inter-fund loans from water and wastewater to help minimize the rate increases needed to fund the long term renewable water plan in the water resources enterprise and the stormwater plan.
- It has been determined the stormwater enterprise can issue debt, and issuing of debt should be evaluated to help with long-term capital investments.
- Reevaluate annually the reserves to ensure that the levels meet the needed standards in the industry as well as to ensure that the levels are enough to cover the needs of the various enterprises.
- Reevaluate and consider establishing a more robust renewal and replacement reserve to ensure the long term management of the \$550 million worth of capital assets for which the Utilities Department is responsible.

The key assumptions used in developing the rates and fee recommendations for 2017 to 2021 in the “2016 Study” include:

- Issue no new debt over the planning period (2017 through 2021), beyond the recent change from the variable rate COPs to the fixed rate revenue bonds.
- Evaluate the need for additional debt in 2028.
- Fund required capital plan from fund balances and rates and fees.
- Smooth required rate increases over study period to ensure no rate shock.
- Continue to fund capital plan for the current hybrid renewable water projects.
- Utilize current Town growth forecast.
- Use operational budgets consistent with maintaining levels of service as customer base and infrastructure grows.

Two major drivers in the “2016 Study” have had a significant impact on the proposed rates and fees for 2017. First, growth in the customer base has continued to increase significantly in 2016, and resulting projections on future growth have also continued to increase by 15.9% for the five year study period, over projections in last year’s study. 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 “2016 Study” include:

- Added \$2.75 million for a new deep groundwater well and raw waterline in 2017 and added \$1 million for variable frequency drive (VFD) and valve replacements in the 5 year period in the water fund.

- For water resources increased total 2017-2021 capital by \$11.7 million including adding in capital costs of \$11.7 million for the Plum creek Diversion Structure and Pump Station in 2017.
- Adding in additional costs of \$5.5 million in 2017 for Newlin Gulch pipeline and pump station upgrades in the water resources fund.
- Continued costs for WISE and Box Elder projects in the 5 year capital plan.
- Added \$20 million in 2020 for the expansion of the wastewater treatment plant in the wastewater fund.
- Changed the timing and anticipated costs of several projects for stormwater capital including Hangmans Gulch, Parkview Tributary, Industrial Tributary and Douglas Lane Tributary work for costs of \$2.1 million.
- Completed a full review of the long term stormwater capital plan.

Other key drivers to this year's rates and fees study that have been incorporated into the cost of service model include:

- Updated the financial management plan to ensure goals are being achieved.
- Ensured the targeted minimum fund balances remained at \$1 million for wastewater and water and \$500,000 for water resources and stormwater using most of the fund balances for capital project funding.
- Added no new full time equivalents (FTEs) in 2017.
- Implemented new water efficiency and well replacement master plans.
- Updated the stormwater CIP plans based on updates being made to the stormwater master plan.
- Refunded water resources 2008 COPs and set them as fixed interest revenue bonds to minimize risk.
- Reviewed special charges based on actual cost of service and made minor updates.
- Updated to meter set fees based on actual costs with an increased range of 0.2% to 6.2% for standard residential and 1" meters and an average of 10% decrease for meters 2" and larger.
- Continued implementation of the Utilities five year strategic plan.

### **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 Utilities Commission participation and Town Council adoption of endorsed recommendations.

The "2016 Study" was presented at the Utilities Commission Meeting on July 27, 2016. The model showed a minimal \$30 increase for the Water Resources System Development Fee. Staff had originally recommended no change based on the small amount supported by the study. Utilities Commission suggested increasing the Water Resources System Development Fee using the small increase as reflected in the cost of service model. That small increase has been incorporated into this memo and recommendation. Staff and Commission also agreed it would be worthwhile to look into possible options of increasing the volumetric (variable) rates in Tiers 2-4 to accomplish the same increase in WR revenue that is needed rather than increasing the fixed rate base charge.

For the Water Resources rate, based on direction from the Utilities Commission and Council, staff evaluated the option of increasing variable charges in Tiers 1, 2, 3 and 4 water rates instead of increasing the fixed water resources charge. By raising the variable (volumetric rate) \$0.07 on Tier 1, \$0.14 on Tier 2 and \$0.21 on both Tier 3 and 4, the rate required revenues for long term water are met. Staff's recommendation is to use this option due to the perception that this helps increase customer equity in paying for long term water. It also helps drive conservation and efficiency efforts. Data indicates price is the strongest driver of conservation. These changes result in a 1.0% increase on a typical annual residential bill.

### **Discussion**

As in previous years, Arcadis U.S., Inc. prepared the Study in conjunction with the Utilities Team. Beginning with the 2013 Study, the Utilities Department brought an important part of the analysis in-house (the customer characteristics analysis). The Utilities Department once again has performed the customer characteristics analysis. The department has chosen to move forward with using Arcadis' new e-Forecast model to help with the rates and fees study. For the "2016 Study" the department has brought more components of the study in house. This includes the department completing the rates and fees models. The "2016 Study" develops recommended rates and fees for a five-year period, 2017 through 2021.

