

# MONTHLY REPORT

MAR. 2021



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

## Castle Rock Water administration and Customer Service Building

Construction of the Castle Rock Water (CRW) Administration and Customer Service Building was awarded to Golden Triangle Construction (GTC) on October 21, 2020 in the amount of \$3,944,200. Project includes completion of a new more accessible 12,188 square foot building and retrofitting office space in the existing administration building. Stormwater, Engineering, and GIS Divisions will move from temporary office trailers into the retrofitted onsite building. New building plans include space for areas such as meeting rooms, conference rooms, customer service reception, meter & billing services, staff offices, break room kitchenette, and lavatory facilities.



Rendering of new CRW Administration & Customer Service Building

An initial onsite construction task for GTC was to relocate the temporary office trailers that have served CRW well for near 20 years. Moving the trailers was a labor intensive effort coordinated with the contractor and among staff from different departments. Town IT reconnected trailer offices with computers, voice over internet phone systems, and the electronic door access card readers. Town Facilities staff were also consulted for recommendations prior to move and then they reconnected the trailer HVAC systems with programmable thermostats. GTC then mobilized onsite for building construction activities the first week of March 2021 and began establishing initial erosion control measures in accordance with the Town TESC permit.



Contractor moved office trailers to new temporary location away from construction area

GTC is placing concrete for the building foundation walls on Monday, April 5<sup>th</sup>. Stripping of formwork and application of damp proofing and insulation materials will follow later in the week. Installation of interior underground plumbing beginning with lavatory facilities will be in full swing by April 12<sup>th</sup>. Masons and exterior wall framers will also begin their work during this week. The project is proceeding within budget and on schedule for final completion of new building in September 2021 and final completion of remodeling work in existing building in November 2021.

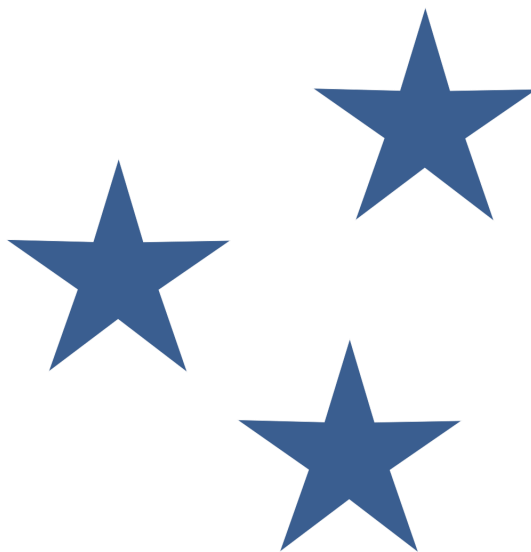


Concrete placed for new building foundation.

# 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*



**Henry Mahaffey**  
Distribution 2  
Operator Certification



**Lewis Brown**  
Collections 2 Operator  
Certification



# Good Job!

## 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:**

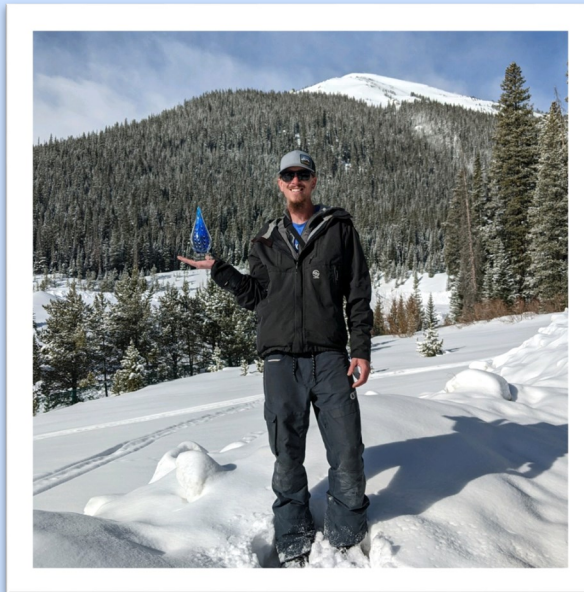
*Demonstrated extraordinary environmental responsibility*

### **Fiscal**

*Demonstrated superb fiscal responsibility*

**Jared Wagner**, GIS Technician, was awarded the Water Star award from Lauren Moore, due to his consistently friendly, upbeat and team player attitude. He is always eager to volunteer to help sampling in the field and always prepared for asset detection with his GPS unit and metal detector. Jared is supportive in creating maps or, more importantly, fixing ones that were not created by him. He is exceptional at helping meet

last minute deadlines and shows how a team player takes accountability by following up to make sure the requests were completed accurately. Lauren feels Jared exceeds our Mission & Vision of Exceptional Service, Quality, and Value as well as the Town Values of Accountability, Innovation, Adaptability, and Excellent Public Service.



