

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

Gordon Drive Improvement Project

By Barbara Horton, Project Manager

The Gordon Drive Infrastructure Improvement project is located in the Memmen's subdivision south of Fifth Street, east of Valley Drive. Existing water and sewer infrastructure in the area was approximately 40 years old and underground storm sewer was not constructed during the original development of the subdivision.

The Stormwater Division identified a need to install storm sewer infrastructure along Gordon Drive to convey approximately one hundred tributary acres of on-site and off-site flows draining along the surface of the roadway. An underground storm sewer now captures and conveys the flow, which will minimize street flooding and has brought the roadway up to current standards for drainage. In order to construct the storm sewer, modifications to the existing sanitary sewer and water line infrastructure were necessary.

Improvements also included reconstruction of the roadway from an inverted crown to a standard crown with catch curb and gutter along Gordon Drive, between Johnson Drive and Gordon Lane, as well as full depth reclamation of the remainder of Gordon Drive and Gordon Lane, Gordon Court and Gordon Place.

As a follow up to concerns expressed by residents at the open house, the Town replaced the remaining sanitary sewer services between the main sewer line and edge of right-of-way, within the project limits. Recent waterline breaks in the neighborhood also brought more urgency to replacing all of the old water lines, fire hydrants, valves and service lines in the project limits. Proactively replacing these lines with the project will limit future street cuts that would compromise the newly constructed pavement along Gordon Drive and the adjacent cul-de-sacs.



Gordon Drive continued

Iron Woman Construction and Environmental, LLC was awarded the construction contract. Construction began in April 2019 and was substantially completed in July 2020. The total construction cost for the project was approximately \$2.8 million. This was a multi-disciplined project utilizing Stormwater, Water, Wastewater and Public Works funds to cover engineering and construction costs.



The Commitment Award

Castle Rock Water was the initial recipient of the Commitment Award from the Colorado Department of Public Health and Environment (CDPHE). The award is for a single drinking water system within Colorado that has shown an impressive commitment to the culture of health. Ron Falco, CDPHE's Safe Drinking Water Program Manager, presented the award to Town Council on July 7. Falco's team chose Castle Rock Water for the significant efforts recognized in the Pursuing Excellence Program and the commitment to providing high quality water as demonstrated through all the work under that program. Each year, the Pursuing Excellence program required the description of projects developed to improve the function and service of the utility. It is these outlined projects, that included the implementation of asset management system, valve & hydrant program, meter retrofit, energy management program and innovations like the lateral well field piping that got the attention of CDPHE. Falco noted, "Emulating Castle Rock Water would be a worthwhile endeavor for other utilities."



COLORADO
Department of Public
Health & Environment

Shoring Trailer Overhaul

Ryan Livingston had a dream. It was a perfectly organized shoring trailer that would ensure staff safety during line repairs that involved trenching and shoring activities. Ryan designed the trailer and worked with Kevin Lopez to determine the best way to construct the it. During trailer construction Kevin also taught other members of the Distribution team how to properly use welding equipment. Ryan and Kevin assembled



the trailer, and Katherine Drake assisted with painting and final touchups.



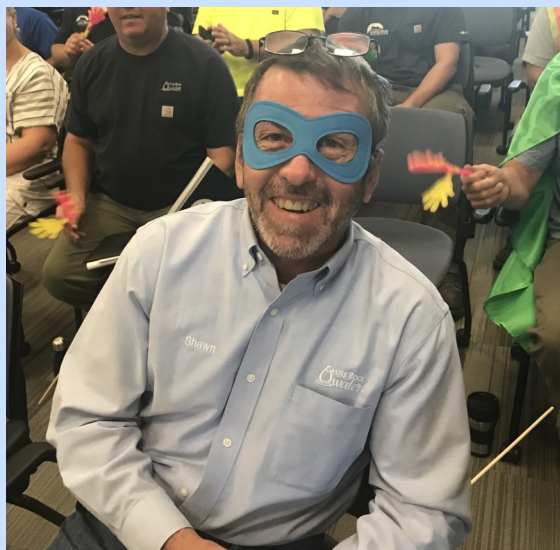
Our Apprentice

Matt Spooner was selected as the 2020 Water Utility Operator Apprentice. The apprentice program provides on-the-job training, rotating between all facets of water operations while the applicant also earns an Associate's degree from Arapahoe Community College at the Sturm Collaboration Campus. During this two-year program, Matt will be trained with the Distribution, Collections and Water Treatment teams, as well as wastewater treatment training at the Plum Creek Water Reclamation Authority.

