

## MONTHLY REPORT

SEPT. 2021



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

### CRW Administration & Customer Service Building and Engineering Building Remodel Project

Construction of the Castle Rock Water (CRW) Administration and Customer Service Building awarded to Golden Triangle Construction (GTC) in the amount of \$3,944,200 achieved the milestone of substantially complete on September 17, 2021. Project includes completion of a new, more accessible, 12,188 square foot building and retrofitting office space in the existing building, now named the Engineering Building. The new building includes space for meeting rooms, conference rooms, customer service reception, meter and billing services, staff offices, break room kitchenette, and lavatory facilities. A photovoltaic system with panel area of almost 1,400 square feet has been installed on the building roof. The 25 kW power generating system,

allows excess electricity generated by the panels on sunny days and not needed by the building, to be metered back to the local electrical company.



*The new CRW administration & Customer Service Building.*

GTC is currently in progress of completing remaining items such as landscaping and punch list work. The landscaping is all low-water materials and also includes two stormwater retention facilities.

Engineering staff (including Stormwater, CIP and Inspections) and GIS personnel will move from the temporary office trailers and into the remodeled Engineering Building. As part of the project, GTC will remove the temporary office trailers that have served CRW well for nearly 20 years.

Other departments such as Town Facilities and IT have contributed greatly towards successful completion of this project. The team effort continues



*Customer Service entrance  
in main entrance hallway.*

Continued....

with GTC, HB&A (the project architect) and Town staff working on the Engineering Building remodel phase. Work includes framing, drywall installation, and rough-in for mechanical, electrical, and plumbing. Office spaces are being reconfigured and completion for this phase is scheduled for October 28. The overall project is proceeding within budget and on schedule for final completion by November 11, 2021.

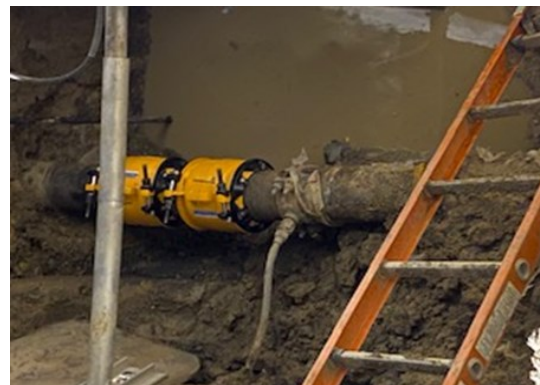


*Remodel work in Engineering Building.*

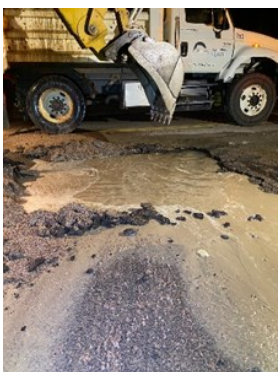
## When it happens, Castle Rock Water is on it.

Castle Rock experiences less than 20 main breaks per year. With properly placed valves, crews are able to minimize water disruption and pressure issues to nearby customers. For these typical small repairs, clamps are used to repair the break. In September, there were two main breaks.

There was a main break in Plum Creek on 6" cast iron pipe. The team worked until the early hours of morning to conduct the repair. Nine homes were out of water for less than four hours.



A main break occurred in the Oakwood Dr. area. A large hole developed in the unwrapped 8" ductile iron pipe. A 24" clamp was used to repair the damaged pipe. No homeowners were out of water during this repair.



## Conservation

**Conservation is .... Education, education, education, and more education!**

All non-residential landscape contractors working in the Town of Castle Rock must be registered with the Town and successfully complete outdoor water efficiency training. The Conservation division, in conjunction with partner entities, held their annual QWEL (Qualified Water Efficiency

Landscape) classes including education on the landscape and irrigation regulations for the Town.

