



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

Craig and Gould North Infrastructure Improvement Project

By: J. David Van Dellen, P.E., Project Manager

The Craig and Gould North Infrastructure Improvement Project is the second phase of improvements in the oldest residential neighborhood in Historic Downtown Castle Rock. Located just south of the Rock, this project is bound by Perry Street to the west, Sunset Drive to the east and Fifth Street to the south and comprises approximately 80 residential properties and one church. The subdivision of Craig and Gould was originally platted in 1874 and the first house within the north area was built in 1897. This neighborhood was first paved in the 1980's with inverted crown streets for drainage and gravel shoulders for parking. Since that time,



Alleyway before and with the first phase of stormwater and road infrastructure.

the Town has responded to several complaints from residents whose houses sit lower than the street and experience flooding during heavy rain events. The Town has addressed this over the years by adding curbing and inlets where necessary to reduce the occurrence of flooding. These solutions were

temporary and the neighborhood ultimately needed an overhaul to bring it up to current standards for drainage and safety.

The objectives of the Craig and Gould North Infrastructure Improvement Project are to add storm sewer within the public right-of-way to capture stormwater runoff, replace aging water and sewer infrastructure and upgrade the streets to current residential standards for safety. This includes two travel lanes on all residential streets, parking lanes, curb,



gutter and sidewalks throughout the majority of the project. Existing alleyways that remained dirt up to this point will be paved with concrete. In order to convey stormwater runoff, an outfall system is needed crossing the railroad. This outfall includes an underground water quality chamber to remove pollutants prior to discharging to East Plum Creek.

Construction began in November 2021 and will be completed no later than August 2023. JBS Pipeline, LLC was contracted by the Town to construct the project. Funding is provided by Castle Rock Water and Public Works with a construction budget of \$7.6 million. All properties within the project limits will receive new service line connections for water and sewer up to the property line. All water services were checked and determined not to have lead piping. Should this have been identified, lead piping services would have been replaced up to the house.

This project requires a team across several Town departments to succeed. Special thanks to the following individuals for their contributions:

- Wade Reeves, Sr. Construction Inspector
- Jason Hauser, Sr. Construction Inspector
- Jessup Schield, Stormwater Inspector
- Erik Dam, Project Manager (Stormwater)
- Laura Kindt, Project Manager (Stormwater)
- Shantanu Tiwari, Project Manager (Water/Wastewater)
- Matt Hayes, Project Manager (Water/Wastewater)
- Aaron Monks, Project Manager (Public Works)
- Roy Gallea, Engineering Manager (Water/Wastewater)
- Brian Kelley, Engineering Manager (Public Works)
- Sandi Aguilar, Customer Relations Program Manager
- Chris Sobie, Traffic Ops Engineer
- Carl Filler, Traffic Engineering Tech
- Sydney Kozel, Community Relations Specialist
- Melinda Pastore, Water Engineering Admin. Assistant
- Alex Tarnawski, Distribution Supervisor and crew
- Ryan Livingston, Distribution Supervisor and crew
- Phillip Jolly, Collections Supervisor and crew
- Nathan Hannick, Utility Locator



Anderson Street before, during and after improvements.



Storm sewer outfall, water main and sewer main in Sixth Street.



Castle Rock Water is testing some new grass

By: Rick Schultz, Water Efficiency Supervisor



Just in case you haven't heard, Castle Rock Water has been promoting ColoradoScape. Don't know what that is? ColoradoScape is a natural landscape which uses low to very low water (less than ten inches of water per year) plant material which blends in with the native Castle Rock landscapes. Plant material must be maintained in its natural form, utilizing a

combination of hardscape and landscape materials which provide a variety of colors, textures, sizes, shapes and seasonal interest. Basically we're looking for something that uses less water, is easier to maintain, and still looks good. All the plants around the customer service and administrative building fall into this category.

Plus, we've got a new area of turf-- but this isn't just regular turf. We're testing a new variety of

Bermudagrass. It's called Tahoma 31, and it is designed to use significantly less water, require little or no mowing, and be very resilient.