The apprentice program was created in 2019 with the purpose of spurring more interest in a career in the water industry along with providing educational, financial and training support for the candidate. Castle Rock Water's first apprentice was Joe Compton who was hired as Water Plant Operator 1 after only 6 months of his apprenticeship.

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.



Shawn Griffith, Operations Manager, was presented the Water Star Award by Walt Schwarz for his extensive efforts accommodating for COVID-19, while still having to deal with the daily challenges, being pulled in many different directions and holding down the fort at Operations. His help with so many different projects is appreciated and that his efforts are more than just doing the right thing, but making Castle Rock Water an exceptional place.

NEW CERTIFICATIONS

The water, wastewater and stormwater utility business is highly technical and regulated. As such, Castle Rock Water has to maintain an extensive staff of professionally licensed individuals. Most of these licenses require specialized education and the passing of state testing, as well as proof of continuing education. Below is a list of those passing various certifications this month:



Kevin Lopez
Collections I
AND
Collections II Certification



Employee Recognition

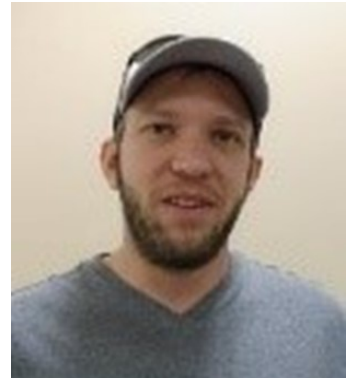
CONGRATULATIONS ON YOUR PROMOTION!



Kevin Lopez
Collections Operator II



Grant Garvin
Plant Mechanic I



Phillip Jolly
Collections Operator II

WELCOME NEW HIRES!



Lewis Brown
Distribution Operator I



Aaron Dugan
Distribution Operator I

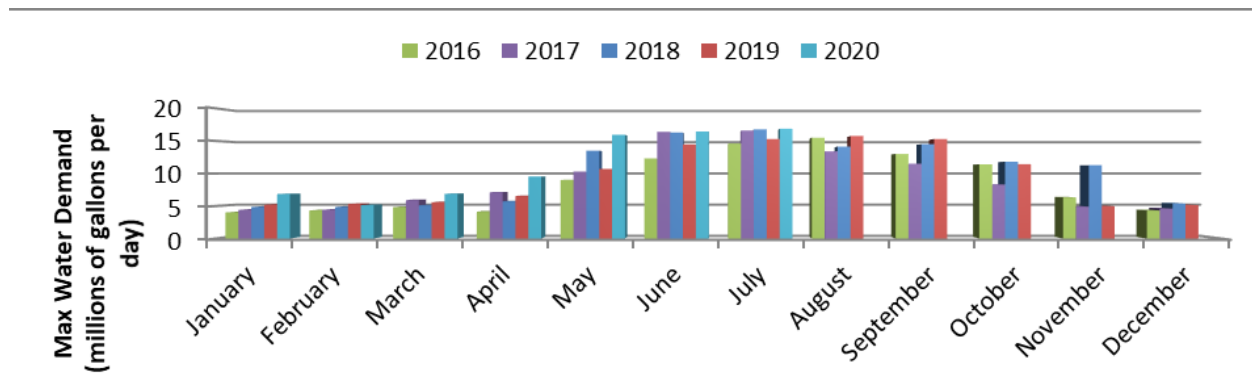


Nolan Ferguson
*Water Treatment -
Seasonal*



Ethan Coyhis
*Water Treatment -
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.

