



Our Vision: We will be a national leader among water utilities, focused on customer satisfaction and delivering outstanding quality and value.

Minor Drainageway Improvements

By Eric Dam

Castle Rock Water is making storm drainage improvements within the Woodlands open space, specifically Hangmans Gulch Tributary B, and along Canyon Drive in Rock Park in the Parkview Tributary. The original storm sewer systems constructed within portions of these areas do not extend all the way to their respective drainageways. As a result, significant erosion has occurred that if left unaddressed would eventually impact private residential lots in the Woodlands as well as public infrastructure along Canyon Drive. This project will correct these issues by extending the existing storm sewer outfalls to their respective drainageway channels, and then backfilling and replanting the eroded areas with native grasses. In addition, internal energy dissipaters are being utilized to reduce outfall velocities, and the most severe areas of stream bank erosion will be repaired using soil lifts to minimize disturbance of the existing vegetation while preventing further damage from occurring. The areas will be backfilled and replanted with native grasses.



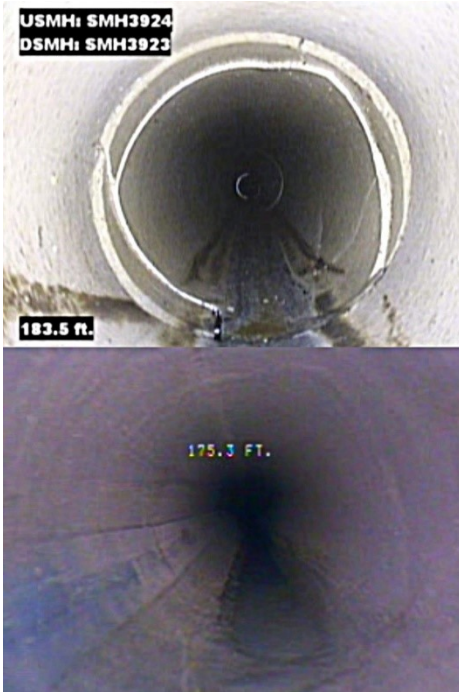
Benefits from this project include protection of public and private property, water quality, wildlife habitat and safety for users of Rock Park and Town-owned open space.

The design was awarded to Dewberry Engineers and the construction contractor is 53 Corporation. The project ran Dec. 2019 through April 2020 and was completed within budget at a cost of \$881,685.



2019 Cured In Place Pipe Project

By: Josh Hansen



As a result of Castle Rock Water’s annual sewer cleaning and video inspection program, over two miles of old clay sewer pipe in the Memmen Young Neighborhood of Town were identified for rehabilitation construction in 2020. Sewer pipe in this area was constructed in the 1970’s and had a history of root intrusion, increased annual maintenance, and pipe defects. Cured In Place Pipe (CIPP) lining of the sewer system through the neighborhood was planned as part of the rehabilitation process.

CIPP is constructed through a process in which a resin-saturated felt tube is pulled into the existing pipe, pressurized to fit tight against it, and then cured to form a new pipe within a pipe. No digging is involved in the construction process and the new CIPP is jointless, corrosion-resistant, and has a minimum expected life of 50-75 years.

A request for proposals for the 2019 CIPP Project was publicly advertised in November on the Rocky Mountain E-Purchasing System. Proposals were received from two qualified contractors and Insituform Technologies was awarded a contract in the amount of \$300,962.

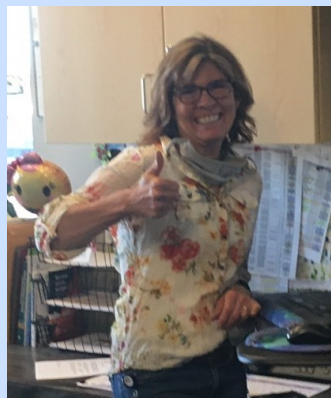
The COVID-19 health crisis created some additional challenges in completing the project as more people were home generating wastewater throughout the day. A portion of the project had to be completed during low flows at night.

Construction was completed within budget in May 2020. The newly installed CIPP liners will extend the lifespan of the existing sewer pipes, reduce the frequency of street cut sewer repairs, reduce frequency of sewer cleaning and root cutting maintenance, and reduce groundwater infiltration of the sanitary sewer system.



