

MONTHLY REPORT

APR. 2021

CASTLE ROCK
water
Securing our future drop by drop

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

Water Storage in Chatfield Reservoir

By: Matt Benak, P.E., Water Resources Manager

Since storage in the reallocated space of Chatfield Reservoir was finally approved by the U.S. Army Corps of Engineers in May 2020, Castle Rock has been very successful in being able to store over 1,650 acre feet (AF) of water so far, with additional water coming in each day. The type (or 'color of water' in water resource management parlance) consists primarily of our fully consumable effluent that is treated at Plum Creek Water Reclamation Authority (PCWRA) and released back into East Plum Creek. The origin of this water is mainly from our deep Denver Basin non-tributary supplies and WISE water. Castle Rock maintains dominion and control over this water, and what we don't use for augmentation or divert at the Plum Creek Diversion near Sedalia, we allow to float down Plum Creek and are able to store in our Chatfield account.



Plum Creek as it enters into Chatfield State Park

The Town of Castle Rock currently owns 590 AF of storage space in the Chatfield Storage Reallocation Project (see chatfieldreallocation.org for additional information). However, the Town and the Colorado Water Conservation Board entered into an agreement in April 2021 that allows Castle Rock to store water in the storage space that it has under option to purchase, beyond the 590 AF currently owned, up to 2,000 AF for \$50 per AF. This is a very reasonable price for the rental of storage space and will cost the Town \$70,500 for 2021 versus buying another 129 AF block of storage space this year for \$1,071,000.

Because the Town does not currently have a way to pump back water to Town from Chatfield, we have engaged with several other entities to enter into spot water lease agreements for 2021. Agreements have been made with United, Colorado Parks and Wildlife, the Town of Lochbuie and a pending agreement with Centennial Water and Sanitation District to lease up to 1,750 AF of water throughout the course of the year. Our lease price has been set at \$340 per AF so we may realize up to \$595,000 of additional revenue in 2021.



Old boat and dock anchors that were removed as part of the reservoir mitigation project

Good Job!

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.



Matt Spooner
Collection 1 Operator
Certification

NEW HIRES

Welcome to the team



David Brewster
Collections
Operator 1

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.

Safety

Demonstrated outstanding safety conscious behavior in performing a job or task.

Exceptional Service

Provided exceptional service to either an internal or an external customer

Quality

Delivered excellent quality service or product

Value

Provided remarkable value for our customers

Environmental:

Demonstrated extraordinary environmental responsibility

Fiscal

Demonstrated superb fiscal responsibility

Alex Tarnawski, Water Distribution Supervisor, was awarded the Water Star award from Jared Wagner, primarily for his incredible friendliness and his consistent willingness to help find an answer or solution. Alex is very appreciated for his thoroughness in updating and correcting GIS issues. He is great to work with and a team player. In his 5 years at Castle Rock Water, he has shown through his attitude and abilities that he provides exceptional

service and is a valued member of staff. Jared concludes, "Don't let this award along with your recent promotion, go to your head!"



Good Job!

Castle Rock Water is more than water.



Anticipating the flow of rain and snow through the streets, neighborhoods and building sites is no easy task—especially when it doesn't follow 'the plan.' And that's where **Brian Laschanzky**, Stormwater Inspector, comes in. Brian is in one of those Town-marked vehicles roaming the neighborhoods looking for trouble. Trouble in the form of dirt, debris and muck that is not being properly managed on construction sites. The silt fences, inlet protection, and sediment control logs (wattles) are some standard measures to keep our stormwater channels clean and safe. The inspection doesn't stop there and grading and swales must be properly aligned into channels and detention ponds, as well as revegetation measures installed. Brian will be checking upwards of 60 projects from the moving of dirt for a new neighborhood, to the installation of an inlet along a street, to monitoring of native plants growing in a natural watershed channel.

Glad to be out in the field, Brian loves finding solutions to how the ever unpredictable flow of water can be controlled for the safety of the community and the watershed and being entrusted as a steward for of our precious water resources.

Conservation

Toilet Retrofit

The new toilet in town is the Ultra-High Efficiency Toilet that only uses 0.8 gallons per flush instead of the previous efficiency of 1.26 gallons per flush. In a special promotion, the Conservation Division offered these ultra-high efficiency toilets, along with installation, free to qualifying locally-owned restaurants. B&B Café, Union Bistro and The Old North End received these toilets along with flow adjustments for urinals. They should each see decreased water usage as a result! The administrative building at Castle Rock Water was also fitted with these new toilets.