July 2020	16.9 million gallons/day
July 5 yr. avg	16.0 million gallons/day
Difference	5% higher

Max daily water demand in 2019
15.8 MGD in August

Water demand total

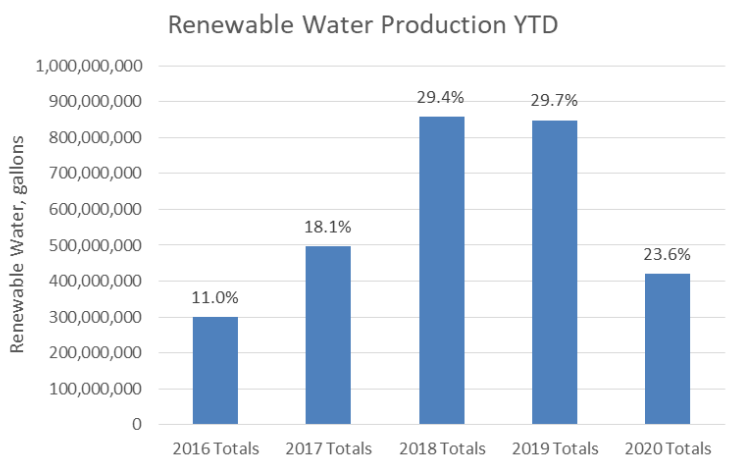
Water demand total is how much water was used over the entire month. Population and weather changes can significantly affect usage.

July 2020	447.7 million gallons
July 2019	403.1 million gallons
Difference	11% increase

Water demand total for 2019
2,838.5 MG

Renewable water supply

- The CR-1 diversion produced an average of 1.34 MGD for the month of July (including captured Well 7C and the Bell Mountain Wells' flows).
- The Town's thirteen alluvial wells and CR-1 produced a total of 64.7 MG of water (and an average of 2.09 MGD).
- WISE water supplied an additional 48.9 MG of renewable water.
- In total, renewable supplies accounted for 17.3% of the total water supply for the month and 23.6% of the annual water supply (1,780 MG or 5,462 AF) to date.



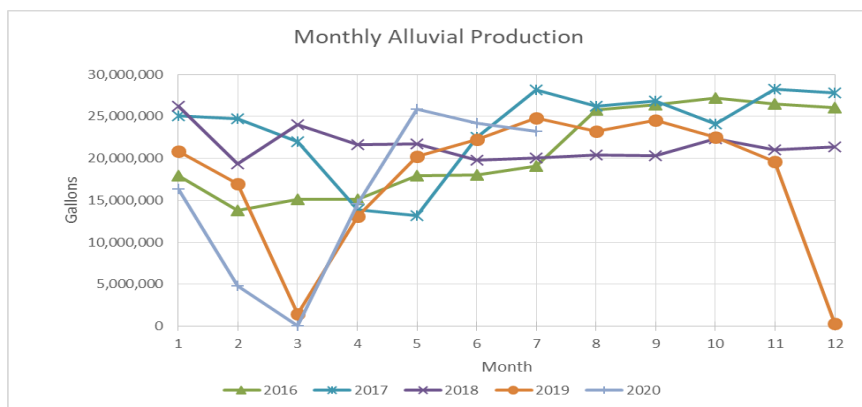
Our goal is to reach 75% renewable water by 2050.

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 July is 29.5% with 29.8% of available reusable supplies used in the month of July.

Alluvial supply

July 2020 production: **23.2 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 July was 23.2 MG.

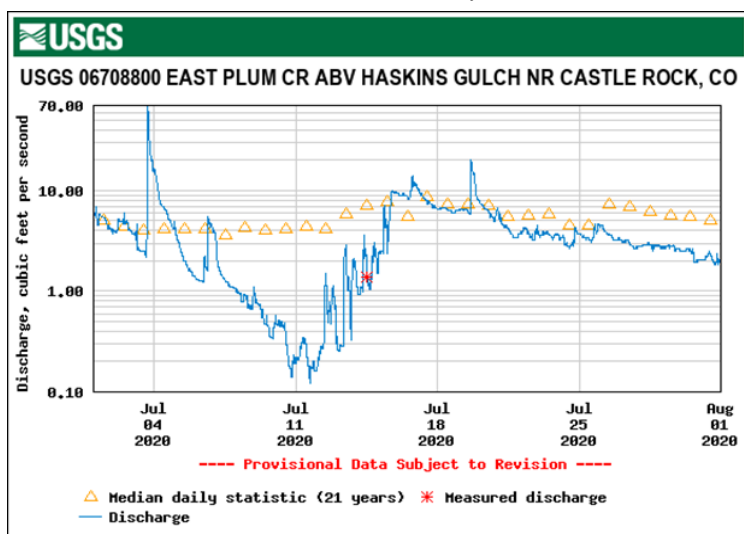
We completed eight well rehabilitation projects this past fall/winter.