Water Star Award

The Water Star Award recognizes a coworker within Castle Rock Water for doing an excellent job in fulfilling the Department’s Vision and Mission.



Dawn Tiffany,
Water Operations Admin Assistant, received the Water Star Award from PJ Thorstenson for her patience and untiring assistance for all those ‘as assigned duties’ including helping staff with that darn thermometer.

New hires

WELCOME & CONGRATULATIONS!

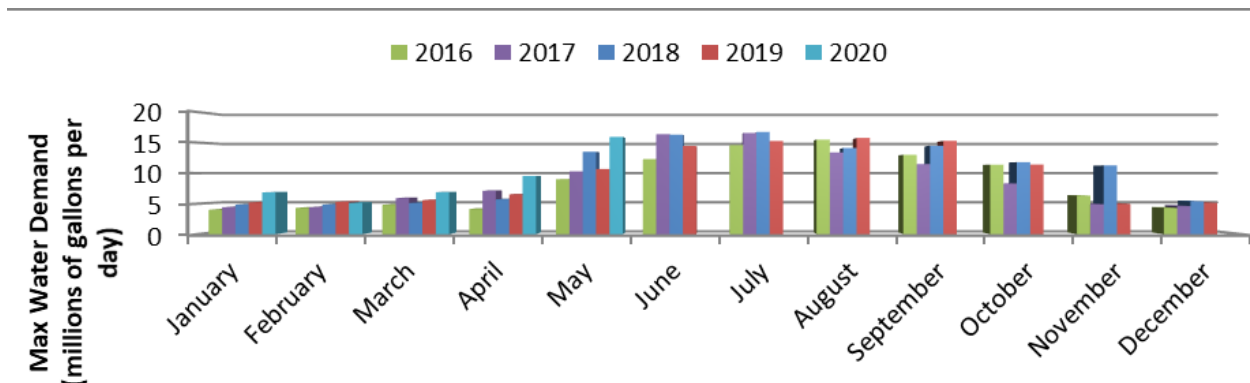


Thomas Craig
Water Quality
Compliance Technician



Sloan Monks
Meter Services Seasonal

Water Demand



Max daily water demand

Maximum demands inform us of the size of the infrastructure necessary to provide water service over short periods of time and help us to plan future water resources needs.

| | |
|-----------------|---------------------------------|
| May 2020 | 15.9 million gallons/day |
| May 5 yr. avg | 11.9 million gallons/day |
| Difference | 34% higher |

Max daily water demand in 2019
15.8 MGD in August

Water demand total

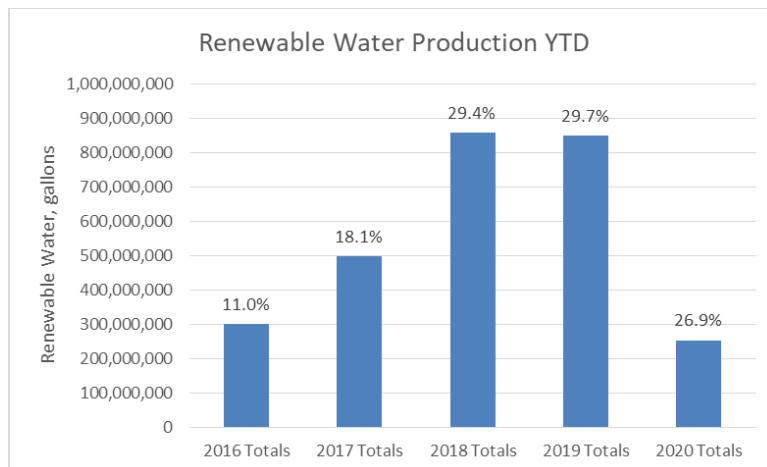
Water demand total is how much water was used over the entire month. Population and weather changes can significantly affect usage.

| | |
|-----------------|------------------------------|
| May 2020 | 374.9 million gallons |
| May, 2019 | 241.2 million gallons |
| Difference | 55.4% increase |

Water demand total for 2019
2,838.5 MG

Renewable water supply

- The CR-1 diversion produced an average of 1.78 MGD for the month of May. The Town's thirteen alluvial wells and CR-1 produced a total of 81.09 MG of renewable water (and an average of 2.62 MGD).
- WISE water supplied an additional 24.4 MG of renewable water.
- In total, renewable supplies accounted for 29.4% of the total water supply for the month and 26.9% of the annual water supply (940 MG or 2,886 AF) to date.