The Conservation division also conducted their annual Winterization Workshop on Sept. 22 with 47 residents registered for this class. The workshop demonstrated the importance of reducing water use as temperatures decline and identifies areas of yard maintenance that are often overlooked - including seasonal fertilization, pruning, mulching and aeration. **A healthy landscape = water efficiency.**



# Good job!

Welcome

## NEW HIRES



**Kyle Buntin**  
Distribution 2  
Operator



**Jakob Hartmann**  
Water Resources  
Program Analyst



**Roy Gallea**  
Engineering Manager



**Max Ogren**  
Meter Services  
Technician



**Paul Rementer**  
Enterprise Fund  
Analyst



**Derick Ploschenski**  
Meter Services  
Supervisor

## 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*

**Jaret Bennington**, Meter Services Technician, received the Water Star award from Ken Ritchie for showing such great enthusiasm with his new job. While Ken has only worked with Jaret a few times, Jaret is always delightful and cheerful. He is very attentive in his training and never complains when he is on-call. Jaret is an upcoming star and has the Water Star award to help show him the path!



# Stormwater Compliance

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



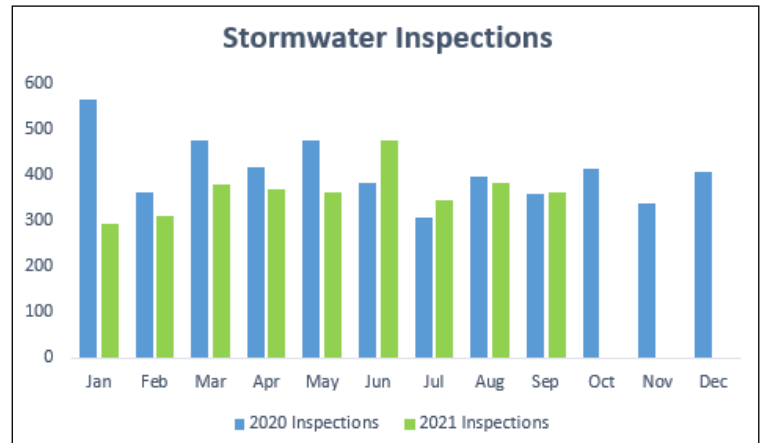
*The developer of this stormwater pond responded immediately and avoided a stop work order when a sudden storm hit during soil preparations for native seeding, filling the pond with sediment and damaging control measures.*

## Inspections

*The inspection team regulates permitted residential and commercial properties.*

Generally, inspections tracked similar to Q3 of 2020. Two stop work orders were issued on vertical homebuilding sites in July due to an overall lack of maintenance of control measures and lack of response to inspection reports.

During the last quarter of the year, the team will add 335 pond and outfall inspections to their workloads to comply with State requirements.