As with any "test" there are things we don't know, and things we will be evaluating before we can conclusively say this is the direction we should go. For example, we don't know how long the grass will stay green going into the fall. We don't know how well it will withstand the cold winter temperatures, or when it will green up in the spring. We don't know how tall it will get when not mowed, or if we need to mow it, how often. And finally, we don't know how much water it will need to keep it looking good.

Those are a lot of things we don't know, but we will find out. Here's what we do know. It was installed on August 2, 2022. It was relatively easy to establish,



even in the August heat, with minimal watering only at night. After more than five weeks now it hasn't grown much, we haven't had to mow it, and the color is great. It has a horizontal growth pattern rather than a vertical one, so we think it will knit together and

form a "carpet" more than growing up into traditional blades. We've already cut the water back to three cycles every 5 days. We're going to continue stretching this watering interval in order to determine just how little water it really needs.

As part of our recent update to the Landscape and Irrigation Criteria Manual, we are proposing to eliminate turf in new home front yards (ColoradoScape only), and limit turf in the back yard to a maximum of 500 square feet. By no small coincidence, our test area of turf is exactly 500 square feet. We know it can be difficult to imagine what 500 square feet looks like, so come and check out our new test area on the west side of the building and see for yourself.

Stay tuned as we continue to evaluate this product and begin to gather answers to all the things we don't know.

Good job!

Welcome NEW HIRES



Laura Kindt
Project Manager,
Stormwater



Susan Salvatori
Customer Service
Representative

Good job!

NEW CERTIFICATIONS



Sean Kenny
CO Water Professionals
Distribution 1 Certification



Jeremy Clark
CO Water Professionals
Water Treatment A Certification



Chris Cochran
CO Water Professionals
Distribution 2 Certification



Joe Compton
CO Water Professionals
Distribution 2 Certification



Aaron Dugan
CO Water Professionals
Collections 2 Certification



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.



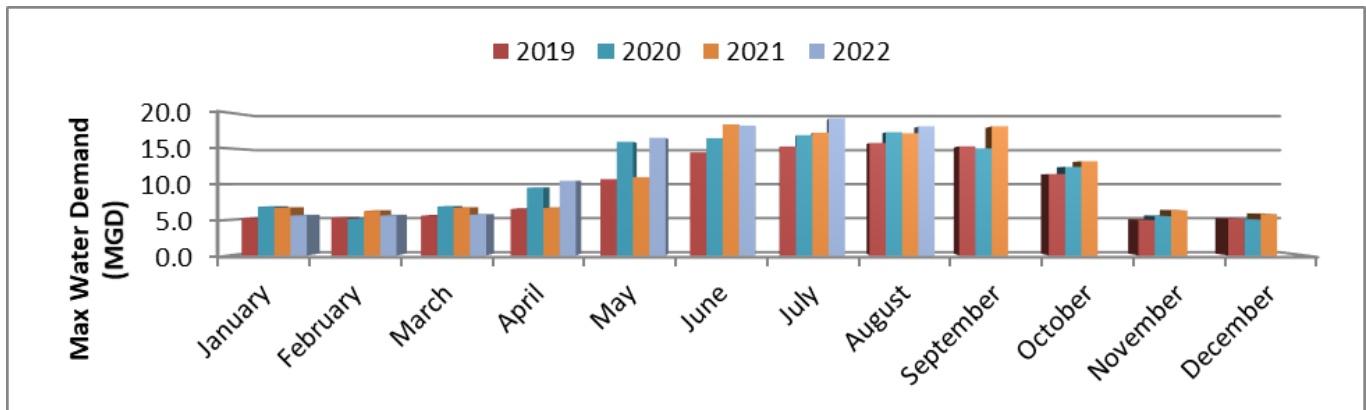
John Chrestensen, Field Services Superintendent, was presented the Water Star award because, according to John Grahn, "There is one individual that stands out to me. I have worked with this person for many years and in that time I have seen many great changes that he has done. He demonstrated exceptional service to internal and external customers. He has great value in our department and for our customers with the extensive knowledge that he has for all aspects of the distribution and collections systems.