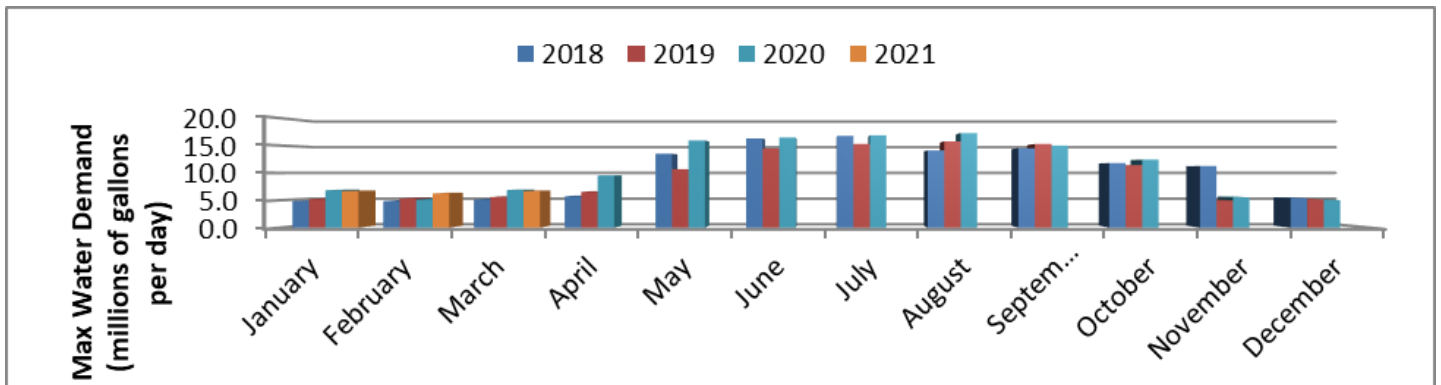
## Castle Rock Water is more than water.

Meet Mark Billman. He is one of many employees who work to ensure that the water coming from our tap is safe. As the Environmental, Health and Safety Program Manager, Mark oversees the testing of water quality throughout the distribution system of our drinking water supply. His group ensures that there is no back-siphoning of contaminated water through cross connections into the drinking water system. He helps Castle Rock Water prepare so that malevolent attacks or natural disasters won't disrupt the water service. He also ensures the staff's safety with proper equipment and training. Mark is the guy who plans and plans and hopes his plans don't come into play.

Environment, Health and Safety



# 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.

**Mar. 2021** 6.7 million gallons/day  
 Mar. 5 yr. avg. 6.0 million gallons/day  
*11% higher than average*

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

## Water demand total

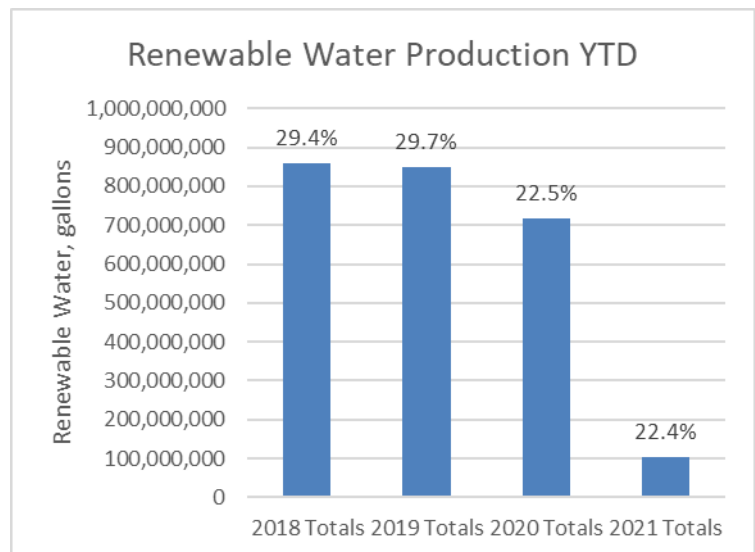
Water demand total is how much water was used over the entire month. Population and weather changes can significantly affect usage.