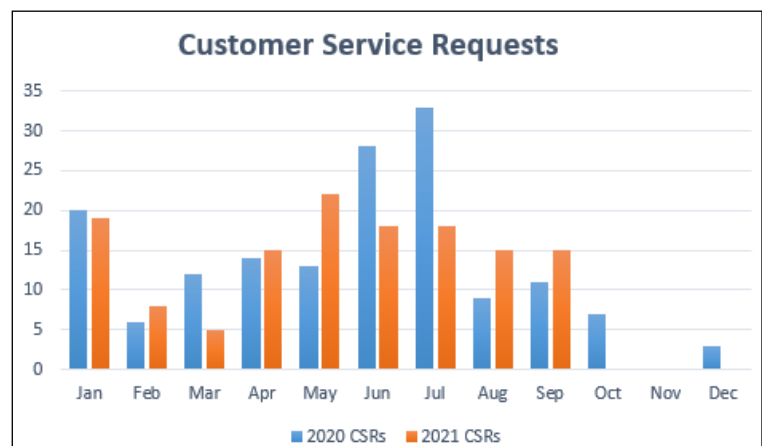


## Customer Service

*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.*

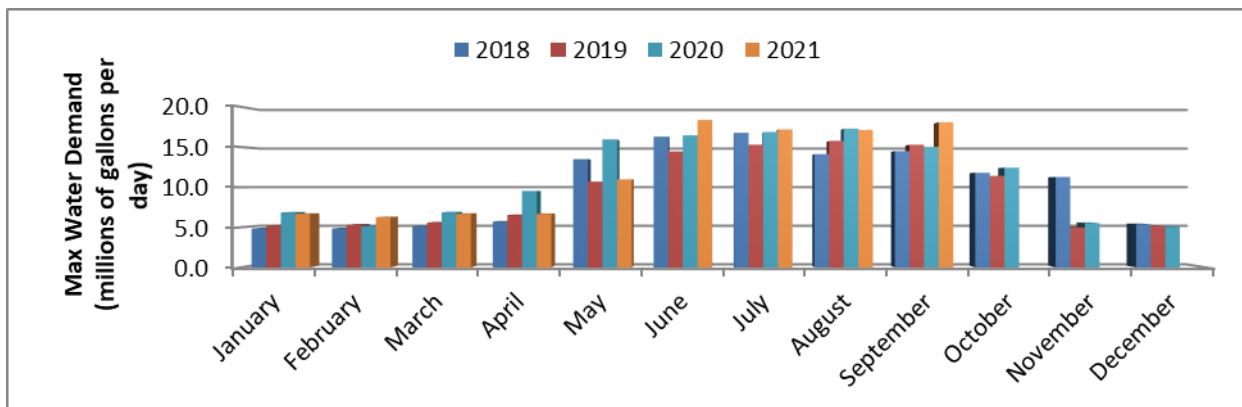
The SW team has been meeting with other CRW teams to make improvements to how excessive water issues are handled internally by thoroughly investigating for leaks before approving the installation of a chase drain.

The SW team has been working with water conservation and meter services to make improvements to how excessive water issues are handled internally by thoroughly investigating for leaks as part of the evaluation process. Thus far, we have found one site with a service line leak that resulted in a full resolution of the excessive water issue.



*Constant water causing algae on sidewalks.*

# 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.

**Sept. 2021**                      **18.1 million gallons/day**  
 Sept. 5 yr. avg.              14.9 million gallons/day

*22% 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.

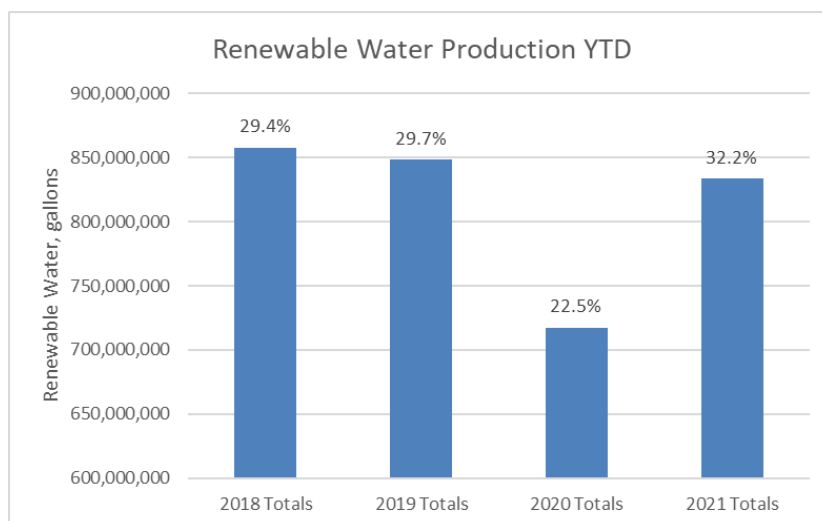
**Sept. 2021**                      **449.4 million gallons**  
 Sept. 2020                      357.5 million gallons

*25.7% increase from last year*

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

## Renewable water supply

- The CR-1 diversion produced an average of 0.55 MGD for the month of September.
- The Town's fourteen alluvial wells, the CR-1 diversion, and the Plum Creek Raw Water Return Line (PCRWRL) delivered a total of 109.2 MG (335 AF) of renewable water (and an average of 1.21 MGD).
- In total, renewable supplies accounted for 32% of the total water supply for the month and 32.2% of the annual water supply (2,585 MG or 7,935 AF) to date.