He has exceptional Town values including his ability to be adaptable and open to change. He works as a team toward common goals and with the spirit of cooperation. The list could go on and on. Here you go, JC²!"

Water Resources

Water demand

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



May Max Daily Demand:

- 18.1 million gallons/day
- 5-year average, 16.5 million gallons/day
- 10% higher than the 5-year average

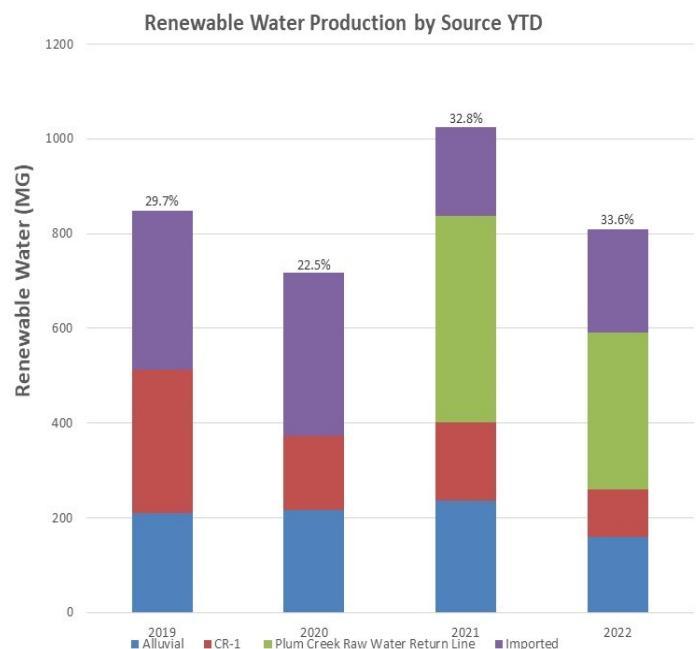
Water Demand Total:

- The water demand total for August was 459.9 million gallons (MG) [1,441.4 acre-feet (AF)]
- 7% lower from the July 2022 total of 495.2 MG
- 2.2% increase from the previous year's August 2021 demand of 450.1 MG.

Renewable supplies

Renewable supplies are those water sources that are replenished by precipitation.

- In total, renewable supplies accounted for 27.3% of the total water supply for the month and 33.6% of the annual water supply (2,412.7 MG or 7,404.3 AF) to date.
- The CR-1 diversion produced an average of 0.12 MGD.
- The PC diversion produced an average of 2.5 MGD.
- The 14 alluvial wells produced an average of 0.67 MGD.
- The renewable water production average was 3.96 MGD.
- The renewable water total production was 122.63 MG (376.3 AF).



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

Water Demand

Reusable supplies

Reusable supplies are waters that are either from the non-tributary Denver Basin (deep wells) or imported supplies (such as WISE) that can be used over and over, to extinction.

- The average reusable supplies used by Castle Rock for 2022 through August is 61.2%.