**Mar. 2021** 151.0 million gallons  
 Mar. 2020 150.0 million gallons  
*0.6% increase from last year*

**Water demand total for 2020**  
 3,251.7 MG

## Renewable water supply

- The CR-1 diversion produced an average of 0.22 MGD for the month of March.
- The Town's thirteen alluvial wells, CR-1, and the Plum Creek Raw Water Return Line (PCRWRL) produced a total of 23.85 MG of renewable water (and an average of 0.50 MGD).
- In total, renewable supplies accounted for 17.9% of the total water supply for the month and 22.4% of the annual water supply (464 MG or 1,421 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.*

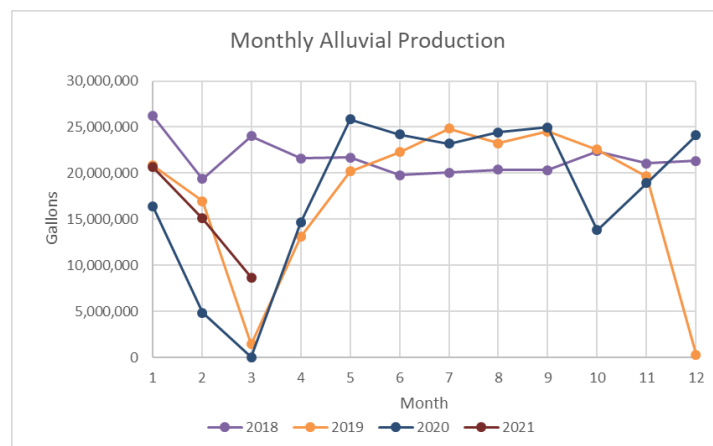
# Water Demand

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 March is 22.7% with 15.7% of available reusable supplies used and an additional 86% of available reusable supplies stored in the month of March.

## Alluvial supply

**Feb. 2021 production: 15.1 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 March was 8.7 MG. We have three alluvial well rehabilitation's scheduled for this year. Reduced alluvial production in February and March is due to PCWPF advanced treatment work.



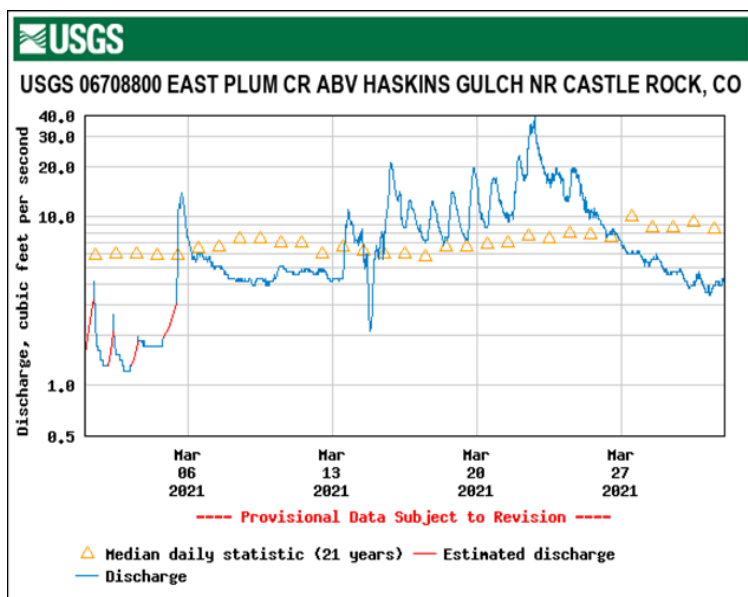
## East Plum Creek Flows

**Average Mar. streamflow: 8.0 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 1.21 and 39.5 cubic feet per second (cfs) during the month of March, with an average streamflow of 8.0 cfs. This month's average

streamflow of 8.0 cfs is slightly above the 20-year median of 7.5 cfs.

There were active calls on the South Platte River in March. 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 1,543 AF of water stored in Chatfield.



# Water Demand

## Drought Monitor

The average WSI for February was 4.2, 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 92.31% 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 month. 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 average WSI for March was 4.0, well above the 1.1 trigger level, which is considered “good.”