This helps the Utilities Department to fully understand the rates and fees implications of updated financial plans. It also provides Town Council, the Utilities Commission, and the community information regarding the potential rate changes that may be necessary over the five-year planning window.

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.

### **The "2016 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
4. Revenue and Expenditures Forecasts
5. Rates & Fees Modeling
6. Community Engagement

To date, items 1 – 5 have been prepared.

### 2017 – 2021 Key Changes

To frame the context within which the “2016 Study” was conducted, Table 4 provides a synopsis of key changes from last year’s study (the 2015 Study) that impacted proposed ratemaking for each of the enterprises for the five-year planning window, 2017 to 2021. The subsequent narrative provides additional detailed change insights.

**Table 4: 2017 – 2021**

| Category   | 2016 R&F Study | 2015 R&F Study | Change        | % Change |
|--|----------------|----------------|---------------|----------|
| New Customers  | 4,000          | 3,450          | 550           | 15.9%    |
| Rate Revenue   | \$201,222,396  | \$192,985,593  | \$8,236,803   | 4.3%     |
| System Development Fees Revenue (SDFs)                 | \$117,469,178  | \$83,208,127   | \$34,261,051  | 41.2%    |
| Non-Rate Revenue                                       | \$2,170,000    | \$2,025,542    | \$144,458     | 7.1%     |
| Capital Plans <sup>(1)</sup>                           | \$170,143,170  | \$119,895,446  | \$50,247,724  | 41.9%    |
| Personnel  | \$45,347,304   | \$45,294,679   | \$52,625      | .12%     |
| Electricity  | \$18,352,552   | \$18,030,882   | \$321,670     | 1.8%     |
| Operations & Maintenance (w/o electricity & Personnel) | \$60,796,360   | \$64,629,241   | (\$3,832,881) | -5.9%    |

(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 can have a large impact in the 5 year change in the capital plan.

Non-rate revenues, capital plans, operations and maintenance costs and system development fees are the largest drivers in this year’s study as evidenced in Table 4.

Projection for new customers is the other primary driver in the financial plan updates with a projected increase of 15.9 percent over five years. While growth for 2015 was high and has continued into 2016 and looks like it will continue into 2017, growth in 2018 and beyond is difficult to predict. If growth falls short of current forecasts, revenues in 2018 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 \$60 million during the five-year study period. Additional information on the impacts of key changes in the “2016 Study” is explained in the following sections.

### Fund Balances

Savings in actual Operations and Maintenance (O&M) costs and delays to large capital projects have helped in the last several years, relative to previous expectations. 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 2015 momentum in residential



development. 2016 is matching expectations with 380 (as of June 2016) new customer meters set year to date.

The forecast used for 2017 through 2021 is slightly higher than the numbers seen in 2015. These numbers are also higher than those seen in years 2000 through 2014. 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. The combination of these two items has resulted in a downward trend in rate revenues since 2012. This trend is projected to continue this year based on revenues year to date. Despite this trend and primarily due to the increasing customer base, Utilities increased forecasted revenues by 4.3 percent for the 5 year period, 2017-2021. As always, Utilities is aware of the need to be cautious when projecting rate revenues due to the unpredictability of weather and conservation and plans this into the rate revenue projections.

### **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 utilities can expect 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 "2016 Study" do, also, reflect significant improvements in customer account management, meter infrastructure maintenance, and accounts receivable collections.

A more in depth review of the bulk water hydrant program indicates that the cost of providing this service is not being recovered. With that, staff is recommending adding a monthly flat fee of approximately \$300 to cover the capital investment in hydrant meters. We benchmarked against five other local municipalities with a hydrant program and found that with this change Castle Rock Water is competitive (still one of the lowest) with those benchmarked.

The cost of service model also reflects a slight change in the administration costs associated with the lien process. Staff is proposing a change of a minimum of \$55 per transaction or 10% of the outstanding balance whichever is greater.

### **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 Authority) and growth have been forecasted.

Highlights of capital project changes that are included in the “2016 Study” are as follows:

**Water Fund:**

- Added \$2.75 million for a new deep groundwater well and raw waterline in 2017.
- Added \$1.0 million for VFD and valve replacements in the 2017-2021 periods.

**Water Resources Fund:**

- In 2017 added in costs of \$5.5 million in 2017 for Newlin Gulch pipeline and pump station upgrades.
- Added in \$11.7 million for the Plum Creek diversion structure and pump station upgrades in 2017.
- Increased 5 year CIP projections by \$11.7 million for 2017-2021.

**Stormwater Fund:**

- Changed the timing and anticipated costs of several projects including Hangmans Gulch, Parkview Tributary, Industrial Tributary and Douglas Lane Tributary work for a total of \$2.1 million.

**Wastewater Fund:**

- Added \$20 million in costs for the expansion of the treatment plant in 2020.

**Personnel**

No new FTEs are being added in 2017. 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 2018-2021 based upon growth forecasts within the Town and the personnel needed to maintain customer service levels based upon this growth.