Storage

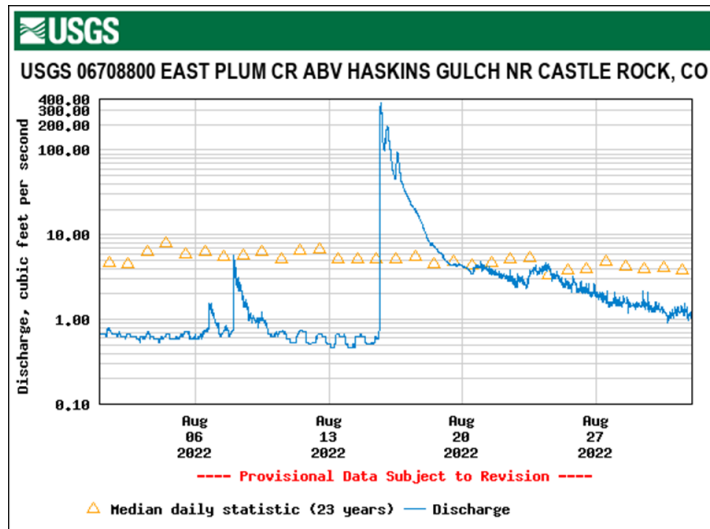
Current reservoir storage

- Chatfield: 783.42 AF
- Rueter-Hess: 110 AF
- CRR1: 125.3 AF

Drought

According to the U.S. Drought Monitor maintained by the United States Department of Agriculture (USDA), **Castle Rock is experiencing No Drought to Moderate Drought (D1) conditions.**

Local Plum Creek supplies

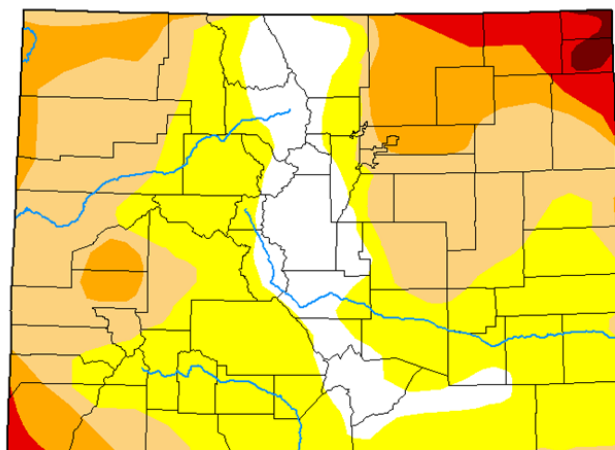


The hydrograph shows the estimated flows in the East Plum Creek basin.

- Flows ranged from 0.47 – 360 cubic feet per second (cfs).
- The monthly average streamflow was 6.69 cfs.
- The 22-year mean is 8.1 cfs.

U.S. Drought Monitor Colorado

August 30, 2022
(Released Thursday, Sep. 1, 2022)
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:

Deborah Bathke
National Drought Mitigation Center



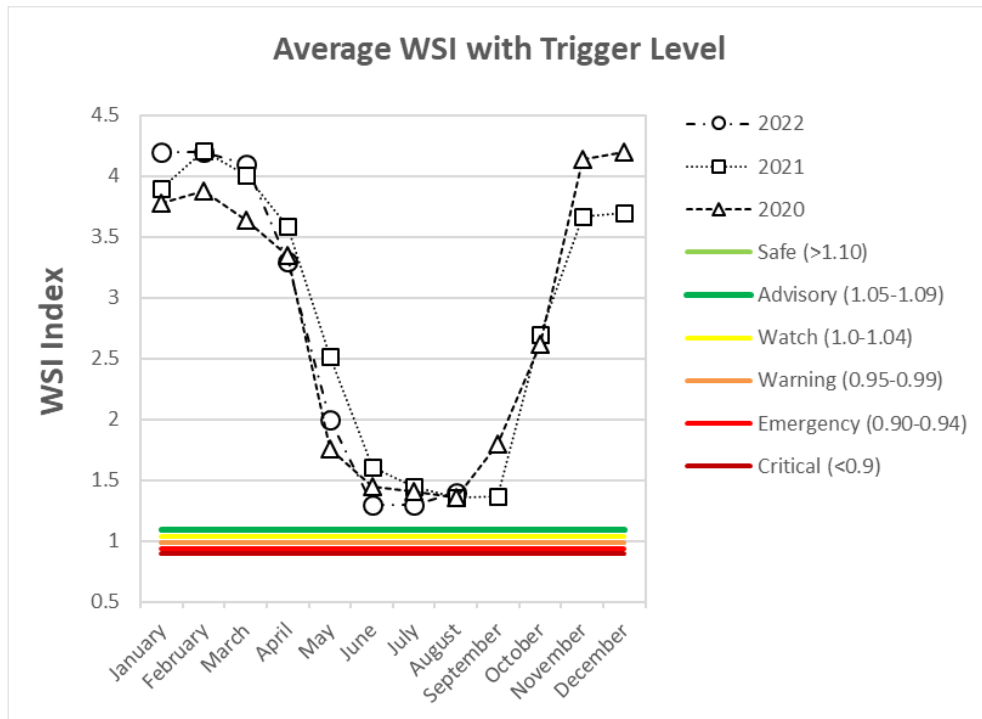
droughtmonitor.unl.edu

Water Demand

Water supply index

The Town of Castle Rock Drought Management Plan uses a Water Supply Index (WSI) for the Town that accounts for local conditions relative to the Town's capability to address our water resources and daily water demands. Anything below a 1.1 will trigger a drought stage relative to its severity.

- The average WSI for August was 1.4.



THE WHOLE FAMILY IS INVITED!

CASTLE ROCK Water

OUR FLAGSHIP PLUM CREEK WATER PURIFICATION FACILITY IS OPEN FOR TOURS AND WE'RE CELEBRATING WITH A **GRAND RE-OPENING!**