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

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

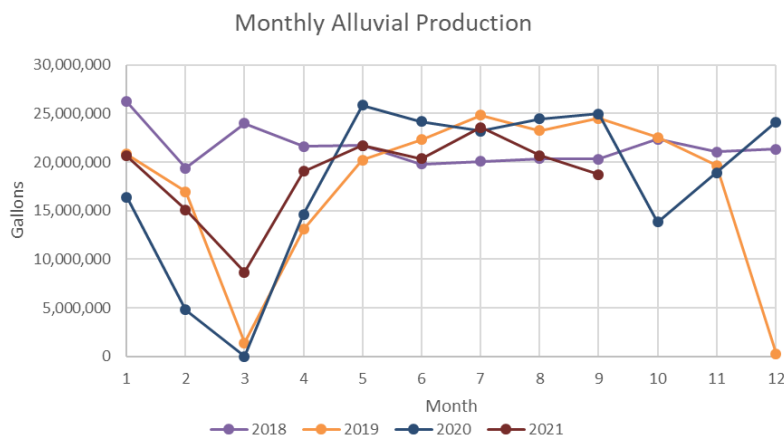
# Water Demand

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 September is 50.6%.

## Alluvial supply

**Sept. 2021 production: 18.7 MG/57 AF**

- 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 Sept. was 18.7
- We had three alluvial well rehabilitations completed this year.



## East Plum Creek Flows

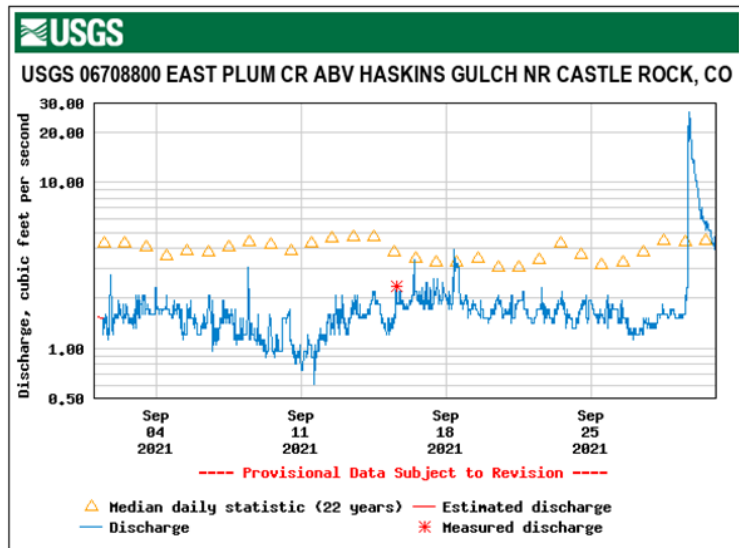
**Average Sept. streamflow: 1.9cfs**

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 0.6 and 25 cubic feet per second (cfs) during the month of September,

with an average streamflow of 1.9 cfs. This month's average streamflow of 1.9 cfs is below the 20-year median of 3.7 cfs.

There were active calls on the South Platte River in September. Most of the active calls have had a more senior water right than some of the Town's water rights. This means that the Town's diversions were out-of-priority, so the stream depletions were replenished by non-tributary return flows. This also means that the Town had slightly less reusable water going down Plum Creek during the active calls. 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 the Plum Creek Diversion can be captured and stored at Chatfield for later use. First storage started on May 15, 2020 and as of the end of September, we have approximately 1,540 AF of water stored in Chatfield.





# Water Demand

## Drought Monitor

The average WSI for September was 1.36, well above the 1.1 trigger level, which is considered “good.”

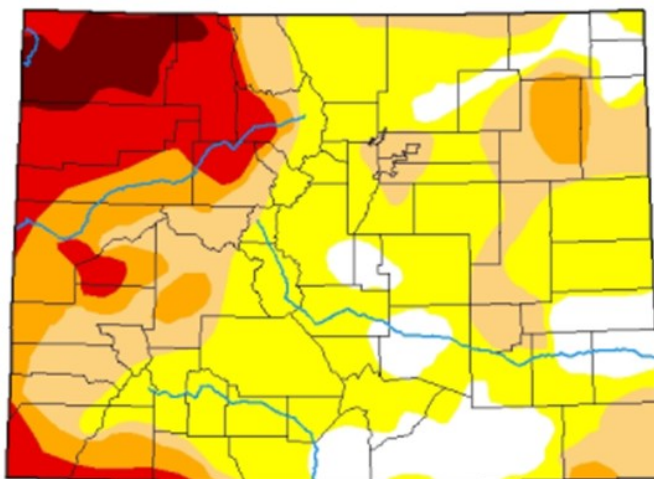
According to the U.S. Drought Monitor maintained by the United States Department of Agriculture (USDA), approximately 81% of Colorado is experiencing Abnormally Dry (D0) to Exceptional Drought (D4) conditions, with abnormally dry conditions in Douglas County. The Town of Castle Rock Drought Management 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 Sept. 30, 2021