### The NRCS Colorado Precipitation Report

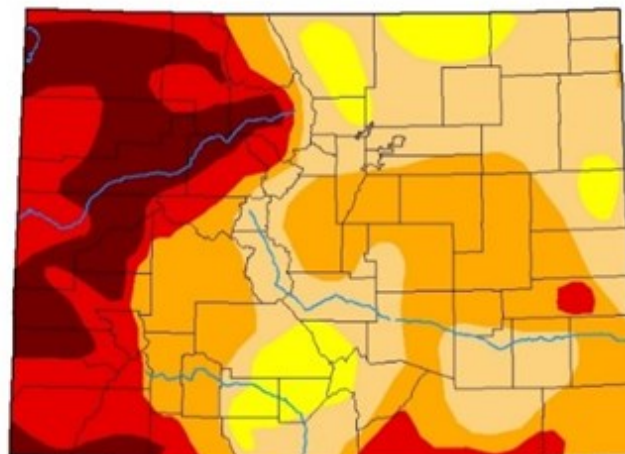
Mar. 3, 2021

South Platte River Basin:

- YTD precipitation is at 95% of average
- YTD snowpack is at 100% of average

### U.S. Drought Monitor Colorado

March 30, 2021  
(Released Thursday, Apr. 1, 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:

Brad Pugh  
CPC/NOAA



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

# Stormwater

2021/Q1

As an integral part of the Town's vision of providing residents the highest quality services at the best value, the Stormwater Division manages stormwater runoff to minimize flooding hazards and to protect water quality in our watersheds. Services the Stormwater Division provides include:

- Construction site inspections
- Spill reporting
- Public education and outreach
- Pond maintenance oversight
- Floodplain management



*Heavy tracking onto a public road. This site inspection resulted in a notice of violation and cleanup order.*

## Inspections

The inspection team regulates permitted residential and commercial properties.

The first quarter of 2021 was a muddy one. The snow storms along with quick melting created a recipe for heavy vehicle tracking. The inspectors were kept busy requiring permittees be more proactive in controlling site access during muddy conditions.

### Stormwater Inspections

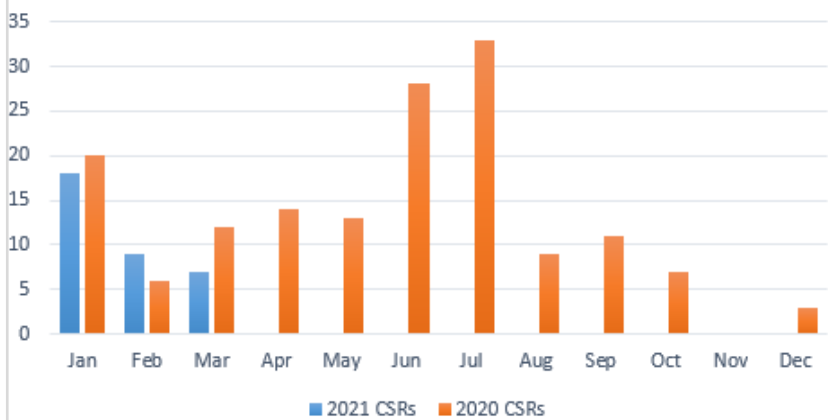


## Customer Service

The Stormwater Division receives various customer concerns from nuisance groundwater and illicit discharges to dust to maintenance of infrastructure. Complaints often rise and fall with weather patterns.

Requests are trending similar to last year with ice build-up being the major issue in January.