WED, SEP 21 AT 4 PM
Plum Creek Water Purification Facility grand re-opening event
 Plum Creek Water Purification Facility

★ Interested ▾

Not an August happening, but just a great spot to plug the Sept. 21 Open House where water professionals will be on hand for tours, to talk about long-term water plans, and to solicit input from customers on conservation. Plus, provide education and fun for the community!

Business Solutions

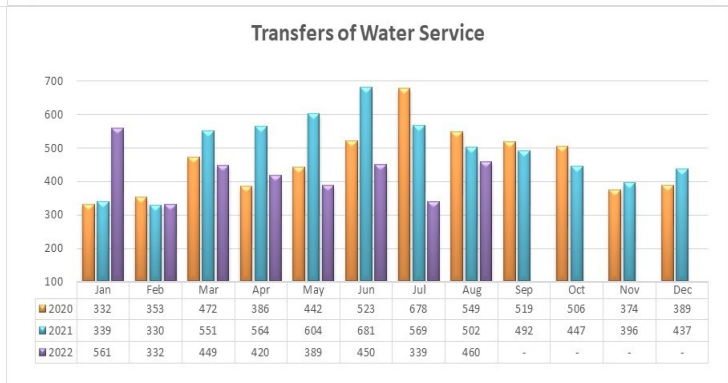
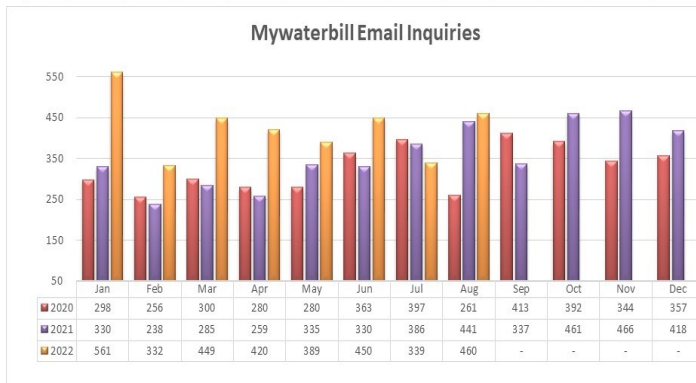
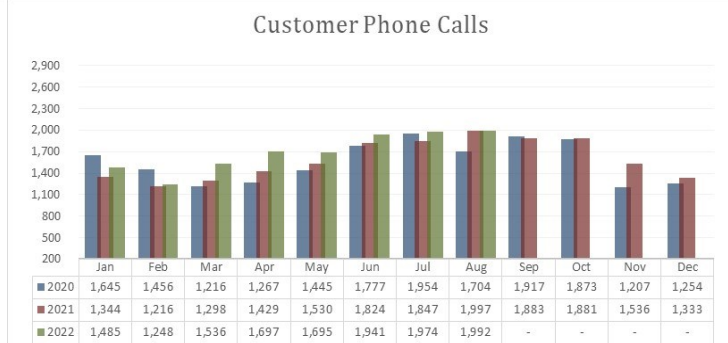
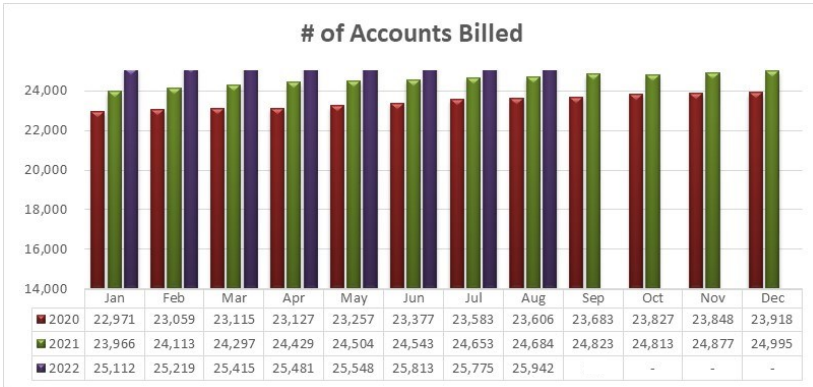
Customer Service & Billing