South Platte River Basin:

- YTD precipitation is at 62% of average
- YTD snowpack is completely melted for the season

## U.S. Drought Monitor Colorado



**September 28, 2021**

(Released Thursday, Sep. 30, 2021)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

|   | None  | D0    | D1    | D2    | D3    | D4    |
|---|-------|-------|-------|-------|-------|-------|
| Current                                 | 12.72 | 40.85 | 20.12 | 11.25 | 11.14 | 3.91  |
| Last Week<br>09-21-2021                 | 16.92 | 42.15 | 16.36 | 9.53  | 11.14 | 3.91  |
| 3 Months Ago<br>06-29-2021              | 54.48 | 3.90  | 5.25  | 6.41  | 12.44 | 17.52 |
| Start of<br>Calendar Year<br>12-29-2020 | 0.00  | 0.00  | 6.27  | 17.56 | 48.57 | 27.60 |
| Start of<br>Water Year<br>09-29-2020    | 0.00  | 0.71  | 9.93  | 36.47 | 50.24 | 2.64  |
| One Year Ago<br>09-29-2020              | 0.00  | 0.71  | 9.93  | 36.47 | 50.24 | 2.64  |

### Intensity

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

Brian Fuchs  
National Drought Mitigation Center



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

# Plan Review

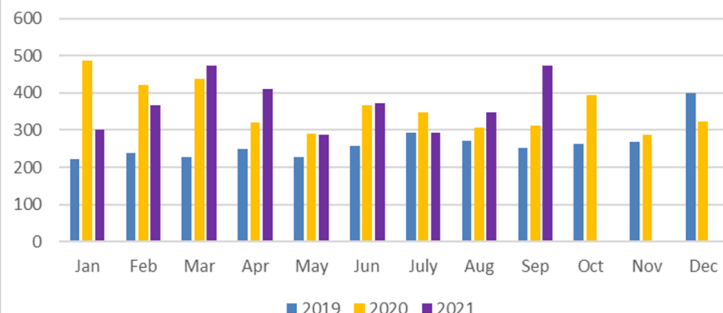
For each commercial and residential project submitted for development review, Castle Rock Water provides plan review, as appropriate, for:

- 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

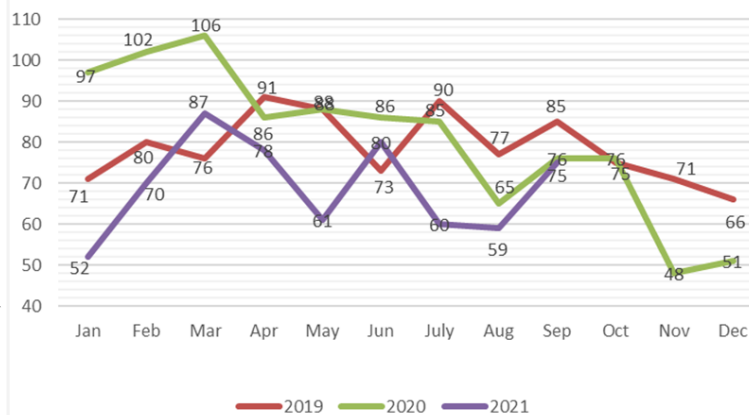
195 Development Services PROJECT plan reviews  
277 Building PERMIT reviews for  
75 separate projects

|                                  |           |           |               |
|----------------------------------|-----------|-----------|---------------|
| Total Distinct Projects          | 2020: 76  | 2021: 75  | Decreased 1%  |
| Total Dev Review project reviews | 2020: 175 | 2021: 195 | Increased 11% |
| Total Bldg permit reviews        | 2020: 149 | 2021: 277 | increased 86% |



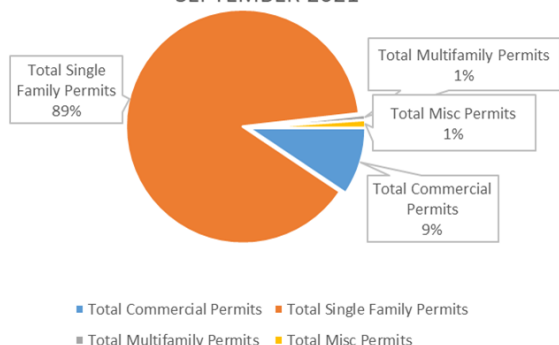
Building permits are reviewed to calculate the system development fees for each lot, as determined by the number of fixtures, irrigated area, meter size, etc. This is necessary for proper billing.