**Electricity**

The second largest operating cost, electricity, reflects full operation of the Plum Creek Water Purification Facility and both alluvial and groundwater well operations. Legislation passed in 2013 could impact electrical energy costs beyond those forecasted. Additional costs will be incorporated as appropriate when rate increases are announced. The Utilities Department 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 five year period based on the continued implementation of the energy management plan.

**Operations & Maintenance**

Cost projections include increases for running the new Operations and Maintenance facility as well as normal projected increases to go along with the projected capital plans.

Reduction is due to two major components, the elimination of the contingency accounts for all four funds equaling approximately \$2.2 million over the study period and a

reduction in the CIP driven O&M due to shifting of CIP plans throughout the study period.

### **Proposed Rates and Fees for 2017 through 2021**

Based on impacts of the revised capital plan and assumed system growth by Fund as well as the other key changes, the “2016 Study” has resulted in projected required rate revenue increases as shown in Table 5 below.

**Table 5: Rate Required Revenue Increases by Enterprise – “2016 Study”**

|                 | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> |
|-----------------|-------------|-------------|-------------|-------------|-------------|
| Water Fund      | 0.0%        | 0.0%        | 0.0%        | 0.0%        | 0.0%        |
| Water Resources | 3.0%        | 3.0%        | 3.0%        | 3.0%        | 3.5%        |
| Stormwater      | 4.0%        | 4.0%        | 4.0%        | 4.0%        | 4.0%        |
| Wastewater      | 0.0%        | 0.0%        | 0.0%        | 0.0%        | 0.0%        |

Increase in Tiers 1-3 volumetric rates will be collected and remitted to the Water Resources Fund instead of a 3% increase in the fixed charge for Water Resources

Continued growth and the change in timing of the capital plan in this year’s study have impacted the water and wastewater funds allowing for no increase in rate required revenue for 2017 in line with the 0 percent projected by last year’s study. Projected rate required revenue for water resources in the 2017 to 2021 planning period is consistent with the financial planning done when the Town adopted the hybrid approach to renewable water. 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. Consistent and minimal rate action over time will also prevent future rate shock. For stormwater, projected rate required revenues also must ramp up in small amounts over time to handle future anticipated capital needs, which have continued to grow as more detailed study of the watershed has been completed.

When the rate required revenues from the “2016 Study” are taken into account, the net results are projected to be an increase to the total typical annual residential utility bill of 1.0% relative to 2016 adopted rates. The impact of this year’s recommended rate adjustments to the typical bill for all customer classes from the “2016 Study”, as compared to the 2015 Study and 2016 adopted rates is summarized in Table 6 below.

**Table 6: 2017 Rate Adjustment Recommendations and  
Total Typical Annual Utility Bills**

| Customer Class                             | 2016 Actual<br>Typical<br>Annual Bill | "2016 Study"<br>Proposed<br>2017 Typical<br>Annual Bill | \$ Increase<br>(Decrease)<br>Relative to<br>2016<br>Actual | %<br>Change<br>Relative<br>to 2016<br>Actual | 2015 Study<br>Proposed<br>2017<br>Typical<br>Annual Bill |
|--|---------------------------------------|---|--|--|--|
| Residential ¾" Meter                       | \$1,354.16                            | \$1,368.11  | \$13.95  | 1.0%   | \$1,365.96   |
| Commercial Indoor<br>¾" Meter              | \$1,970.72                            | \$2,008.89  | \$38.17  | 1.9%   | \$1,990.37   |
| Commercial Indoor<br>1 ½ " Meter           | \$9,107.81                            | \$9,213.19  | \$105.38   | 1.2%   | \$9,204.01   |
| Commercial<br>w/Irrigation ¾" Meter        | \$2,503.18                            | \$2,560.47  | \$57.29  | 2.3%   | \$2,526.83   |
| Commercial<br>w/Irrigation 2" Meter        | \$14,892.26                           | \$15,080.66   | \$188.40   | 1.3%   | \$15,041.38  |
| Multi-family Indoor<br>¾" Meter            | \$1,062.73                            | \$1,069.02  | \$6.29   | 0.6%   | \$1,074.46   |
| Multi-family<br>w/Irrigation 1 ½"<br>Meter | \$11,104.73                           | \$11,194.73   | \$90.00  | 0.8%   | \$11,194.27  |
| Irrigation ¾" Meter                        | \$2,029.24                            | \$2,070.07  | \$40.83  | 2.0%   | \$2,040.21   |
| Irrigation 2" Meter                        | \$15,137.58                           | \$15,241.74   | \$284.16   | 1.9%   | \$15,155.85  |