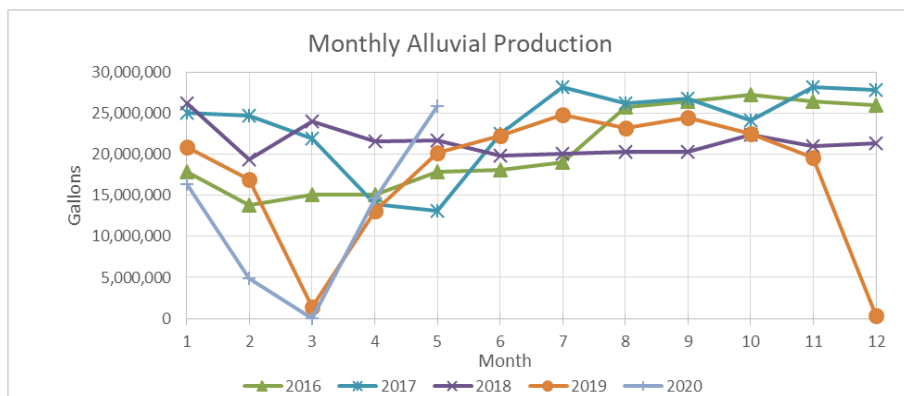
Our goal is to reach 75% renewable water by 2050.

Water Demand

Renewable supplies are those water sources that are replenished by precipitation (think of our alluvial wells, CR-1, and WISE), whereas reusable supplies are those waters that are either from the Denver Basin (deep wells) or imported supplies (such as WISE and RHR) that can be used over and over, to extinction. The average reusable supplies used by Castle Rock for 2020 through May is 21.9% with 73.5% of available reusable supplies used in the month of May.

Alluvial supply

May 2020 production: 25.8 MG



The graph shows the monthly production of the Town’s alluvial well system, which helps to supply PCWPF. The production from the alluvial wells in May was 25.8 MG.

We completed eight well rehabilitation projects this past fall/winter.

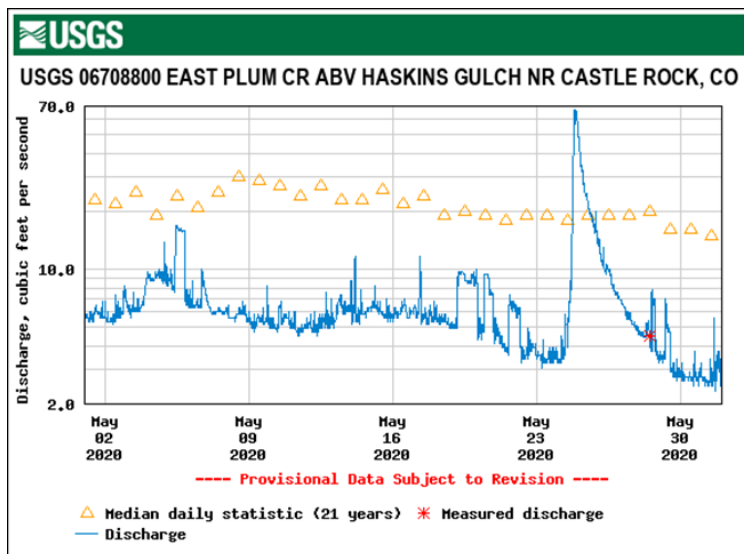
East Plum Creek Flows

May, 2020 avg flow: 7.0 cfs

The flow hydrograph represents stream flows in East Plum Creek (EPC) taken from the stream gauge located above Haskins Gulch. The hydrograph shows that estimated flows in the East Plum Creek basin ranged between 2.3 and 67.2 cubic feet per second (cfs) during the month of May, with an average streamflow of 7.0 cfs. This month’s average streamflow of 7.0 cfs is below the 20-year median of 11.5 cfs.

There were active calls on the South Platte River in May. Some of the active calls have had a more senior water right than some of the Town’s water rights. This means that those diversions are out-of-priority, so the stream depletions will be covered by non-tributary return flows. This also means that the Town will have slightly less reusable water going down Plum Creek during an active call. The priority date on a river call may change each day depending on the stream flow available and the seniority of the diversions that need water on that day.