East Plum Creek Flows

July 2020 avg flow: **3.9 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 0.12 and 67.8 cubic feet per second (cfs) during the month of July, with an average streamflow of 3.9 cfs. This month’s average streamflow of 3.9 cfs is below the 20-year median of 5.5 cfs.

There were active calls on the South Platte River in July. 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 replenished 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 15th and to date we have 206.4 AF of water stored in Chatfield.



Water Demand

Drought Monitor

The average WSI for July was 1.4, 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 99.4% of Colorado is experiencing Abnormally Dry (D0) to Exceptional Drought (D4) 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.

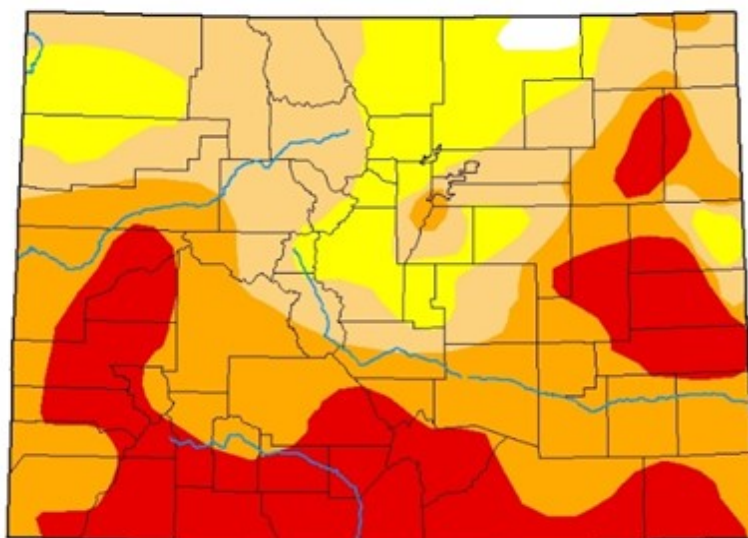
The NRCS Colorado Precipitation Report

August 4, 2020

YTD precipitation for the
South Platte River Basin is at
93% of average.

U.S. Drought Monitor Colorado

July 28, 2020
(Released Thursday, Jul. 30, 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:

Richard Heim
NCEI/NOAA



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.

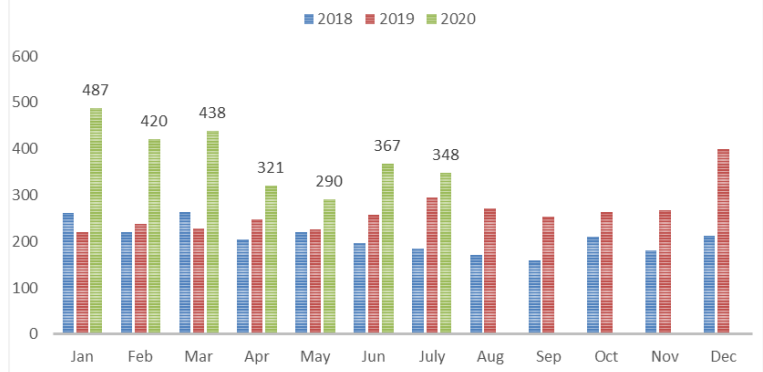
Reviews

165 development services PROJECT plan reviews
 183 building PERMIT reviews
 For 85 separate projects