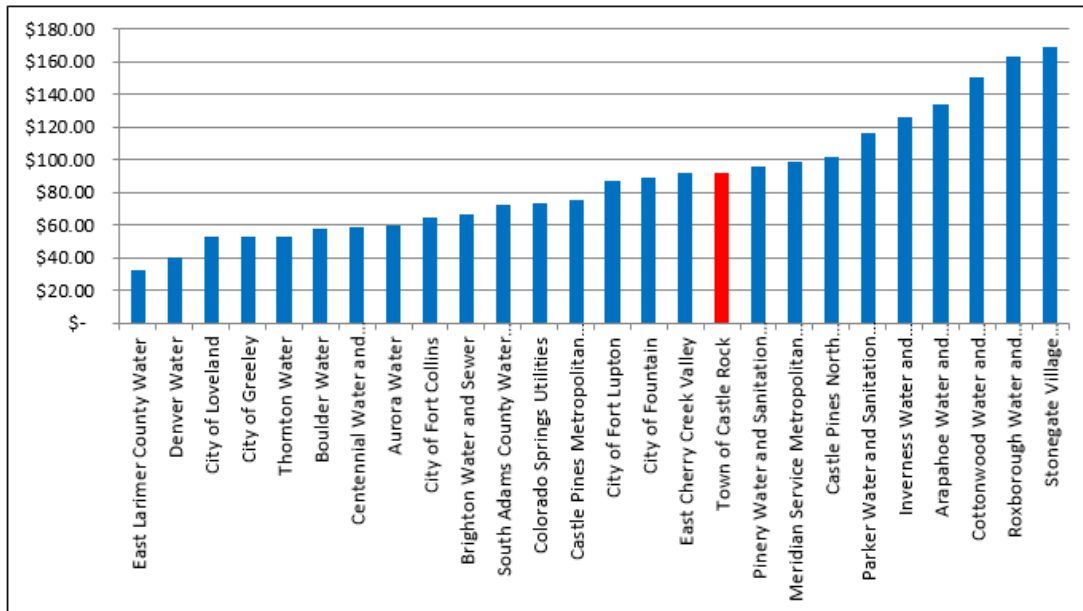
As a part of the presentation of the proposed rates and fees for 2017, the Utilities Department compared the 2017 proposed rates and fees with other similar water providers in the South Metro area. Stormwater fees were done separately as many of the water providers do not provide that service. The comparisons 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 Utilities 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 3 and 4. 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

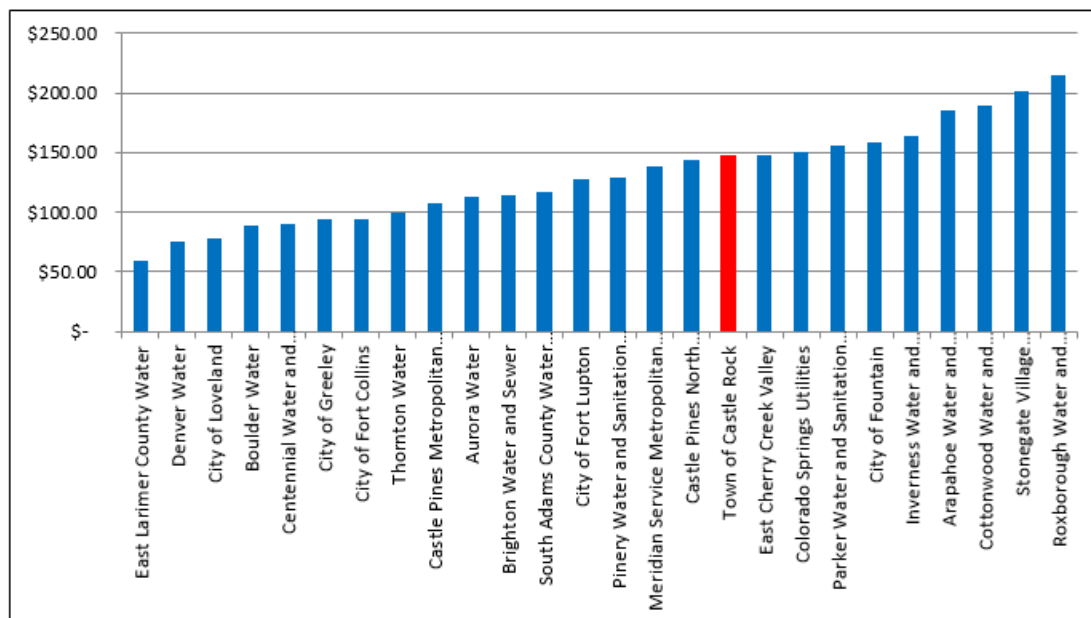
price of a home in Douglas County of \$399,350 (<http://www.douglas.co.us/documents/douglas-county-demographics-summary.pdf>). This mill levy was then distributed across twelve equal payments for comparison sake even though this will typically be paid in fewer installments. The results of this comparison indicate that Castle Rock's rates and fees are comparable to other area providers.