As a participant in the Chatfield Storage Reallocation Project, the Town is able to store up to 2,000 AF of water in Chatfield Reservoir. This means that our reusable water that flows down Plum Creek and past CRR1 can be captured and stored at Chatfield for later use. First storage started on May 15, and to date, we have 83.88 AF of water stored in Chatfield with additional reusable water flowing in each day.



Water Demand

Drought Monitor

The average WSI for May was 1.8, above the 1.1 trigger level, which is considered “good.”

According to the U.S. Drought Monitor maintained by the United States Department of Agriculture (USDA), approximately 77% of Colorado is experiencing Abnormally Dry (D0) to Extreme Drought (D3) conditions. The Town of Castle Rock Drought Management Plan uses a Water Supply Index (WSI) for the Town that is similar to the U.S. Drought Monitor in that it provides us an indicator to drought level; however, the WSI accounts for local conditions relative to the Town’s capability to address our water resources and daily water demands. The WSI is calculated by taking the sum of our supply (deep groundwater, alluvial wells, surface water, and WISE) and dividing that by our maximum daily demand. We generally want to see a WSI above 1.1, which means that we have enough resources to meet our demands. Anything below a 1.1 will trigger a drought stage relative to its severity

The NRCS Colorado SNOTEL Report

June 4, 2020

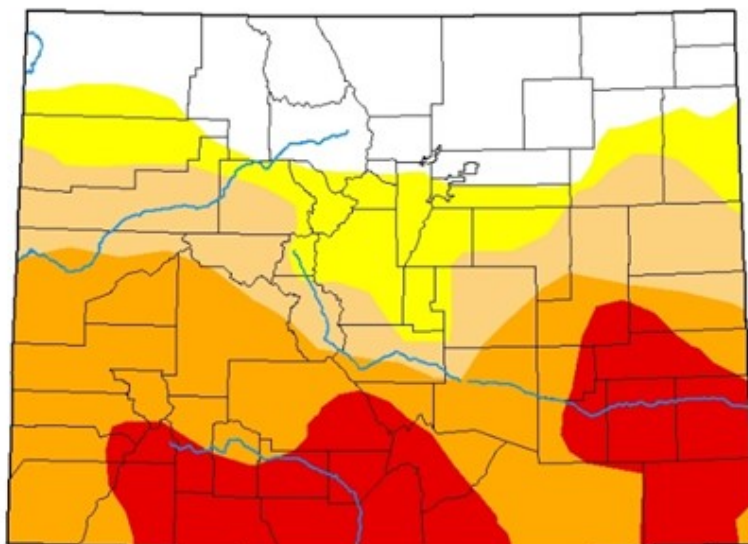
- YTD precipitation for the South Platte River Basin is at 96% of average
- The snow water equivalent is at 32% of median

U.S. Drought Monitor Colorado

June 2, 2020

(Released Thursday, Jun. 4, 2020)

Valid 8 a.m. EDT



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Curtis Riganti
National Drought Mitigation Center



droughtmonitor.unl.edu

Plan Review



For each commercial and residential project submitted for development review, Castle Rock Water provides plan review, as appropriate, for:

- Water
- Sanitary sewer
- Stormwater
- Landscape/irrigation
- Temporary erosion and sedimentary control

Castle Rock Water reviews site plans, construction drawings and technical reports for each project to ensure the public infrastructure built by the developer is following the criteria set by the Town.

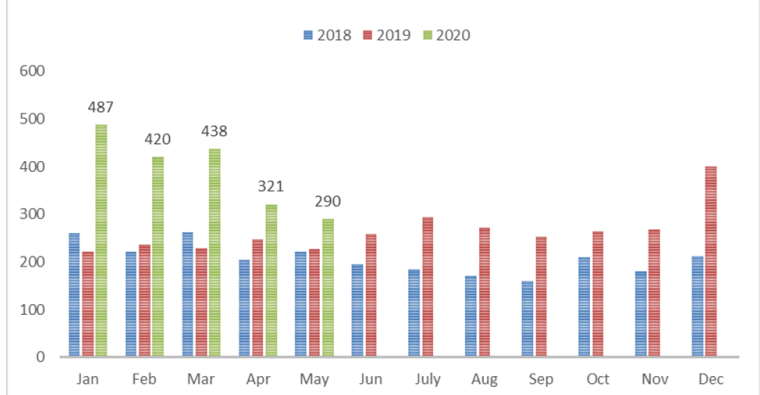
Reviews

195 development services PROJECT plan reviews
 95 building PERMIT reviews
 For 88 separate projects