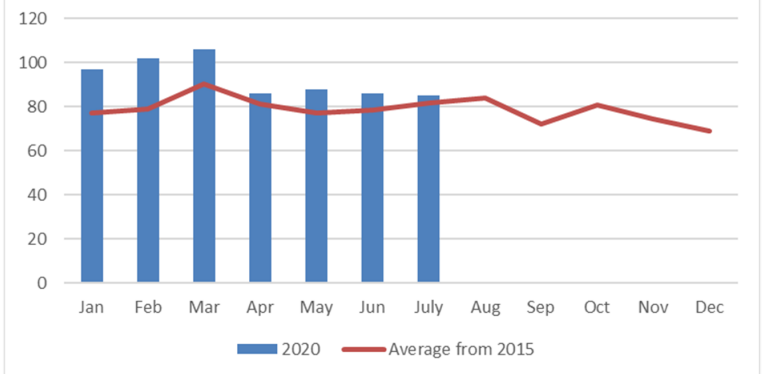
- Castle Rock Water reviewed 74 permits in July 2019 vs. 183 permits in July 2020, a 247% increase
- The team maintained 97% of the building permit reviews completed on time

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.

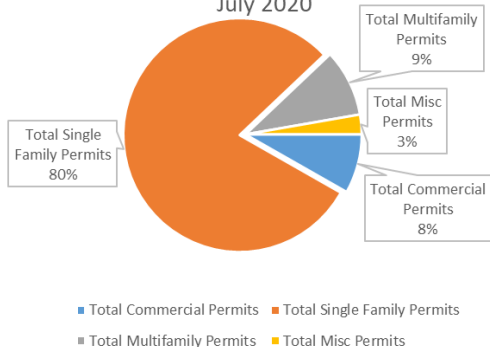
TOTAL # OF CASTLE ROCK WATER PLAN REVIEWS FOR DEVELOPMENT SERVICES AND BUILDING



Monthly Projects Reviewed 2020
 Average monthly reviews since 2015



Castle Rock Water Building Permit Reviews July 2020



Service levels

The average number of days assigned to review: 13.6 days

The average days to complete assigned reviews: 12.6 days

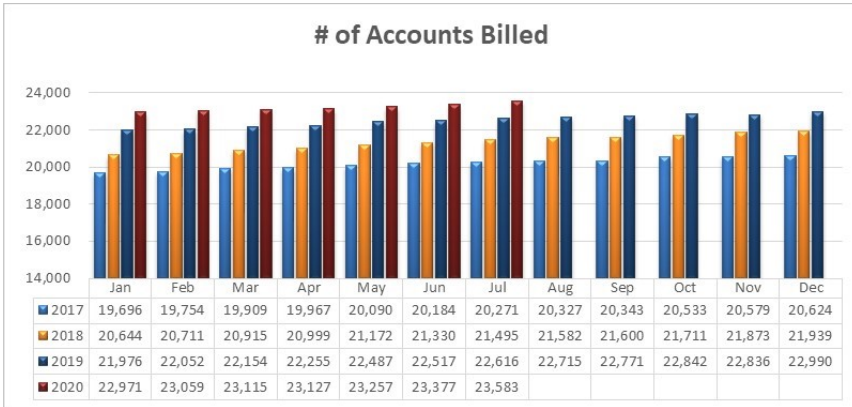
Plan Review: 90% of the reviews were completed on-time