**Chart 3: Typical Monthly Winter Bill (per 5,000 gallons)**



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

**Chart 4: Typical Monthly Summer Bill (15,000 gallons)**

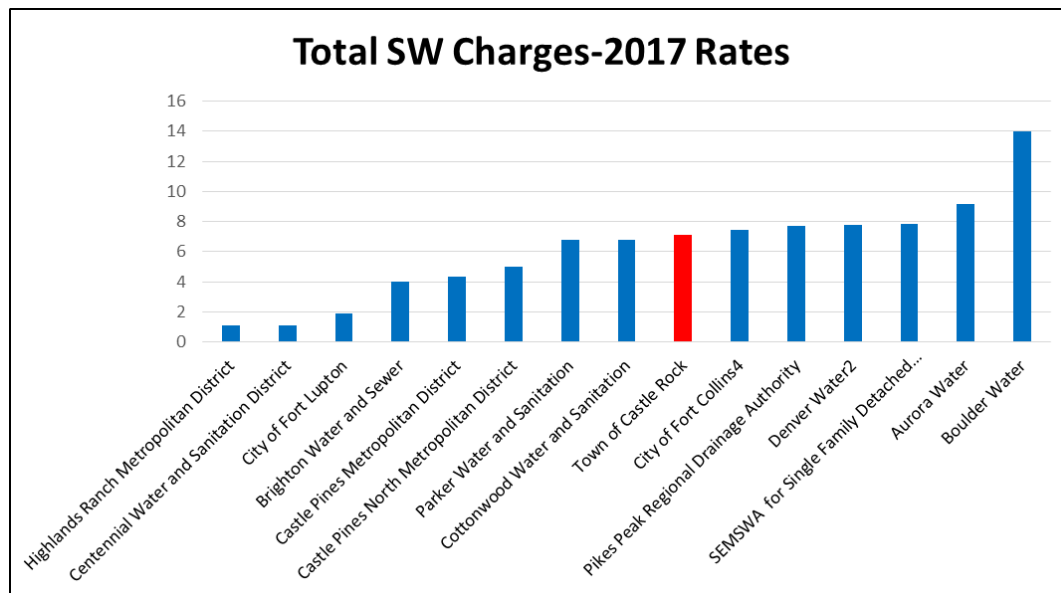


*\*Includes tax mill levy based on median home price distributed equally over 12 months.*

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 5: 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 2016 rate.

With respect to the fixed charges for a typical single family residential bill, study results indicate a 0.5 percent increase. This is being driven primarily by the need to rate fund the capital plans for water resources. Table 7 summarizes proposed fixed charges for 2017 from this year's study.

**Table 7: Single Family Residential Fixed Charges**

|                 | 2016 Actual Typical Bill | "2016 Study" Proposed 2017 Typical Bill | \$ Increase (Decrease) | % Change    | 2015 Study Proposed 2017 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      | \$6.85                   | \$7.12                                  | \$0.27                 | 4.0%        | \$6.92                                |
| <b>TOTAL</b>    | <b>\$51.84</b>           | <b>\$52.11</b>                          | <b>\$0.27</b>          | <b>0.5%</b> | <b>\$52.83</b>                        |

Increase in Tiers 1-3 volumetric rates will be collected and remitted to the Water Resources Fund instead of a 3% increase in the fixed charge for Water Resources

For typical single family residential customers, the volumetric rate from this year's study for water in all four tiers is proposed to increase in 2016 to cover the 3 percent increase needed for water resources. Table 8 presents these proposed volumetric rates.

**Table 8: Single Family Residential Volumetric Charges**

|            | 2016 Actual<br>Typical Bill | "2016 Study"<br>Proposed<br>2017 Typical Bill | \$ Increase<br>(Decrease) | %<br>Change | 2015 Study<br>Proposed<br>2017 Typical<br>Bill |
|------------|-----------------------------|---|---------------------------|-------------|--|
| Water:     |                             |   |                           |             |  |
| Tier 1     | \$2.75                      | \$2.82  | \$0.07                    | 2.5%        | \$2.75   |
| Tier 2     | \$5.39                      | \$5.53  | \$0.14                    | 2.6%        | \$5.39   |
| Tier 3     | \$8.08                      | \$8.29  | \$0.21                    | 2.6%        | \$8.08   |
| Wastewater | \$6.59                      | \$6.59  | \$0                       | 0%          | \$6.59   |

Increase in Tiers 1-3 volumetric rates will be collected and remitted to the Water Resources Fund instead of a 3% increase in the fixed charge for Water Resources

### System Development Fees

System development fees (SDFs) are a function of year-end 2015 fixed assets, 2016 year-end estimate of capital improvement project costs, 2017 through 2055 capital improvement project plans, and system capacity (for water, water resources, and wastewater) or developable acres for stormwater.

Higher growth forecasts and increases to the capital plans in the "2016 Study" indicate that total system development fees for a typical single family equivalent will need to increase from the 2016 fees. The 2015 Study indicated fees would need to increase in 2017 by 3 percent. The "2016 Study" indicates an increase of around 2 percent as shown in Table 9.