2022/Q2 statistics

- 18,380 (71%) have an online account
- 11,832 (64%) are paperless

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. Customers are encouraged to use paperless billing to reduce clutter, be environmentally friendly and save mailing costs.



Customer Outreach

Keeping customers informed about the value of water.

Water Outreach Social Media Stats	REACH
Drought update — Aug. 3	2,184 people
Drought and plants— Aug. 10	1,787 people
Hydrate with reusable bottle — Aug. 17	3,122 people
How much water are you using — Aug. 24	3,504 people
Poop Fairy: Juniper/Site sponsorship — Aug. 25	6,993 people

Source Water / EPC — Aug. 31	1,172 people
PCWPF Open House and tour announcement—Aug. 31	4,764 people
Email: The impact of water waste — Aug. 16	10,504 opened (62% open rate)
HOA Email: Are your policies in line with the law? — Aug. 25	102 opened (51% open rate)

The post for dog station sponsorship brought in 2 sponsors on the first day of posting!

Meters



Meters Read

Meters are read the first two 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

August 2022: 0.36 %

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.

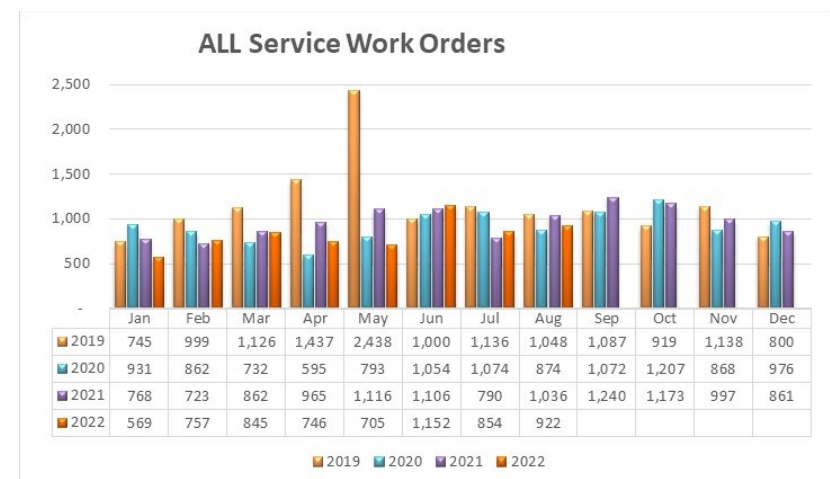
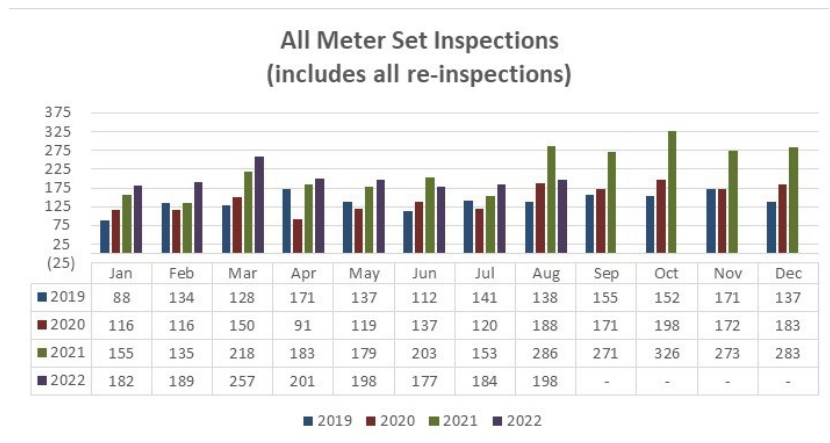
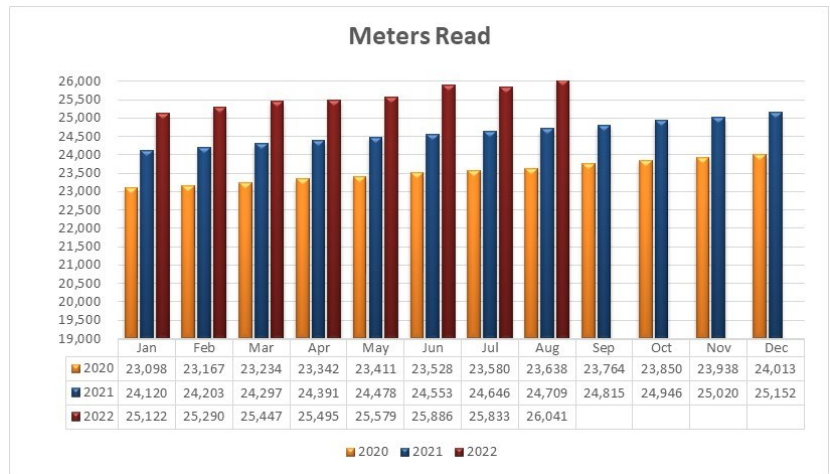
Meter Set Inspections

Re-inspections: 52%

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

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.



Operations & Maintenance

LEVELS OF SERVICE

August 2022

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.

One hundred routine samples were completed and no issues discovered.

Pressure Adequacy

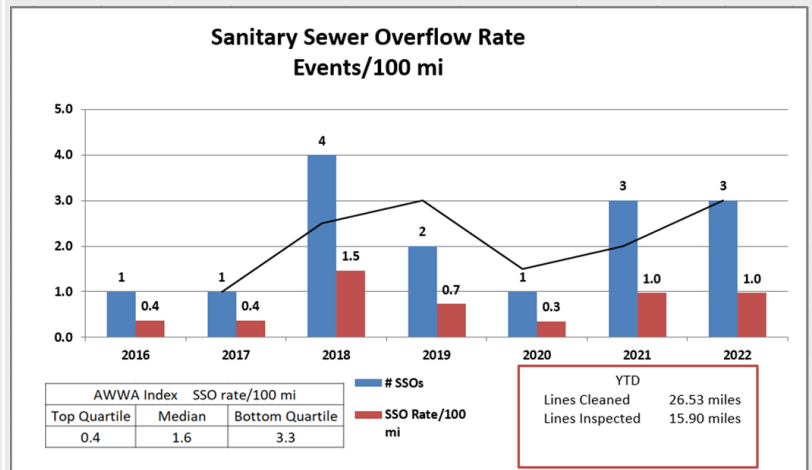
< 1% of our customers will experience less than 43 pounds per square inch (psi) of pressure at the meter during normal operations.

There were no water pressure issues in August.

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 AWWA benchmarking.

There were no sanitary sewer issues in August.



Water Quality Complaints

Castle Rock Water remains in the Top Quartile for water quality complaints based on the AWWA benchmarking.