### Customer Service Requests



*A chase drain clogged with ice buildup during the deep freeze of January.*

# 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.

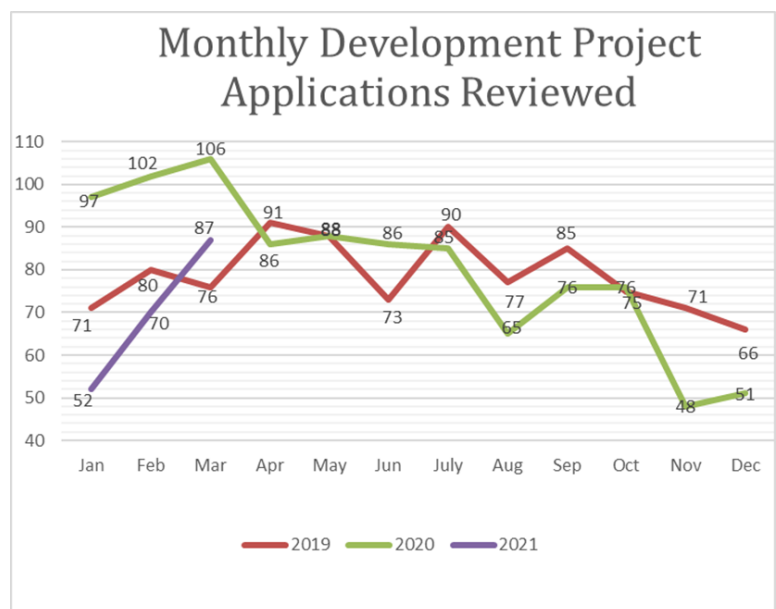
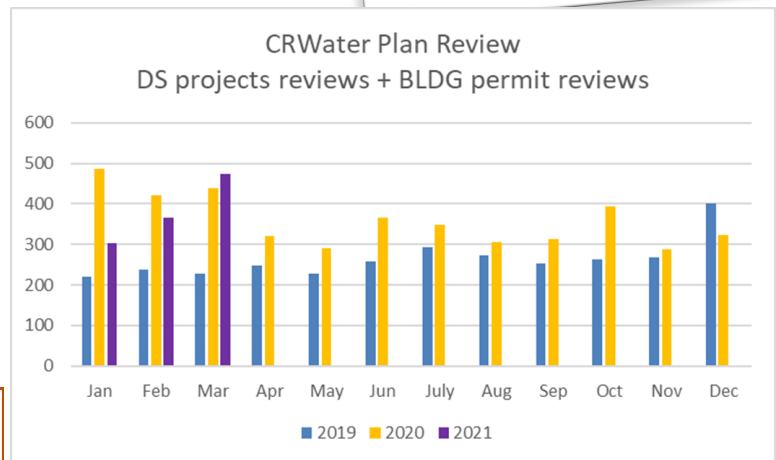


## Reviews

197 Development Services PROJECT plan reviews  
277 Building PERMIT reviews for  
87 separate projects

Total Distinct Projects	2020: 106	2021: 87	Decreased 18%
Total Dev Review project reviews	2020: 256	2021: 197	Decreased 27%
Total Bldg permit reviews	2020: 182	2021: 277	Increased 52%

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.



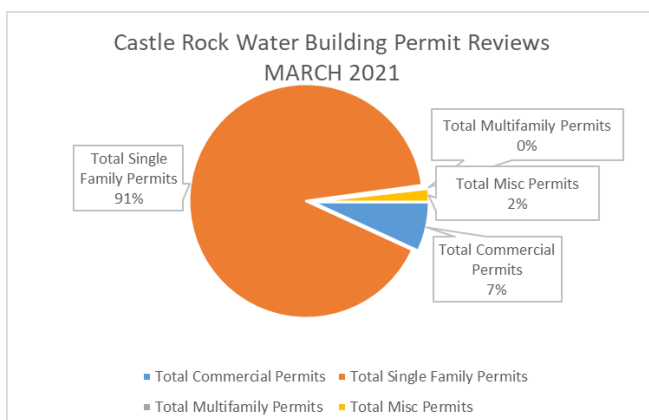
Mar. 2021 total reviews: 474

## Service levels

The average number of days assigned to review: 15 days  
The average days to complete assigned reviews: 14 days

Plan Review: 93% 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

The AR balance for March 2021 is the lowest CRW has seen since 2012



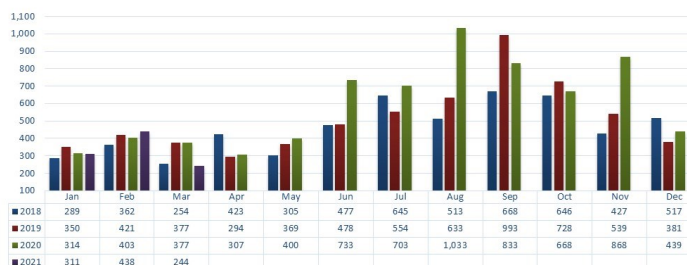
Customers benefit from having an online H2Oaccess account with 24/7 access to statement information, 12 months of statement history, helpful email account reminders and safe and secure online payment options.