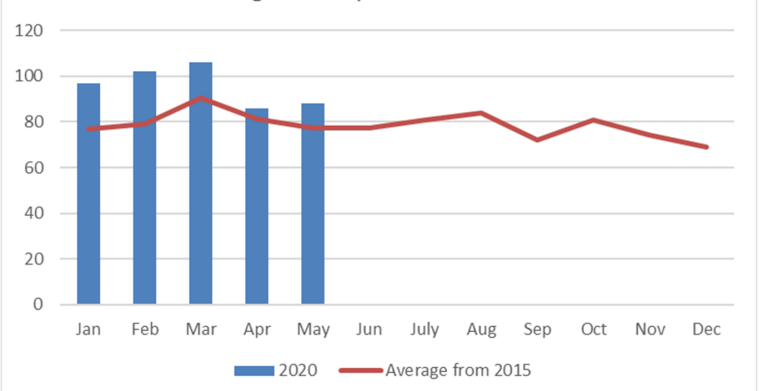
- Number of distinct projects equal to May 2019
- Total of 88 distinct projects permits were reviewed
- Number of project reviews increased 28% from May 2019
- Permit reviews increased 168% from May 2019

Building permits are reviewed to calculate the system development fees for each lot, as determined by the number of fixtures, irrigated area, meter size, etc. This is necessary for proper billing.

TOTAL # OF CASTLE ROCK WATER PLAN REVIEWS FOR DEVELOPMENT SERVICES AND BUILDING



Monthly Projects Reviewed 2020
 Average monthly reviews since 2015



Service levels

The average number of days assigned to review: 12.3 days
 The average days to complete assigned reviews: 10.9 days