There were no water quality complaints or issues in August.
There were 2 educational visits.



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.

Utility locates

Water locates conducted

- 2,520 tickets

Operations & Maintenance

LEVELS OF SERVICE

Drinking Water Supply Outages

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

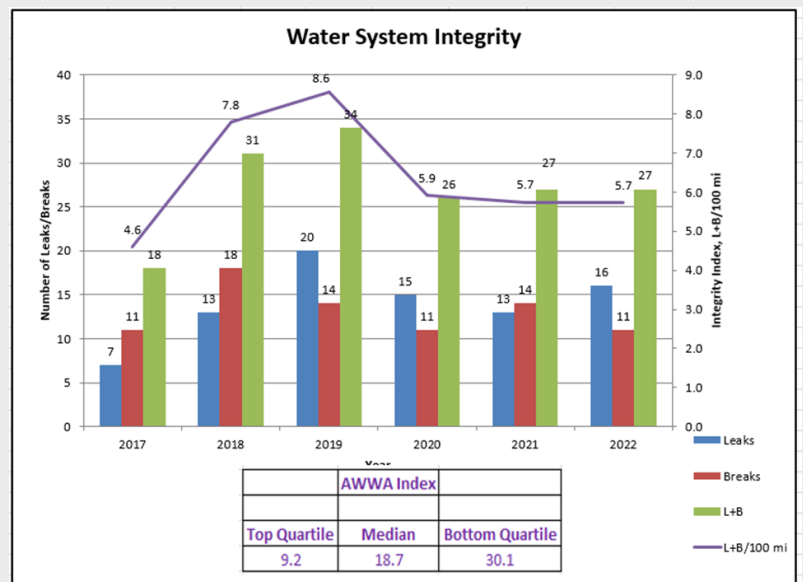
Castle Rock Water remains in the Top Quartile for water system integrity based on the American Water Works Association benchmarking.



August 2022

There were six water system integrity issues in August:

- There was a six-inch-long parallel crack break on a 6" cast iron pipe (CIP) in the Glovers neighborhood. A two-foot repair clamp was used and no residents were affected during the repair, as the main did not need to be throttled down.
- A contractor hit two service lines in the Glover's neighborhood, pulling the curb stop from the saddle on the main. During one contractor's repair, 32 homes were out of water for approximately 20 minutes. During the other repair 11 homeowners had low pressures for less than two hours during the repair.
- The Distribution Team repaired a 1-inch-wide corrosion hole on 8" ductile iron pipe. Because it was next to the service tap, the saddle had to be removed, affecting the service lines for two homes. The water to 32 homes had reduced pressure for six hours and the two home's service lines were affected and out of water for one hour during the repair.
- The On-Call team completed a golf ball sized corrosion hole repair on 8-inch ductile iron pipe in the Meadows. The main was throttled down approximately four hours during the repair.
- A curb stop was also replaced in the Canyons neighborhood. This curb stop was under warranty, but had been installed incorrectly; the contractor had not followed Castle Rock Water's Standards and Specifications.



Operations & Maintenance

In the field



The Stormwater team renovated an outfall in the Founders area, which had filled with willows and sediment. The channel was regraded and rock laid at the outfall to assist with stormwater flows.



The Stormwater team assisted with a fuel spill at the Outlet Mall, when a truck's fuel tank encountered a decorative boulder. Drying materials were applied to help to stop the spread of diesel. Fuel did not enter the stormdrain system and only a small amount may have entered through the sewer manhole. Plum Creek Water Reclamation Authority was notified of the possible fuel contamination.



Various Town distribution line air vents were updated and expertly installed by the Distribution team.



Extremely heavy afternoon rain caused stormwater systems to become overwhelmed. This resulted in several areas of significant flooding, with debris washing onto roads, creating traffic hazards. The Field Services Team assisted in relieving the flooding and in cleanup efforts. Infiltration and inflow from the heavy rain also caused multiple high level alarms at sanitary sewer lift stations, which the team also addressed.