### 2021/Q1 statistics

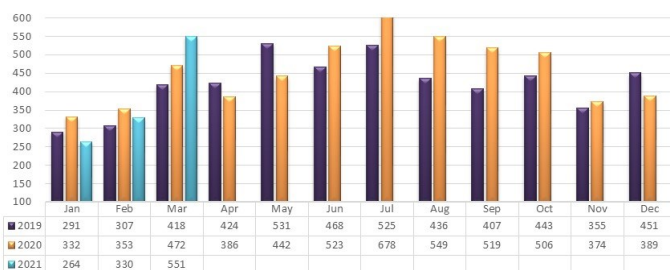
- 16,070 or 65% of our total customers have enrolled in an online account
- 10,162 or 63% of the customers with an online account have chosen to go to paperless billing



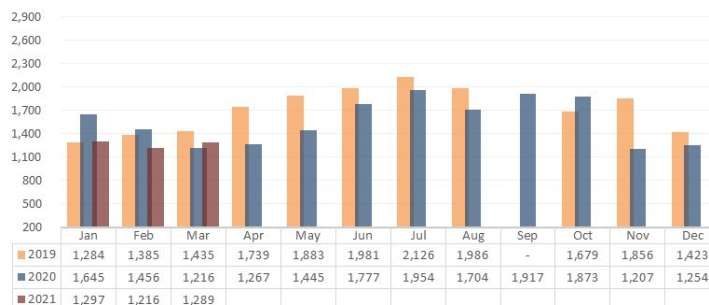
Accounts Receivable Balances  
(in thousands)



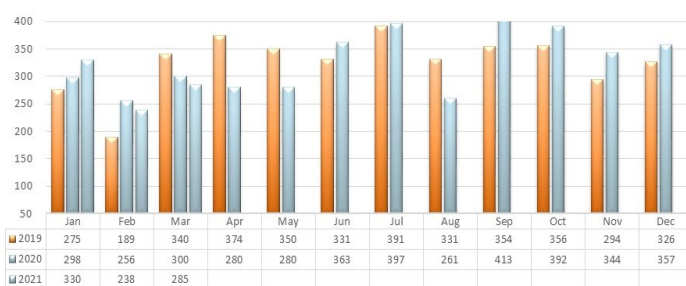
Transfers of Water Service



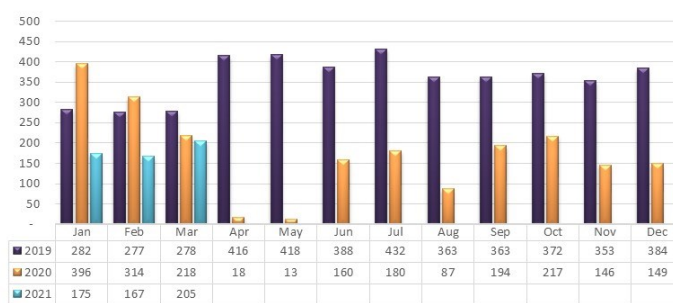
Customer Phone Calls



Mywaterbill Email Inquiries



Walk-In Customers



## Customer Outreach

Keeping customers informed about the value of water.

In late February, Castle Rock Water began adding reuse water as a water supply and the education to customers about the benefits of this source began. Social media, email newsletters, and a Town-wide mailer were the avenues of outreach. A news release produced an interview and article in Castle Rock News Press and in the Colorado Business Journal.



### Water Outreach Stats

### REACH

Reuse water video: #2 WHAT IS — Mar. 3	1,216 people
Reuse water video: #3 SAFE — Mar. 10	1,637 people
Fix a Leak Week/video — Mar. 17	1,322 people
Drought — Mar. 24	4,451 people
CRconserve.com/video — Mar. 31	1,197 people
EMAIL: Reuse (28% open rate)	5,660 open

March social media engagement was low (across all Town departments). Castle Rock Water plans to re-release the Reuse videos. The videos are housed on [CRgov.com/ReuseWater](http://CRgov.com/ReuseWater) and the Town's YouTube page. More than 800 have visited [CRgov.com/ReuseWater](http://CRgov.com/ReuseWater) since the news release.