**Table 9: Single Family Equivalent System Development Fee Comparison**

#### PLUM CREEK BASIN

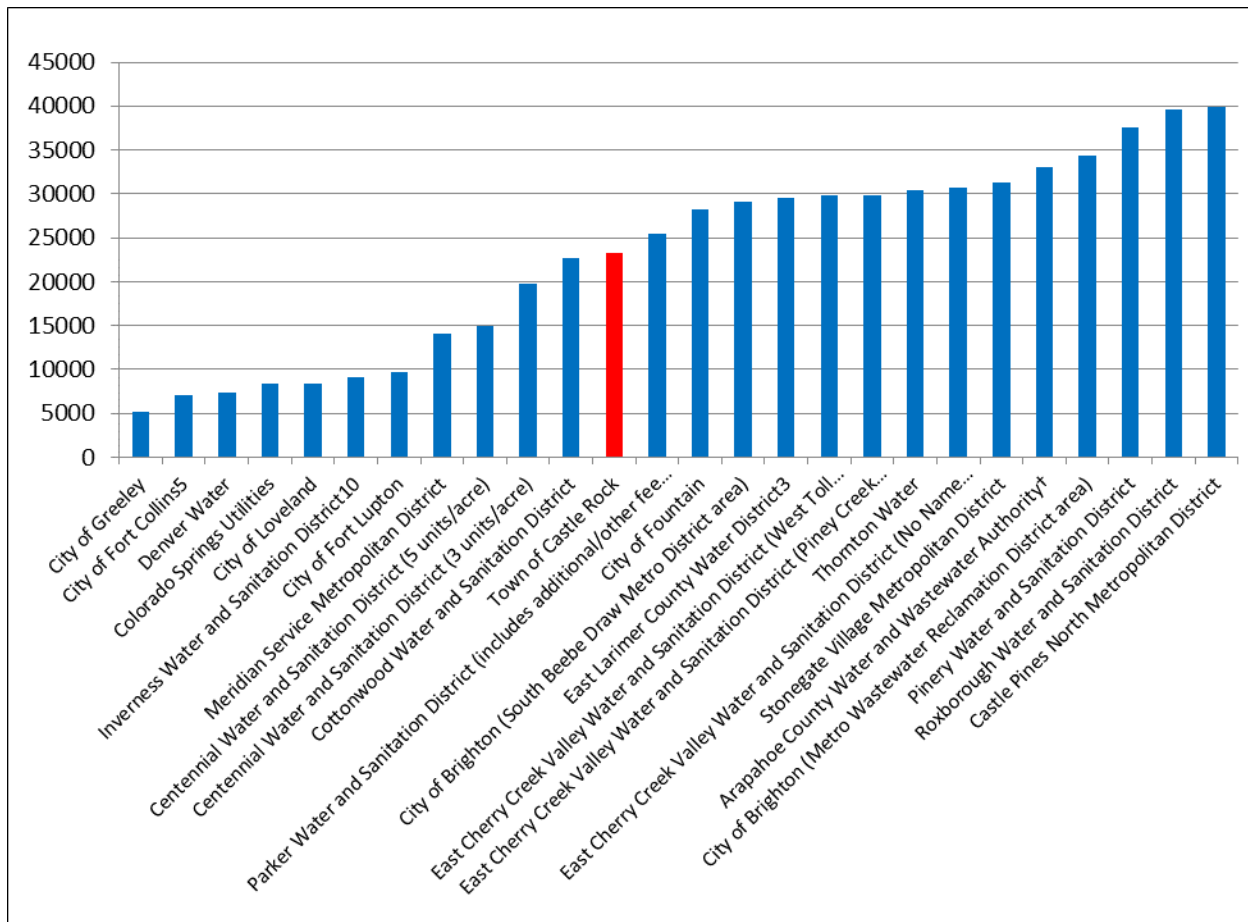
|                    | 2016<br>Actual<br>Fees | "2016 Study"<br>Proposed<br>2017 Fees | \$ Increase<br>(Decrease) | %<br>Change | 2015 Study<br>Proposed<br>2017 Fees |
|--------------------|------------------------|---------------------------------------|---------------------------|-------------|-------------------------------------|
| Water              | \$3,237                | \$3,314                               | \$77                      | 2.4%        | \$3,333                             |
| Water<br>Resources | \$15,218               | \$15,248                              | \$30                      | 0.2%        | \$15,668                            |
| Wastewater         | \$3,243                | \$3,437                               | \$194                     | 6.0%        | \$3,339                             |
| Stormwater         | \$1,125                | \$1,317                               | \$192                     | 17.1%       | \$1,158                             |
| <b>TOTAL</b>       | <b>\$22,823</b>        | <b>\$23,316</b>                       | <b>\$493</b>              | <b>2.2%</b> | <b>\$23,498</b>                     |

#### CHERRY CREEK BASIN

|                    | 2016<br>Actual<br>Fees | "2016 Study"<br>Proposed<br>2017 Fees | \$ Increase<br>(Decrease) | %<br>Change | 2015 Study<br>Proposed<br>2017 Fees |
|--------------------|------------------------|---------------------------------------|---------------------------|-------------|-------------------------------------|
| Water              | \$3,237                | \$3,314                               | \$77                      | 2.4%        | \$3,333                             |
| Water<br>Resources | \$15,218               | \$15,248                              | \$30                      | 0.2%        | \$15,668                            |
| Wastewater         | \$3,243                | \$3,437                               | \$194                     | 6.0%        | \$3,339                             |
| Stormwater         | \$748                  | \$843                                 | \$95                      | 12.7%       | \$770                               |
| <b>TOTAL</b>       | <b>\$22,446</b>        | <b>\$22,842</b>                       | <b>\$396</b>              | <b>1.8%</b> | <b>\$23,110</b>                     |