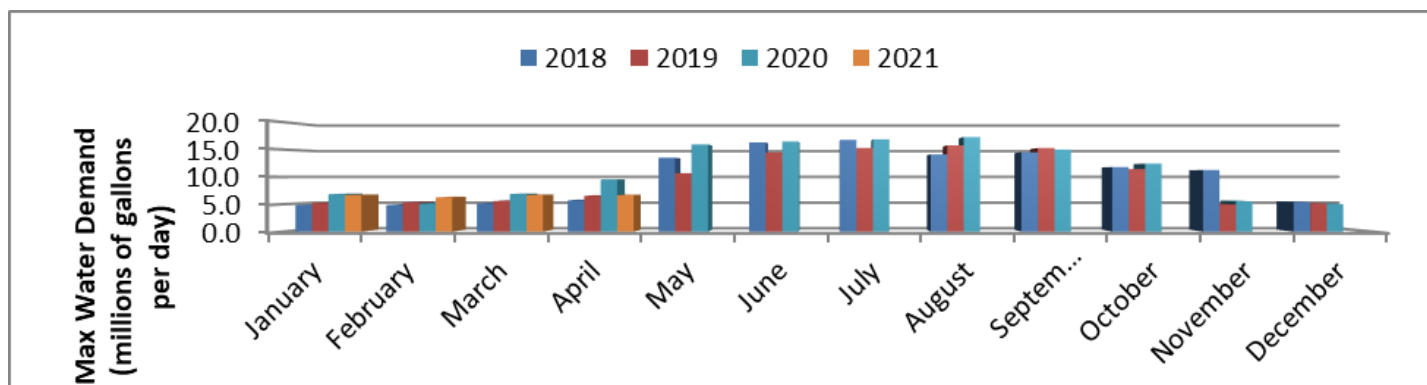
Water Wiser workshops

203 residents, to date, have participated in the Water Wiser workshops, online classes designed to educate customers on how to fix common irrigation problems, simple steps in understanding landscape watering needs, and which equipment is better for efficient water usage. Seven more classes are available in 2021 with registration at CRconserve.com.

MyWaterPledge.com

For that past five years, Castle Rock has participated in the national Mayor's Challenge and have made it in the top 10 for percentage of pledges. This free, online pledge that awards prizes for participation, is about education on how conservation can save costs for consumers, cut back on infrastructure and operating costs for cities, promote drought resiliency, protect watersheds and manage ecosystems. We expect to be at 9th in 2021! Thank you for your efforts and your pledge.

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.

Apr. 2021 **6.7 million gallons/day**
 Apr. 5 yr. avg. 7.1 million gallons/day
6% lower than average

Max daily water demand in 2020
 17.3 MGD in August (record breaking)

Water demand total

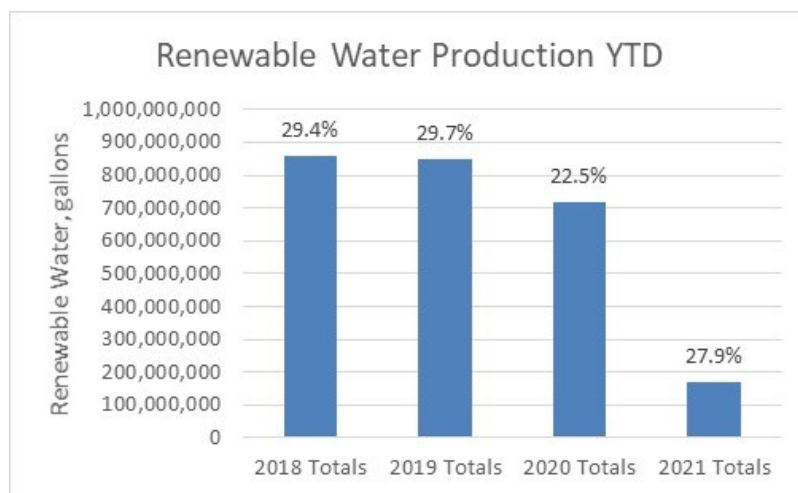
Water demand total is how much water was used over the entire month. Population and weather changes can significantly affect usage.