Monthly Development Project Applications Reviewed



Sept. 2021 total reviews: 472

Castle Rock Water Building Permit Reviews  
SEPTEMBER 2021



## Service levels

The average number of days assigned to review: 14.4 days  
The average days to complete assigned reviews: 13.8 days

Plan Review: 91% 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

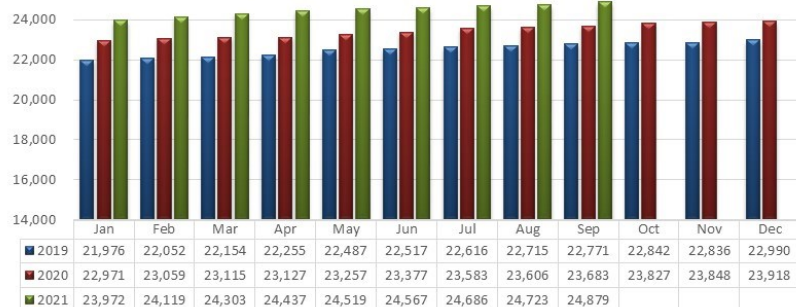


Customers benefit from having an online H2Oaccess account with 24/7 access to statement information, 12 months of statement history, helpful email account reminders and safe and secure online payment options.

### 2021/Q3 statistics

- 16,768 or 67% of our total customers have enrolled in an online account
- 10,647 or 64% of the customers with an online account have chosen to go to paperless billing

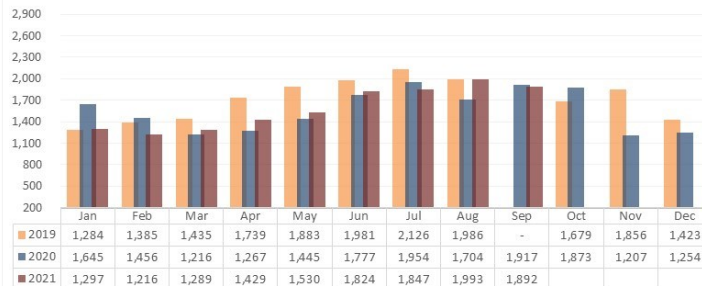
# of Accounts Billed



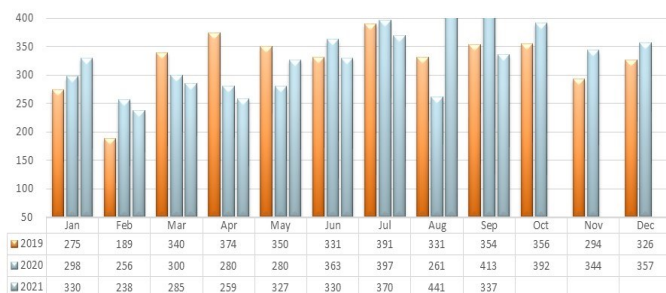
Transfers of Water Service



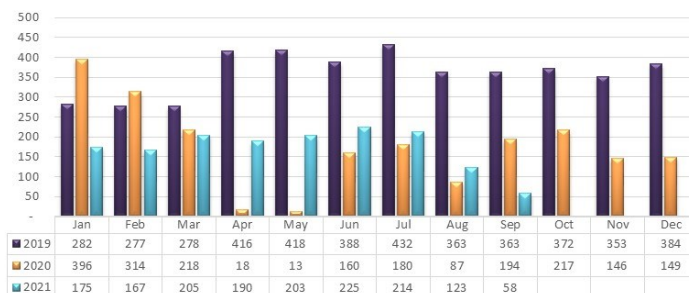
Customer Phone Calls



Mywaterbill Email Inquiries



Walk-In Customers



## Customer Outreach

### Keeping customers informed about the value of water.

Water is more than conservation and the messaging this month proudly highlighted regional AWWA awards for the Outstanding Water Treatment Plant and Outstanding Water Maintenance staff. The Walker Reservoir news release identified a new regional partnership project for storing renewable water supplies. Castle Rock Water also installed 8 source water protection signs to remind residents to keep local creeks clear of pollution, as this is a source of our drinking water supply.