Plan Review: 90% of the reviews were completed on-time

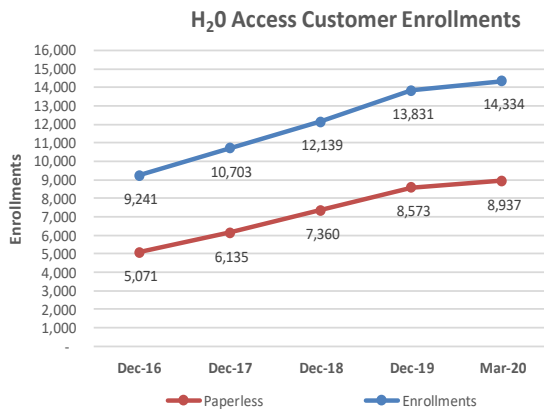
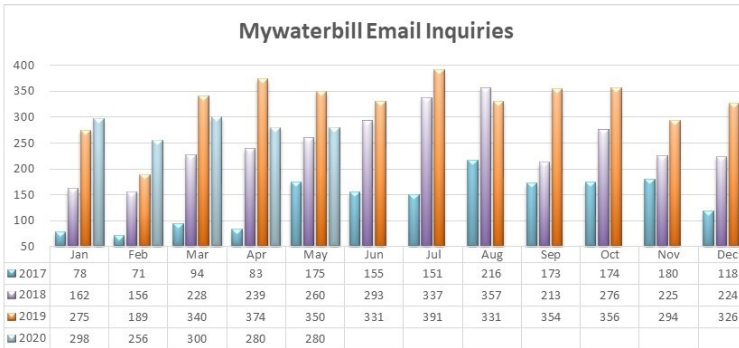
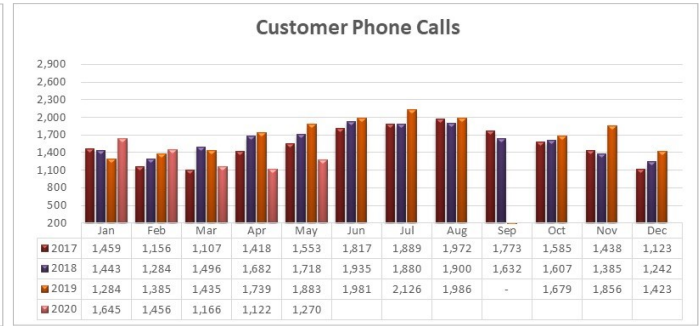
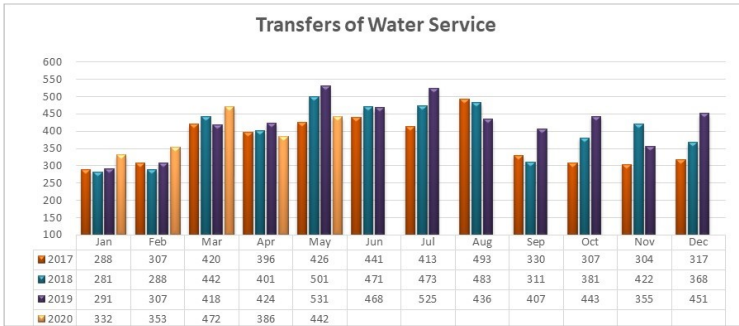
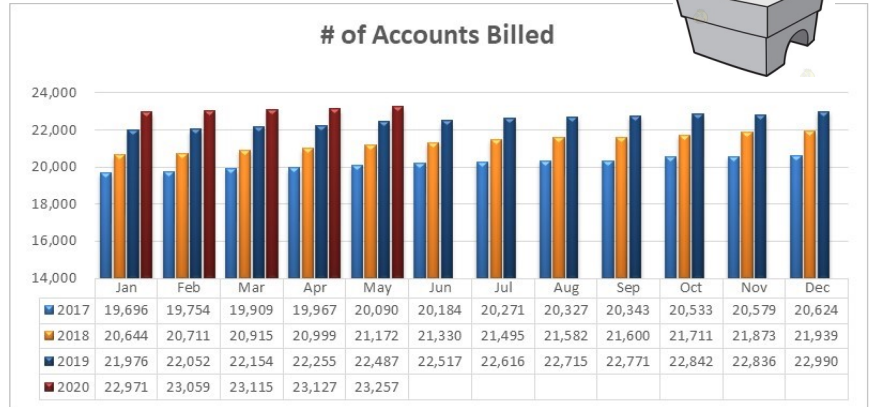
Review time for each plan is 1 to 5 weeks, a permit is 3-5 days.

Business Solutions



Customer Service

With the COVID-19 Pandemic, the customer service lobby was closed to walk-in customers, reducing customer contact. Disconnection notices were not mailed in March, April or May as well as no service disconnections were conducted, which reduced customer call volume significantly.



- Walk-in customers were significantly down due to limited customer interaction from COVID-19 social distancing.
- With business continuing, despite closing the lobby doors, transfers of service, email inquiries and new accounts continue to be steady.
- Customers creating online accounts through H2Oaccess, the online payment portal, remains steady and paperless customers increased to 62% in 2020Q1.

Meters



Meters Read

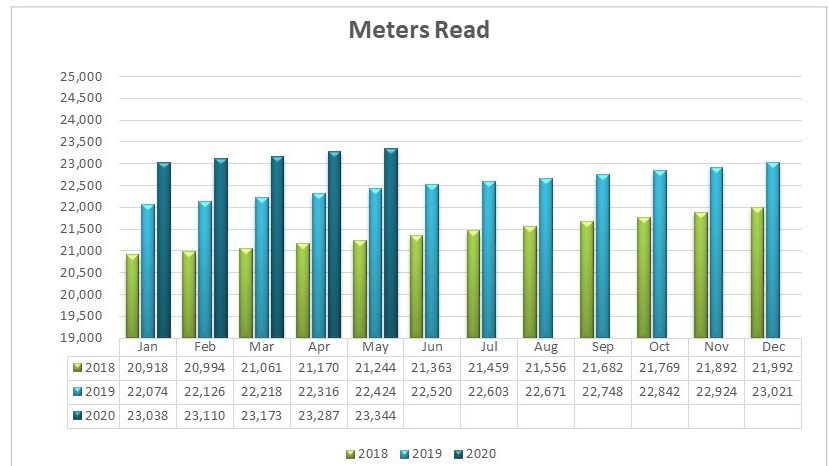
Meters are read the first three days of every month. The number of meters read continues to increase month to month and is a significant increase over last year.