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

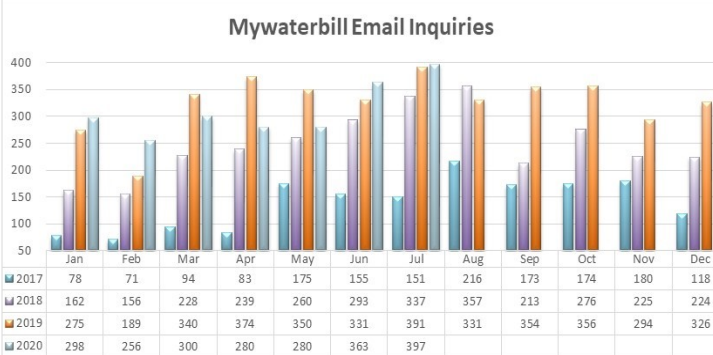
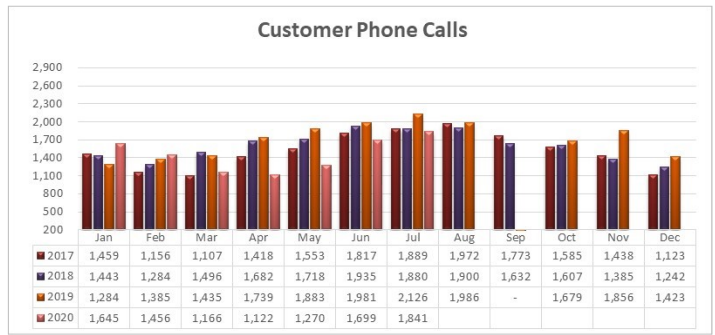
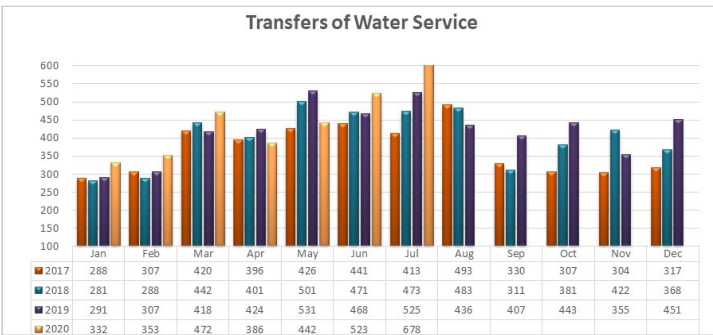
Business Solutions



Customer Service & Billing



- In July 2020, Castle Rock Water hit an all time record for the highest number of transfers of water service in one month. This consisted of transfers for new development as well as transfers from a tenant back to an owner and then a tenant again.
- MyWaterBill email inquiries are higher than normal due to the high number of transfers of service.



Customer Outreach

Keeping customers aware of activities within the department, the benefits of conservation and the value of water is accomplished through social media, email newsletter and billing messaging, along with periodic events and campaigns.

In July, the 2020 ColoradoScape Contest was announced and included the release of videos with tips helping homeowners with their own transformation. July was Smart Irrigation Month with tips on efficiency irrigation management.

- Social media reach: 9 posts with 2,812 average reach, each
- Email reach: 7,519 (42% of email accounts)

H₂Oaccess

The online account portal which provides customers with 24/7 access to their statements, ability to pay online and the opportunity for paperless statements.

2020/Q2 statistics

Enrollment: 14,681 (63% of all accounts)
Paperless: 9,183 (63% of online accounts)



Meters



Meters Read

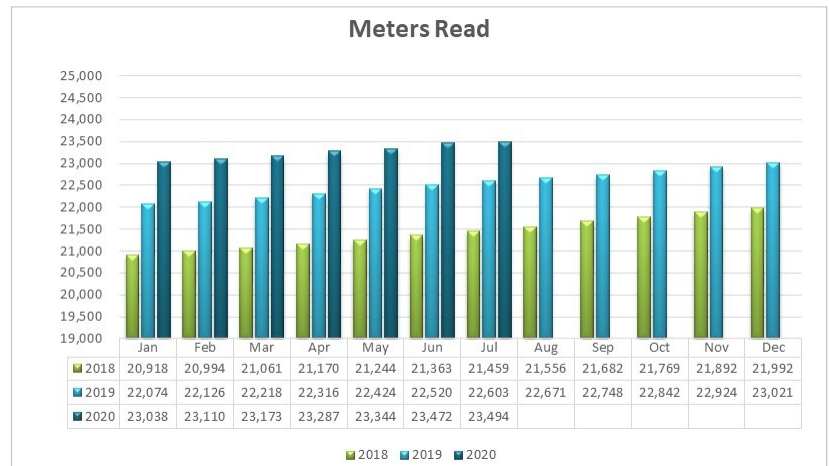
Meters are read the first three days of every month. The number of meters read continues to increase month to month and is a significant increase over last year.

Skipped Reads

July 2020: 0.30%

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.