As part of the review of proposed fees, Utilities reviewed Castle Rock 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 6: SDF Rate Comparison with Surrounding Communities**  
2016 System Development Fees w/ Castle Rock 2017 Proposed Fees



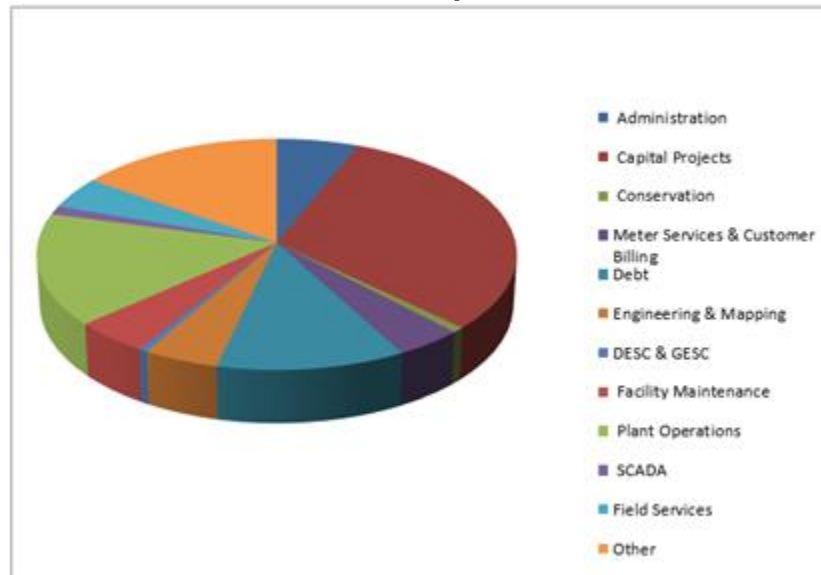
\*The Parker Water SDF includes a \$5,000 Water Resource's Toll, for a ¾" meter, in the above calculation, which may not apply to all customers.



## Utilization of Rates and Fees

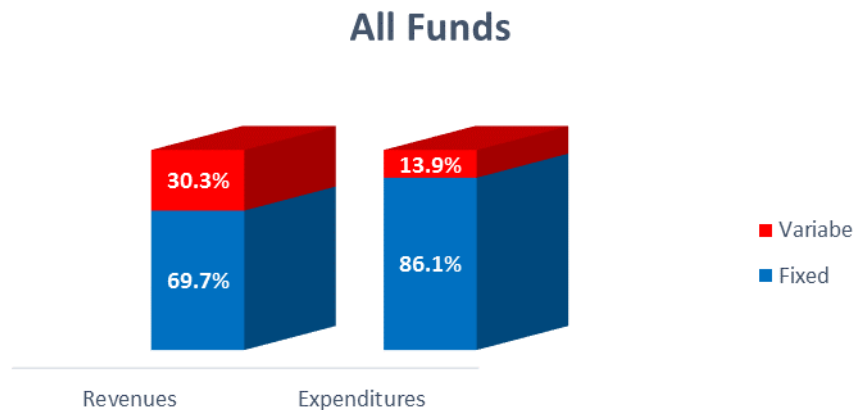
The four enterprise services are funded by rates and fees. Chart 7 depicts the Utilities Department year-end 2015 actuals from a water services functional perspective. Administration includes centralized services provided by other town departments.

**Chart 7: Four Enterprise Functions**

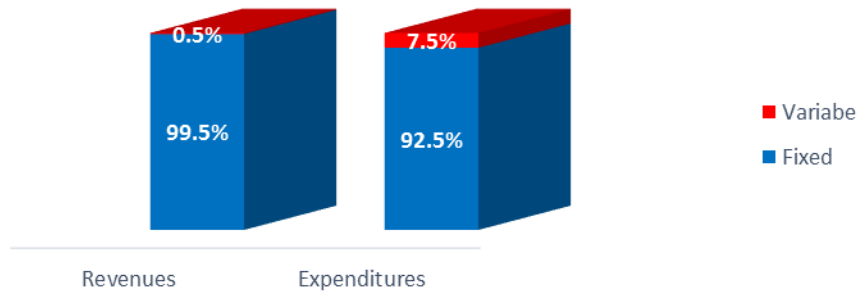


It is clear from this chart that the Capital Project Plan is a very significant portion of the rates and fees needed for operation of Utilities. For the 2015 actuals debt is also a larger portion of the expenses, which is due to the 2015 refunding bonds. This expense is off-set by the same amount in the revenues section. The infrastructure intensive nature of Utilities results in significant fixed costs. Utilities 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 2015 actuals, Chart 8 compares fixed costs to fixed revenues and variable costs to variable revenues.