| Water Outreach Social Media Stats         | REACH        |
|---|--------------|
| Back to school w reusable bottles—Sept. 9 | 1,758 people |
| Winterization class—Sept. 15              | 5,732 people |

|   |                              |
|---|------------------------------|
| Poop Fairy Lammie—Sept. 22              | 4,837 people                 |
| Protect the Source—Sept. 29             | 2,269 people                 |
| PCWPF AWWA Award—Sept. 3                | 3,751 people                 |
| ColoradoScapes winner—Sept. 7           | 4,374 people                 |
| Walker Reservoirs news release—Sept. 23 | 2,389 people                 |
| We Work for You/Jeff—Sept. 29           | 2,825 people                 |
| EMAIL: Is that higher bill from a leak? | 9,190 opened (44% open rate) |
| HOA EMAIL: An answer to your water woes | 94 opened (40% open rate)    |

# 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.

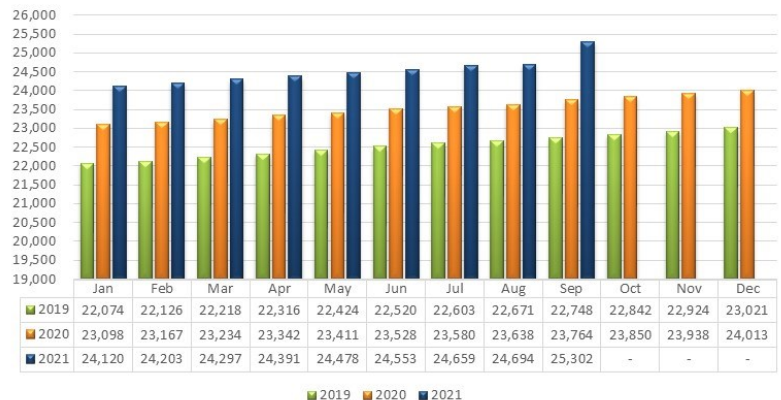
## Skipped Reads

**Sept. 2021: 0.64%**

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



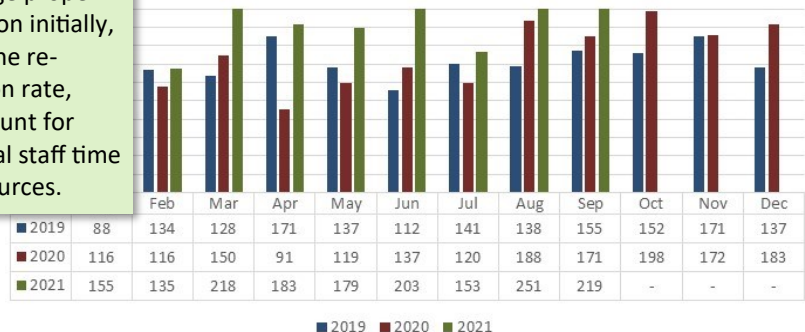
## Meter Set Inspections

**Re-inspections: 43%**

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.

A new re-inspection rate structure began 9/1/21 to encourage proper installation initially, reduce the re-inspection rate, and account for additional staff time and resources.

All Meter Set Inspections  
(includes all re-inspections)

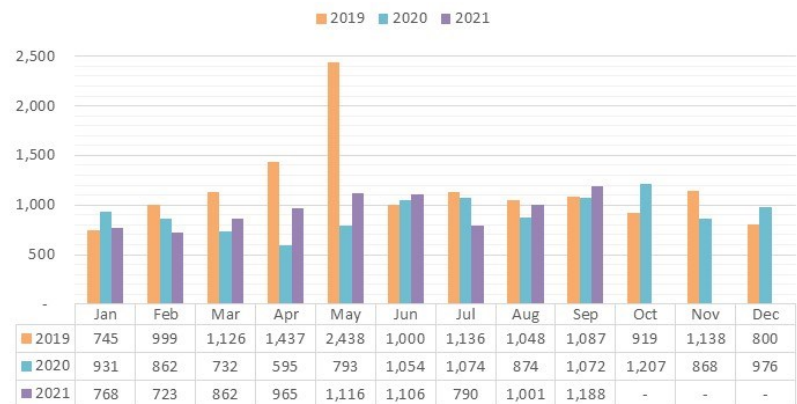


## Work Orders

**Sept. 2021: 1,188**

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, and more.