Apr. 2021 **157.7 million gallons**
 Apr. 2020 166.4 million gallons
5.2% decrease from last year

Water demand total for 2020
 3,251.7 MG

Renewable water supply

- The CR-1 diversion produced an average of 0.37 MGD for the month of April.
- The Town's thirteen alluvial wells, CR-1, and the Plum Creek Raw Water Return Line (PCRWRL) produced a total of 45.31 MG of renewable water (and an average of 0.69 MGD).
- In total, renewable supplies accounted for 54.8% of the total water supply for the month and 27.9% of the annual water supply (610 MG or 1,871 AF) to date.



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

Note: In 2020, renewable water production was down due to the addition of Advanced Treatment processes to the Plum Creek Water Purification Facility.

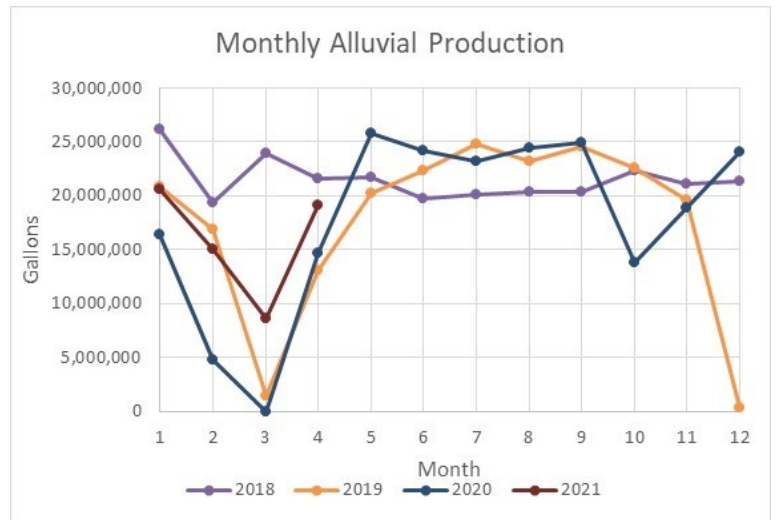
Water Demand

Renewable supplies are those water sources that are replenished by precipitation (think of our alluvial wells, CR-1, PCRWRL, and WISE), whereas reusable supplies are those waters that are either from the Denver Basin (deep wells) or imported supplies (such as WISE, RHR, PCRWRL) that can be used over and over, to extinction. The average reusable supplies used by Castle Rock for 2021 through April is 28.3% with 44.6% of available reusable supplies used and an additional 71% of available reusable supplies stored in the month of April.

Alluvial supply

Apr. 2021 production: 19.1 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 April was 19.1 MG.
- We have three alluvial well rehabilitation's scheduled for this year.



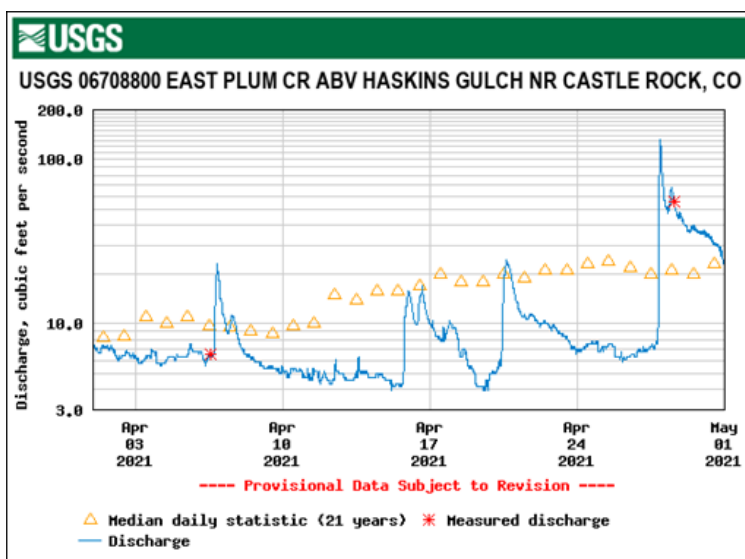
East Plum Creek Flows

Average Apr. streamflow: 11.1 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 3.94 and 131 cubic feet per second (cfs) during the month of April, with an average streamflow of 11.1 cfs. This month's average

streamflow of 11.1 cfs is slightly above the 20-year median of 10.5 cfs.

There were active calls on the South Platte River in April. 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 15, 2020 and to date we have 1,501 AF of water stored in Chatfield.