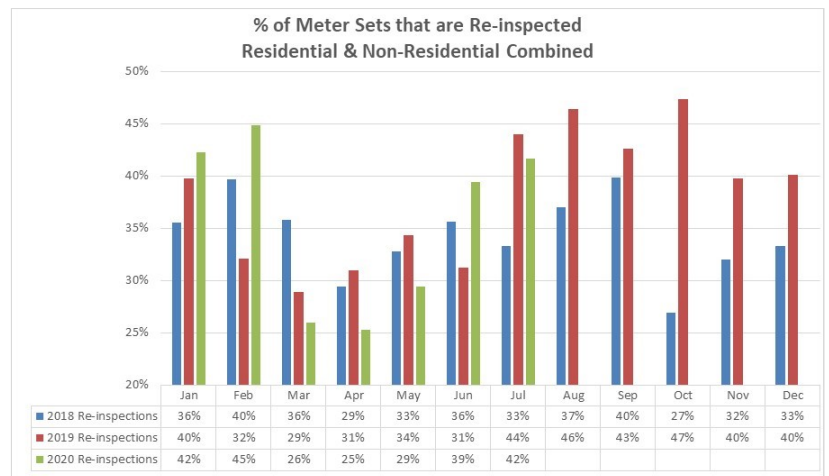
The AWWA standard is 2%, so we still continue to stay well below the industry average.



Meter Set Inspections

Re-inspections 42%

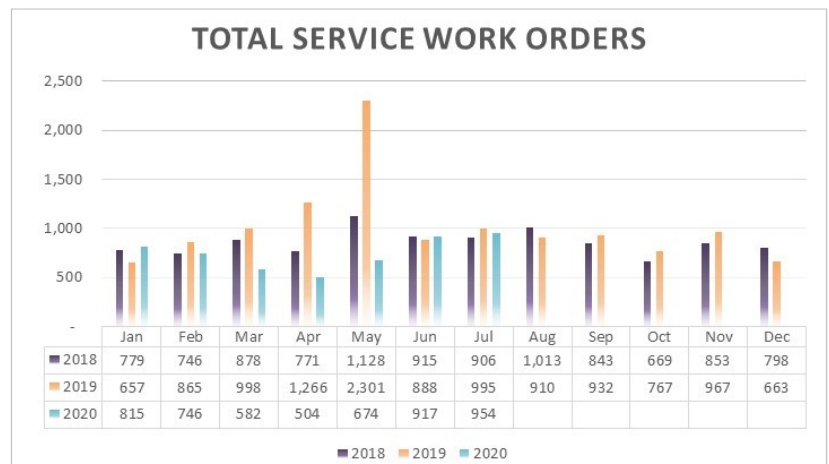
Meter set inspections are required on all new meters installed. This ensures that the meters are installed per specifications and according to Town code. At the time of the inspection, the curb stop is tested for operability and the MXU is installed which provides reading capability for our drive by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



Work Orders

July 2020 954

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		JULY 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 issues 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 three water system integrity issues in July.</i> <ul style="list-style-type: none"> <i>There was a water main break located on Hill drive in the Glovers neighborhood and another break on the same street the next day. The split in the 6" cast iron pipe was repaired without affecting homeowners in the area. The corrosion hole, however, required 11 homes to be with limited to no pressure for 4-8 hours during the repair.</i> <i>The distribution team also assisted meters in repairing an improperly installed meter yoke in the Glovers neighborhood. Approximately thirty residences experienced reduced pressure during the repair that lasted less than four hours.</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.</i>

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	1,931	
July	680	582	859	1,350	1,392	1,477	1,675	1,582	1,556	1,937	1,894	
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	13,394	

Stormwater Field Services



During post storm inspections, to ensure the Town's storm system is clear of debris, the Stormwater Maintenance Team found debris washed up against a Plum Creek Trail bridge.

If this kind of obstruction is not removed, it could prevent the water from flowing properly.

Stream blockages can also cause water to flow over the path and result in bridge damage.



The Stormwater Team conducted their annual Brush Hog mowing of the willows near the Castle Villas Condos.

Collections

	YTD
Lines Cleaned	20.72 miles
Lines Inspected	30.01 miles
SSO Rate	0.35 SSO/100 mi

Castle Rock Water tracks within the top quartile in the Sanitary Sewer Overflow rate, according to the American Water Works Association. Our team runs a camera through the sewer mains to look for problems. When problems are identified, they are cleared with a high pressure water jet. The goal is to clean and inspect one-fifth of the collection system or 55 miles each year.