ALL Service Work Orders



# Operations & Maintenance

| LEVELS OF SERVICE             |  | Sept. 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.  | <b>Ninety routine samples were completed.</b><br><i>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.   | <b>There was one water pressure issue in September.</b><br><i>A faulty pressure probe in Tank 9 caused the tank water level to drop, which resulted in lower pressures in the Woodlands. Staff was notified at 4:15 a.m. and investigated by checking area hydrants. Pressures of 30 psi were noted in the highest elevations of the zone. Because of the early hour, the exact number of residents affected by pressures lower than 43 psi is not known, but the police department received nine resident pressure calls. System adjustments were made, and pressure was returned to normal approximately one hour after the initial notification.</i> |
| Sewer System Effectiveness    | <1% of our customers will experience a sewer backup caused by the utility's sewer system per year.<br><br><i>Castle Rock Water remains in the Top Quartile for least number of sewer backups based on the American Water Works Association benchmarking.</i> | <b>There were two sewer system issues this month.</b>   |
| Drinking Water Supply Outages | <5% of our customers will experience water outages for one or more events totaling more than 30 hours/year.<br><br>Castle Rock Water remains in the Top Quartile for water system integrity based on the American Water Works Association benchmarking.      | <b>There were two water system integrity issues in September.</b><br><br><i>There was a main break in Plum Creek on 6" cast iron pipe. The team worked until the early hours of morning to conduct the repair. Nine homes were out of water for less than four hours.</i><br><br><i>A main break occurred in the Oakwood Dr. area. A large hole developed in the unwrapped 8" ductile iron pipe. A 24" clamp was used to repair the damaged pipe. No homeowners were out of water during this repair</i>  |
| Water Quality Complaints      | Castle Rock Water remains in the Top Quartile for water quality complaints based on the American Water Works Association benchmarking.   | <b>There were no water quality issues in Sept.</b>  |



# Operations & Maintenance

## Locate Report



Castle Rock Water's locate requests from 811 have continued to rise, year over year.

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  | 1,199  | 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  | 2,524  |
| May                    | 853   | 863   | 985    | 1,541  | 1,531  | 1,609  | 1,809  | 2,002  | 1,801  | 2,122  | 2,288  | 2,524  |
| June                   | 963   | 844   | 982    | 1,314  | 1,399  | 1,654  | 2,075  | 1,872  | 1,854  | 1,716  | 1,931  | 2,278  |
| July                   | 680   | 582   | 859    | 1,350  | 1,392  | 1,477  | 1,675  | 1,582  | 1,556  | 1,937  | 1,894  | 2,311  |
| August                 | 901   | 723   | 1,123  | 1,476  | 1,468  | 1,494  | 1,651  | 2,001  | 1,986  | 1,603  | 2,096  | 2,589  |
| September              | 880   | 723   | 1,029  | 1,240  | 1,373  | 1,343  | 1,701  | 2,102  | 1,747  | 1,979  | 2,026  | 2,133  |
| 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  |        |
| Totals                 | 8,545 | 7,539 | 11,097 | 15,702 | 15,731 | 17,323 | 18,469 | 20,411 | 19,875 | 20,440 | 23,022 | 20,373 |

## Collections

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.

### YTD

Lines Cleaned 70.63 miles  
Lines Inspected 25.57 miles  
SSO Rate 0.0 SSO/100 mi

Sept: No sanitary sewer issues.

## Stormwater Maintenance

As part of the Failed Outfall maintenance program, the Stormwater team removed 244 Yards of organic matter and debris to renovate an outfall in The Meadows, near Meadows Parkway and Cherokee.