Water Demand

Drought Monitor

The average WSI for April was 3.6, well 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 89.13% of Colorado is experiencing Moderate Drought (D1) to Exceptional Drought (D4) conditions, with all of Douglas County in Severe Drought (D2). There was much improvement across the State with the frequent snowstorms throughout the past two months. Due to the sustained 100% drought conditions, Governor Polis directed a shift from Phase 2 to Phase 3 of the Colorado Drought Plan, which will hopefully better prepare the State for continued severe conditions in 2021. 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

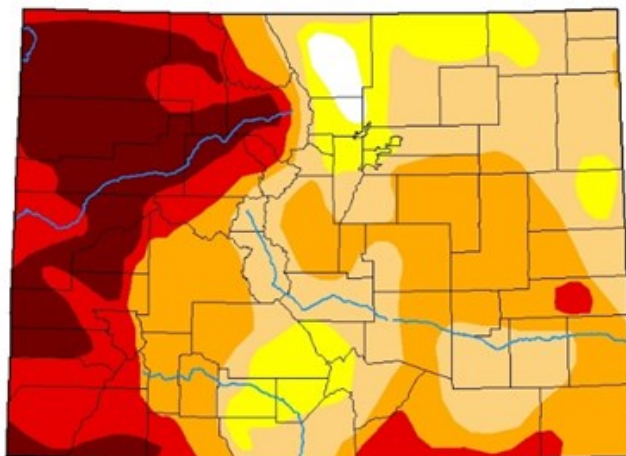
April 28, 2021

South Platte River Basin:

- YTD precipitation is at 94% of average
- YTD snowpack is at 101% of average

U.S. Drought Monitor Colorado

April 27, 2021
(Released Thursday, Apr. 29, 2021)
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

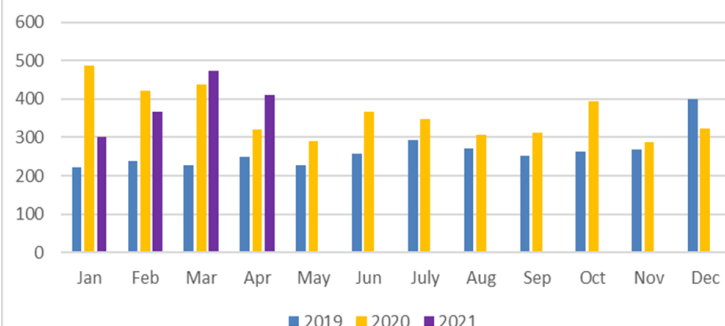
For each commercial and residential project submitted for development review, Castle Rock Water provides plan review, as appropriate, for:

- 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.



CRWater Plan Review
DS projects reviews + BLDG permit reviews



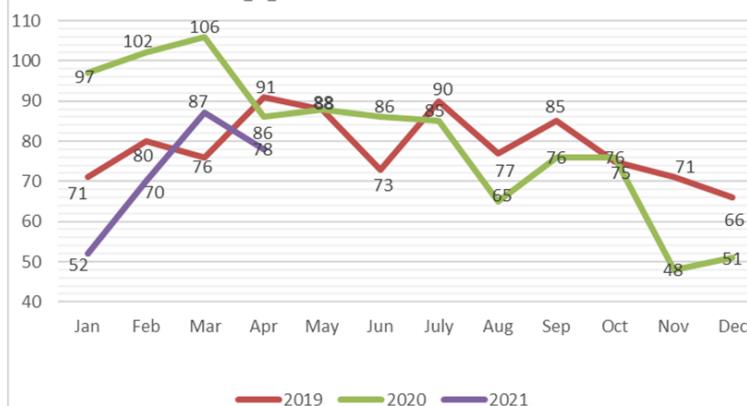
Reviews

193 Development Services PROJECT plan reviews
216 Building PERMIT reviews for
78 separate projects

Total Distinct Projects	2020: 86	2021: 78	Decreased 10%
Total Dev Review project reviews	2020: 206	2021: 193	Decreased 7%
Total Bldg permit reviews	2020: 115	2021: 216	Increased 61%

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.