# Meters



## Meters Read

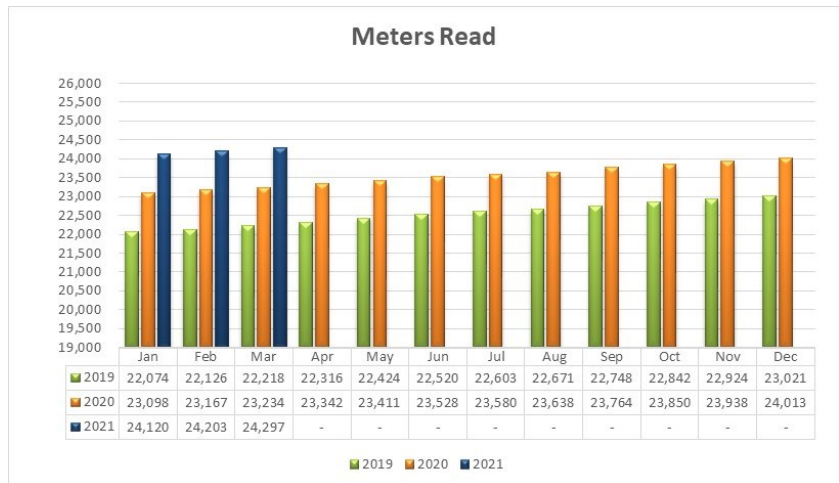
Meters are read the first three days of every month. The number of meters read continues to increase month to month and is a significant increase over last year.

## Skipped Reads

**Mar. 2021: 0.52%**

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.

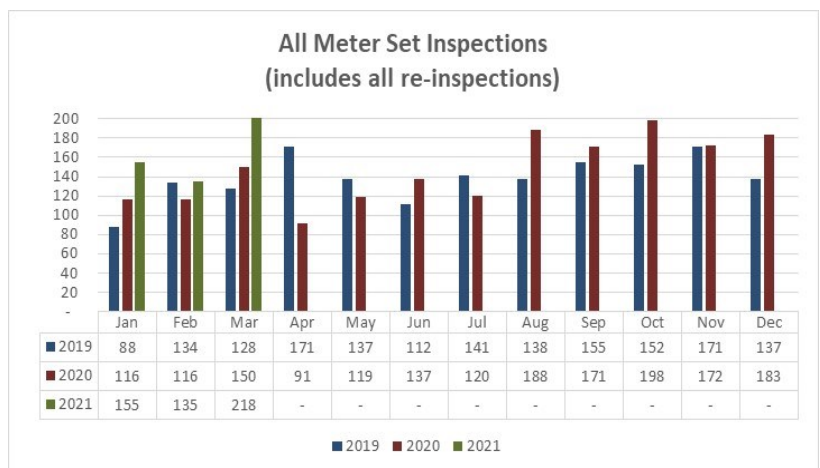
*The AWWA standard is 2%, so we still continue to stay well below the industry average.*



## Meter Set Inspections

**Re-inspections: 45%**

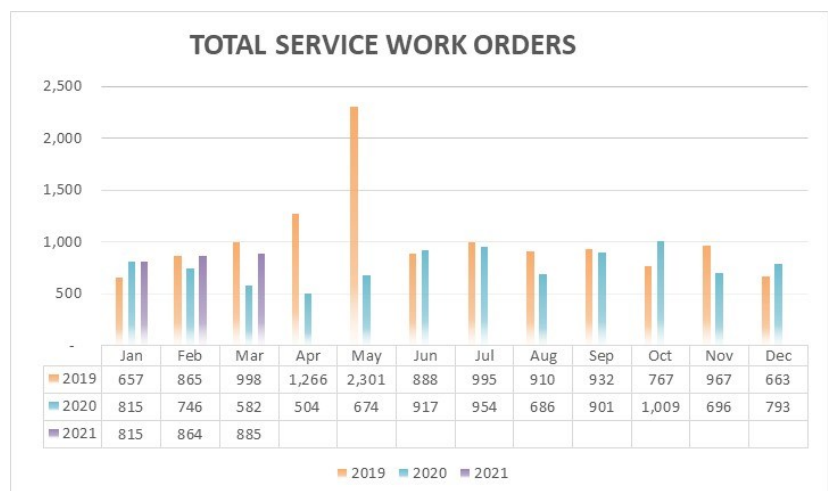
Meter set inspections are required on all new meters installed. This ensures that the meters are installed per specifications and according to Town code. At the time of the inspection, the curb stop is tested for operability and the MXU is installed which provides reading capability for our drive by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



## Work Orders

**Mar. 2021: 885**

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.