Skipped Reads

May 2020: 0.29%

Measuring skipped reads is a strong indication of the level of preventative maintenance being done by our team. A skipped read is indicative of a problem with the metering infrastructure (i.e. battery, wiring, etc.). Fewer skipped reads means more properly working meters, which is good for all our customers.

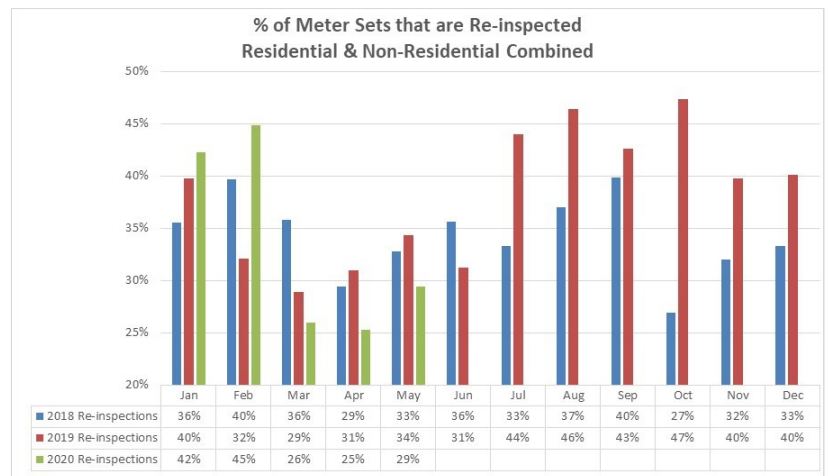
The AWWA standard is 2%, so we still continue to stay well below the industry average.



Meter Set Inspections

Re-inspections 29%

Meter set inspections are required on all new meters installed. This ensures that the meters are installed per specifications and according to Town code. At the time of the inspection, the curb stop is tested for operability and the MXU is installed which provides reading capability for our drive by technology. Re-inspections are needed to ensure installation meets code when original inspections are failed.

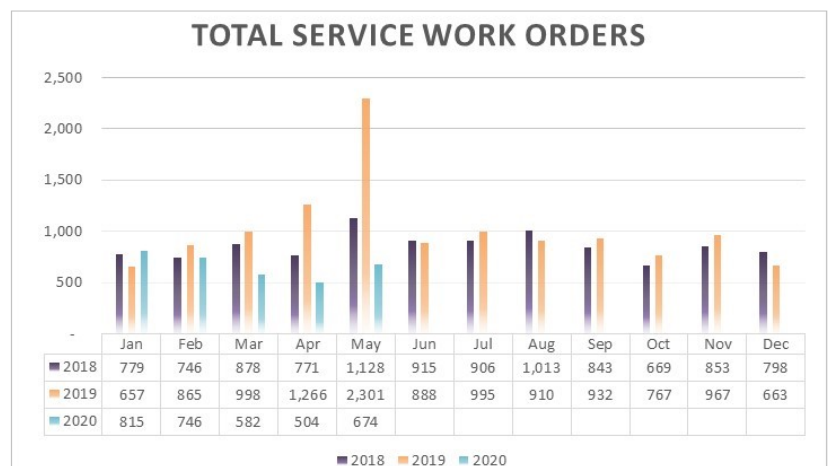


Work Orders

May 2020 674

Service work orders were down in May due to no disconnection service orders conducted in response to COVID-19. Service for customers was conducted only for exterior building access or emergency situations, beginning 3/16/20.

Meter services performs a variety of service work orders every month beyond meter reading. These include curb stop maintenance, meter replacement and repair, final reads for transfer of service, disconnection and reconnections, meter set inspections, etc.