Monthly Development Project Applications Reviewed



April 2021 total reviews: 409

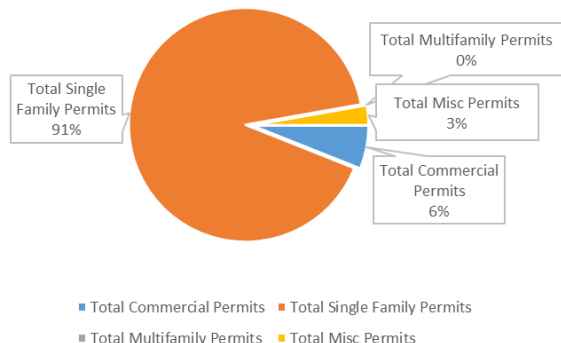
Service levels

The average number of days assigned to review: 12 days
The average days to complete assigned reviews: 11 days

Plan Review: 96% of the reviews were completed on-time

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

Castle Rock Water Building Permit Reviews
APRIL 2021



Business Solutions

Customer Service & Billing

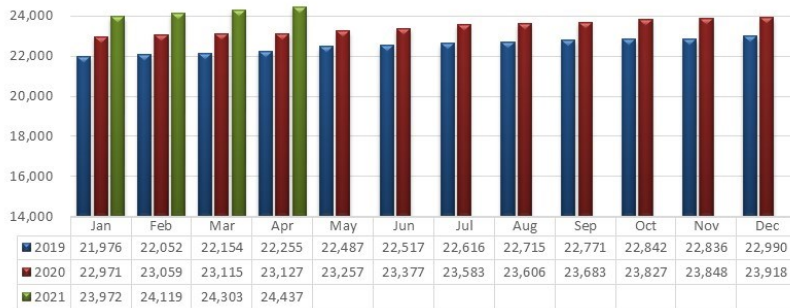


Customers benefit from having an online H2Oaccess account with 24/7 access to statement information, 12 months of statement history, helpful email account reminders and safe and secure online payment options.

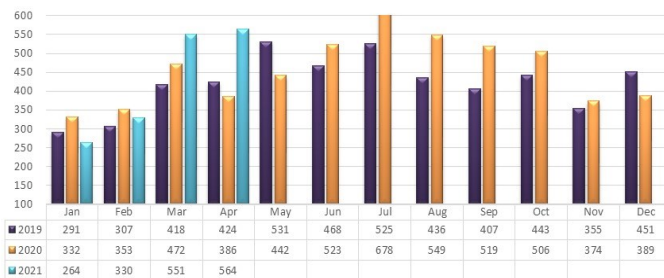
2021/Q1 statistics

- 16,070 or 65% of our total customers have enrolled in an online account
- 10,162 or 63% of the customers with an online account have chosen to go to paperless billing

of Accounts Billed



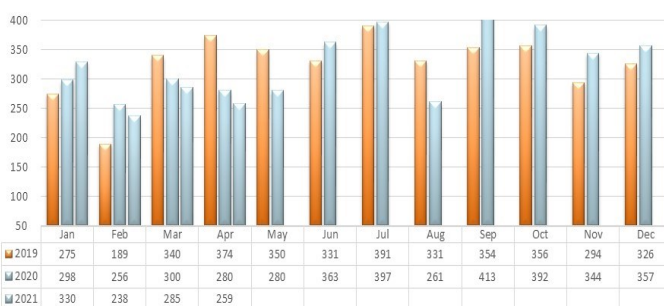
Transfers of Water Service



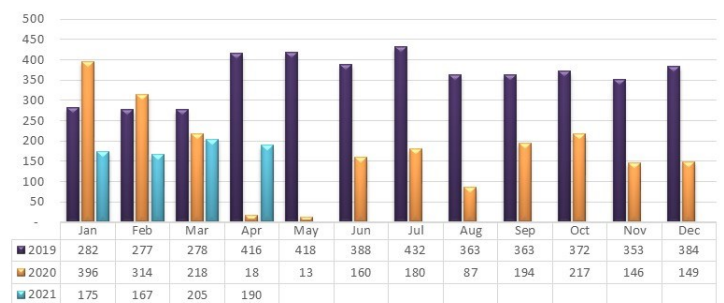
Customer Phone Calls



Mywaterbill Email Inquiries



Walk-In Customers



Customer Outreach

Keeping customers informed about the value of water.

Both Castle Rock Water and the Town have a campaign to highlight the people who work for our community. These posts personalize the work that is conducted on behalf of the Town, showing that the municipality is more than just service, but people who take pride and care about the work they do. #WeWorkForYou highlighted Lauren Moore a Water Resource Analyst at Castle Rock Water.

MyWaterPledge.com, the national Mayor's Challenge, expects to rank 9th in the percentage of pledges.

Water Outreach Stats

REACH

Water Conservation Month—4/7	2,074 people
Hydrant Flushing—4/14	3,434 people
MyWaterPledge—4/21	2,167 people
May irrigation—4/28	5,989 people
Spring Up the Creek—4/13	2,605 people
#WeWorkForYou highlight of Lauren—4/14	5,077 people
Spring Up reminder—4/21	2,322 people
EMAIL: Eager for Spring (26% open rate)	5,112 opened

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

Apr. 2021: 0.57%

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.