# Operations & Maintenance

## LEVELS OF SERVICE

**Mar. 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.

**Ninety routine samples were completed.**  
*All samples were within the parameters set forth by the Safe Drinking Water Act and Colorado Drinking Water Standards.*

### Pressure Adequacy

< 1% of our customers will experience less than 43 pounds per square inch (psi) of pressure at the meter during normal operations.

**There were no water pressure issues this month.**

### Sewer System Effectiveness

<1% of our customers will experience a sewer backup caused by the utility's sewer system per year.

*Castle Rock Water remains in the Top Quartile for least number of sewer backups based on the American Water Works Association benchmarking.*

**There were no sewer system issues this month.**

### Drinking Water Supply Outages

<5% of our customers will experience water outages for one or more events totaling more than 30 hours/year.

*Castle Rock Water remains in the Top Quartile for water system integrity based on the American Water Works Association benchmarking.*

**There were five water system integrity issues in March.**

*A contractor damaged a water main, during a new sewer service installation on Happy Hollow. Three homes experienced lower than normal pressure, while the contractor conducted the main repair.*

*A main break on Cantril St., on 4" CIP, near Mt. Zion Church was repaired, due to the depth of the excavation, by our On Call contractor. Water to the church was shut off over the weekend and the repair was completed on Monday, due to inclement weather.*

*A damaged curb stop at a new Meadows home, caused water to be turned off to 12 homes for five minutes while the repair was conducted by the contractor.*

*There was a water main break, on 6" CIP, on Oakwood Dr. Thirty-five homes experienced little to no pressure, for less than four hours, while the break was repaired.*

*Our On Call contractor, Global Underground, completed a repair to the Ravenna 16" fiberglass pipeline near the Ravenna Golf Course.*

### Water Quality Complaints

*Castle Rock Water remains in the Top Quartile for water quality complaints based on the American Water Works Association benchmarking.*

**There were no water quality issues in March.**



# Operations & Maintenance



*Operations Staff members helped to clear the campus and the Town during the huge March Snowstorm, many thanks to the team!*



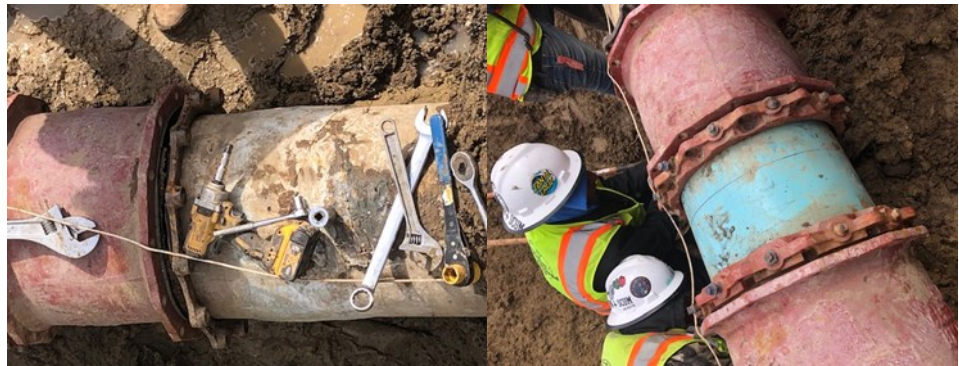
GOOD JOB!

*The Stormwater team installed an underdrain to keep ice off the Plum Creek trail*



*Plant Maintenance staff replaced the Mitchell Creek Lift Station pump 2 which will allow for more efficient pumping operations at the station.*

Ravenna pipeline repair





# Operations & Maintenance

## Locate Report



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	1,803
February	521	485	538	1,094	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	
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	2,096	
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	925	1,005	1,043	1,063	1,059	1,277	1,293	1,175	1,859	
<b>Totals</b>	<b>8,545</b>	<b>7,539</b>	<b>11,097</b>	<b>15,702</b>	<b>15,731</b>	<b>17,323</b>	<b>18,469</b>	<b>20,411</b>	<b>19,875</b>	<b>20,440</b>	<b>23,022</b>	<b>6,014</b>

## 5 Year Locate Trend

## Collections

YTD  
 Lines Cleaned 10.11 miles  
 Lines Inspected 8.52 miles  
 SSO Rate 0.0 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.