Operations & Maintenance

| LEVELS OF SERVICE | | MAY 2020 |
|--------------------------------------|--|---|
| Drinking Water Compliance | Castle Rock Water will deliver water that meets or exceeds the requirements of both Primary Drinking Water Regulations and Secondary Maximum Contaminant Levels 100% of the time. | <i>Ninety routine samples were completed. All samples were within the parameters set forth by the Safe Drinking Water Act and Colorado Drinking Water Standards.</i> |
| Pressure Adequacy | < 1% of our customers will experience less than 43 pounds per square inch (psi) of pressure at the meter during normal operations. | <i>There were no water pressure issues this month.</i> |
| Sewer System Effectiveness | <1% of our customers will experience a sewer backup caused by the utility's sewer system per year. <i>Castle Rock Water remains in the Top Quartile for least number of sewer backups based on the American Water Works Association benchmarking.</i> | <i>There were no sewer system issue this month.</i> |
| Drinking Water Supply Outages | <5% of our customers will experience water outages for one or more events totaling more than 30 hours/year. <i>Castle Rock Water remains in the Top Quartile for water system integrity based on the American Water Works Association benchmarking.</i> | <i>There were no water system integrity issues in May.</i> |
| Water Quality Complaints | <i>Castle Rock Water remains in the Top Quartile for water quality complaints based on the American Water Works Association benchmarking.</i> | <i>There were no water quality issues this month. There were no water quality customer education visits.</i> |

Operations & Maintenance

Field Services



Field Services designed and built a chlorine injection trailer, purchasing the trailer base and constructing the system with equipment that they already had on site. This trailer provides a safer more efficient way to disinfect new waterlines and water storage tanks.



The Distribution Team replaced four large backflow prevention devices. These are needed in neighborhoods with irrigation systems to prevent backflow of irrigation water into our drinking water distribution system.



The Collections team commencing jetting operations.



*Jared Poynor proves the fact that PPE is **very important** and not just for COVID!*

Operations & Maintenance

Locate Report



Know what's below.
Call before you dig.

Before you start a project, call 811. Whether you are planning to do it yourself, or hiring a professional, we will help you do it safely. The local 811 Call Center will contact Castle Rock Water and will schedule a time for us to come out to locate public water, wastewater and stormwater lines in the road and in your project area.

Castle Rock Water's locate requests from 811 have continued to rise, year over year. This year to date, there have been no incidences of damage to lines, as a result of incorrect locate marks.

ANNUAL UTILITY LOCATES

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|------|
| January | 577 | 475 | 617 | 1,190 | 1,289 | 1,162 | 1,199 | 1,334 | 1,442 | 1,472 | 1,612 | |
| February | 521 | 485 | 538 | 1,094 | 1,093 | 1,383 | 1,334 | 1,378 | 1,293 | 1,404 | 1,443 | |
| March | 660 | 552 | 818 | 1,437 | 1,349 | 1,906 | 1,625 | 1,851 | 1,514 | 1,560 | 1,626 | |
| April | 838 | 681 | 1,025 | 1,482 | 1,552 | 1,784 | 1,631 | 1,760 | 1,856 | 1,984 | 2,600 | |
| May | 853 | 863 | 985 | 1,541 | 1,531 | 1,609 | 1,809 | 2,002 | 1,801 | 2,122 | 2,288 | |
| June | 969 | 844 | 982 | 1,314 | 1,399 | 1,654 | 2,075 | 1,872 | 1,854 | 1,716 | | |
| July | 680 | 582 | 859 | 1,350 | 1,392 | 1,477 | 1,675 | 1,582 | 1,556 | 1,937 | | |
| August | 901 | 723 | 1,123 | 1,476 | 1,468 | 1,494 | 1,651 | 2,001 | 1,986 | 1,603 | | |
| September | 880 | 723 | 1,029 | 1,240 | 1,373 | 1,343 | 1,701 | 2,102 | 1,747 | 1,979 | | |
| October | 715 | 688 | 1,155 | 1,501 | 1,376 | 1,314 | 1,579 | 1,792 | 2,064 | 1,839 | | |
| November | 536 | 518 | 1,041 | 1,072 | 866 | 1,134 | 1,131 | 1,460 | 1,469 | 1,649 | | |
| December | 415 | 405 | 925 | 1,005 | 1,043 | 1,063 | 1,059 | 1,277 | 1,293 | 1,175 | | |
| Totals | 8,545 | 7,539 | 11,097 | 15,702 | 15,731 | 17,323 | 18,469 | 20,411 | 19,875 | 20,440 | 9,569 | |

Stormwater Field Services



Unwanted art removed in the Meadows by the Stormwater Team



The Stormwater Team restored the trickle channel near Founders Park