Meters Read



Meter Set Inspections

Re-inspections: 49%

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.

All Meter Set Inspections
(includes all re-inspections)

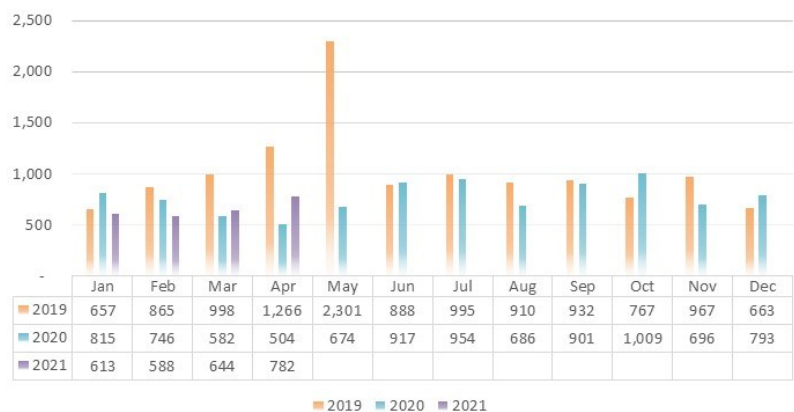


Work Orders

Apr. 2021: 782

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 transfers of service, disconnection and reconnections, meter set inspections, etc.

TOTAL SERVICE WORK ORDERS



Operations & Maintenance

LEVELS OF SERVICE		April 2021
Drinking Water Compliance	Castle Rock Water will deliver water that meets or surpasses 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 two water system integrity issues in April.</i> <i>Water was shut off in the Bella Mesa area while a contractor repaired a leaking curb stop. Twelve homes had less than normal pressure during the service line repair.</i> <i>There was a main break on 6" Ductile Iron Pipe, near a previous main repair on Oakwood Dr. During the repair, 35 homes experienced reduced to no pressure for 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 in April. There were two customer education visits.</i>

Operations & Maintenance

Operations



Operations conducted ice pigging (scrubbing the lines with an ice slurry) at the 11R alluvial well. The line was cleaned from the meter vault back to the well head and the iron bacteria sludge was effectively removed.



A contractor completed the Founders Water Treatment Plant equalization basin (EQ) liner repair.

Distribution



The Distribution team installed their initial hydrant for the 2021 Hydrant Replacement program. The team has targeted six hydrants for updates this year.

Stormwater



**GOOD
JOB!**

The Stormwater Team responded to an oil spill report on Wilcox Street. Oil had flowed down the street into a storm inlet. A contractor was called to complete the inlet cleanout and the team spread absorbent onto the street spill and cleaned up the oil.

Operations & Maintenance

Locate Report



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.

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.

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	1,139	1,334	1,442	1,472	1,612	1,803
February	521	485	538	1,034	1,093	1,383	1,334	1,378	1,293	1,404	1,443	1,958
March	660	552	818	1,437	1,349	1,906	1,625	1,851	1,514	1,560	1,626	2,253
April	838	681	1,025	1,482	1,552	1,784	1,631	1,760	1,856	1,984	2,600	2,524
May	853	863	385	1,541	1,531	1,609	1,809	2,002	1,801	2,122	2,288	
June	963	844	382	1,314	1,339	1,654	2,075	1,872	1,854	1,716	1,931	
July	680	582	859	1,350	1,332	1,477	1,675	1,582	1,556	1,937	1,834	
August	901	723	1,123	1,476	1,468	1,434	1,651	2,001	1,986	1,603	2,036	
September	880	723	1,029	1,240	1,373	1,343	1,701	2,102	1,747	1,979	2,026	
October	715	688	1,155	1,501	1,376	1,314	1,579	1,792	2,064	1,839	1,913	
November	536	518	1,041	1,072	866	1,134	1,131	1,460	1,469	1,649	1,734	
December	415	405	325	1,005	1,043	1,063	1,059	1,277	1,293	1,175	1,859	
Totals	8,545	7,539	11,037	15,702	15,731	17,323	18,469	20,411	19,875	20,440	23,022	8,538

Collections

YTD

Lines Cleaned 18.22 miles
Lines Inspected 13.25 miles
SSO Rate 0.0 SSO/100 mi

April: No sanitary sewer issues.

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.