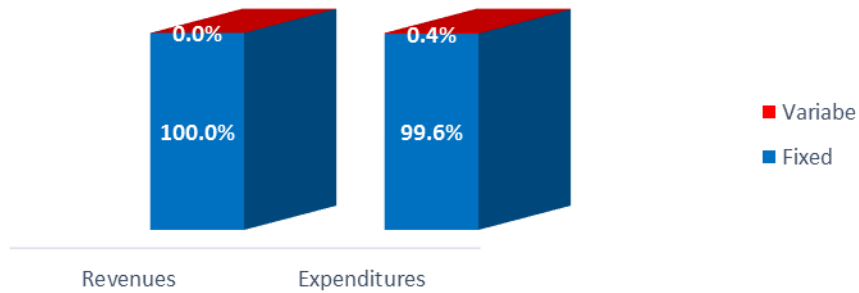
**Chart 8: Fixed Costs/Fixed Revenues; Variable Costs/Variable Revenues**



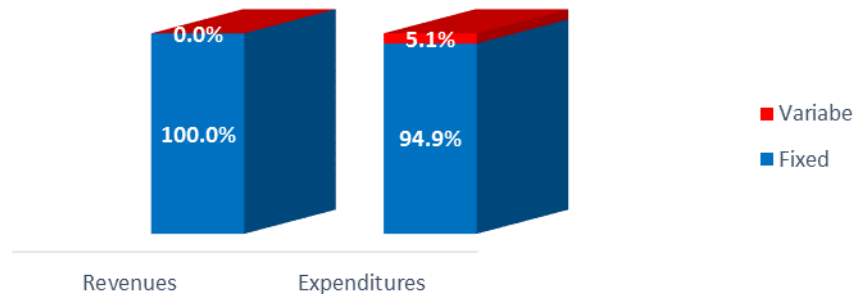
## Water Resources Fund



## Stormwater Fund



## Wastewater Fund



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. The water resources fund will have to continue to service the 2008 Certificates of Participation (COPs) through part of 2016 and then these will be refunded into a fixed rate instrument. The FMP has summarized additional recommendations and conclusions which will help manage future rates and fees as follows:

- Study the option of using inter-fund loans from water and wastewater to help minimize the rate increases needed to fund the long term renewable water plan in the water resources enterprise.
- Evaluate options for issuing additional future debt to help fund the long term renewable water plan.
- Reevaluate annually the reserves to ensure that the levels meet the needed standards in the industry as well as to ensure that the levels are enough to cover the needs of the various enterprises.
- Reevaluate and consider establishing a more robust renewal and replacement reserve to ensure the long term management of the \$550 million of capital assets for which the Utilities Department is responsible.
- Evaluate the variable expenses versus the variable revenues to take and recommend actions to council and for internal use to help minimize revenue risks.
- Manage budgets to come in at or under budget each year for operating and non-operating budgets.
- Continue to utilize best practices in bidding and pricing construction projects to ensure it is competitive in the market and will reevaluate each year as well as periodically as needed with new construction projects as they arise.
- Continue to look for opportunities to maximize energy management and asset management plans to help reduce costs and come in under budget each year.
- Reevaluate the staffing plans each year to determine the most efficient levels of staff in order to meet the needs of services and projects each year maintaining customer service levels.
- Evaluate and update special charges annually to help ensure that customers that are causing the costs are paying for the costs.
- Improve each year with respect to \$/million gallons per day (MGD) Key Performance Indicators for water and wastewater funds.
- Minimize non-revenue water through audits and evaluating the system for leaks and breaks and other areas that can cause non-revenue water.
- Ensure the rate and fees each year are set at or below the 2013 Hybrid levels.
- Utilize regional partnerships to provide economies of scale.
- Evaluate issuing new debt as it makes sense in order to fund the needed CIP projects.
- Reevaluate the yearly CIP projects to find ways to decrease costs while still completing these projects.
- Look for economies of scale by the use of extra territorial service and funds raised through that service which can help pay for long term infrastructure.
- Balance lost revenues from water conservation with other revenues or rate increases in order to fund future projects.
- Maintain a level of 90 days or less for the accounts receivable turnover ratio throughout the year.
- Use the Financial Management Plan to support the Utilities strategic plan and be an industry leader.

## **Schedule**

The current schedule for the 2016 Rates and Fees Study targets the following milestones.

- July 27 – Utilities Commission discussion
- August 16 – Town Council discussion/direction
- August 31 – Utilities Commission recommendation
- September 6 – Town Council Rates and Fees recommendations, 1<sup>st</sup> Reading
- September 20 – Town Council Rates and Fees recommendation, 2<sup>nd</sup> Reading
- January 2017 – Rates and Fees Implementation

## **Staff Recommendation**

The recommended changes to 2017 adopted charges, rates and system development fees for single family equivalents based upon the results of the “2016 Study” are summarized below by enterprise fund.

### **Water Fund**

1. Fixed Monthly Charge – no change
2. Volumetric Rates – increase\*
3. System Development Fee – increase

### **Water Resources Fund**

1. Fixed Monthly Charge – no change\*
2. System Development Fee – increase

### **Stormwater Fund**

1. Fixed Monthly Charge – increase
2. Development Impact Fee - increase

### **Wastewater Fund**

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

\* Increase in Tiers 1-3 volumetric rates will be collected and remitted to the Water Resources Fund instead of a 3% increase in the fixed charge for Water Resources

Staff recommends moving forward with these recommended rates and fees, finalizing the “2016 Study” report and all of the associated data, and bringing the appropriate ordinances to Town Council for approval in accordance with the proposed schedule.