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

Tabletop Exercise of the CR Water Emergency Response Plan

In October 2018, the America's Water Infrastructure Act of 2018 (AWIA) was signed into law. Among many other things associated with AWIA, public water systems were obliged to meet specific requirements including an assessment of risk and resilience, and the completion of an emergency response plan (ERP). Additionally, AWIA required that these two documents be completed, and certified in writing with the Environmental Protection Agency (EPA) according to a defined schedule. With the help of an outside consultant, Castle Rock Water updated and certified its ERP by June 2021, according to the requirements of AWIA.

Castle Rock Water has committed to communicating the contents of its emergency plans to employees by way of training and drill exercises. A tabletop drill of the Castle Rock Water ERP was accomplished in January 2023, and this was the first ever exercise of the ERP.

What is a tabletop drill and what is the goal?

In short, a tabletop exercise is a meeting designed to discuss a simulated emergency situation. Participants discuss the actions that should be taken in a particular emergency and is intended to result in continued improvement of the ERP.

Who participated?

The exercise was facilitated by a drinking water training specialist from the Colorado Department of Public Health and Environment (CDPHE), and participants included all supervisory level staff from the Operations Treatment and Field Services groups, the operations manager, and EHS program manager.

What were the scenarios?

The exercise began with a summary and review of emergency management best practices, and a look at lessons learned from cyber-attacks, and boil water order incidents that have occurred at other Colorado water systems. There was also a brief overview of the CR Water ERP which included a quick review of our critical mission and emergency related organizational structure.

There were three emergency scenarios that were discussed including a winter storm, an urban fire, and flooding. Each scenario had varying durations from between four days to three weeks, and included realistic and compounding issues. For example, the storm scenario included, not just devastating local snowfall, but also the associated transportation issues, both highway

and rail which introduced a potential threat to the delivery of necessary treatment chemicals.

What was the outcome of the exercise?

Staff members who participated in the exercise were generally and specifically involved in the generation of the Risk & Resilience and ERP documents according to AWIA. As such, the ERP appeared to be in a condition that, not only met the requirements of the law, but was adequate as a guide for major water emergencies. This was a stated goal for the exercise. The participants, however, were also made aware of the importance to develop relationships with local "partners," and partners include the Local Emergency Planning Committee (LEPC), the CDPHE Water Quality Division, neighboring utilities, critical customers, and others.

What does the future hold?

No one can tell when or if a catastrophic emergency will occur that will compromise the ability of Castle Rock Water to deliver safe water to its customers. The key is to do what is necessary to prepare for such an event. As mentioned, Castle Rock Water is committed to communicate the contents of its emergency plans to staff members. As such, we will continue to update, refine, and exercise our emergency plans. Training will continue at various levels, including general awareness trainings as well as targeted scenario tabletop exercises, such as this one.

Multi-State Salinity Conference

Castle Rock Water attended the Multi-State Salinity Conference in Las Vegas, NV, February 22-24, 2023. The conference was an opportunity for water providers from all over the western United States to meet and collaborate on advancements in technologies for desalination and reuse, salinity control strategies, water/energy efficiencies and related public policies that will assist communities in meeting their water needs.

Castle Rock Water had the honor of presenting information on the success of our Indirect Potable Reuse (IPR) system and program, the steps that Castle Rock has taken to assist the State of Colorado in creating regulations for Direct Potable Reuse Water (DPR), and the steps that Castle Rock Water is taking to prepare to potentially be one of the first to implement DPR in the next five years. The difference between IPR and DPR is that there is an environmental buffer (creek, river, stream, reservoir, lake, etc.) between the effluent from the water reclamation facility and the intake to the water purification facility in IPR while this environmental buffer is not present for DPR.

Castle Rock Water discussed the challenges with reuse related to the use of salt in the winter for snow and ice on roads. This salt runs off with the melting snow and ice into our creeks which impacts our water supplies. There are also challenges with customer water softener systems and how they add salt to the reuse supply. Castle Rock Water is working on options to handle this salt in the future and minimize its impacts on our reusable water supplies.

This includes significant testing of our water supplies for salt concentrations in various locations and during various weather events. Then this testing is used for modeling the salt occurrences in reuse supplies now and going forward. This will allow Castle Rock Water to develop system improvements to keep salt levels below the levels where the salt becomes aesthetically displeasing to customers.

Additionally, Castle Rock Water participated in the water taste test challenge at the conference and in a landslide placed 1st. This award can be directly related to the first class work that staff here at Castle Rock Water are doing! It is great to be part of and represent this organization where the vision is to be a national leader among water utilities focused on customer satisfaction and delivering outstanding quality and value.

Good job!

New Hire!

Austin Hawksworth
Distribution Operator 1

Dylan Thompson
Distribution Operator II

Lena Rodriguez
Office Assistant II

Promoted!

Kristen Reeves
SCADA Instrument Technician II

Certified!

Joey Woolfolk
Colorado Certified Distribution I

Water Star Award

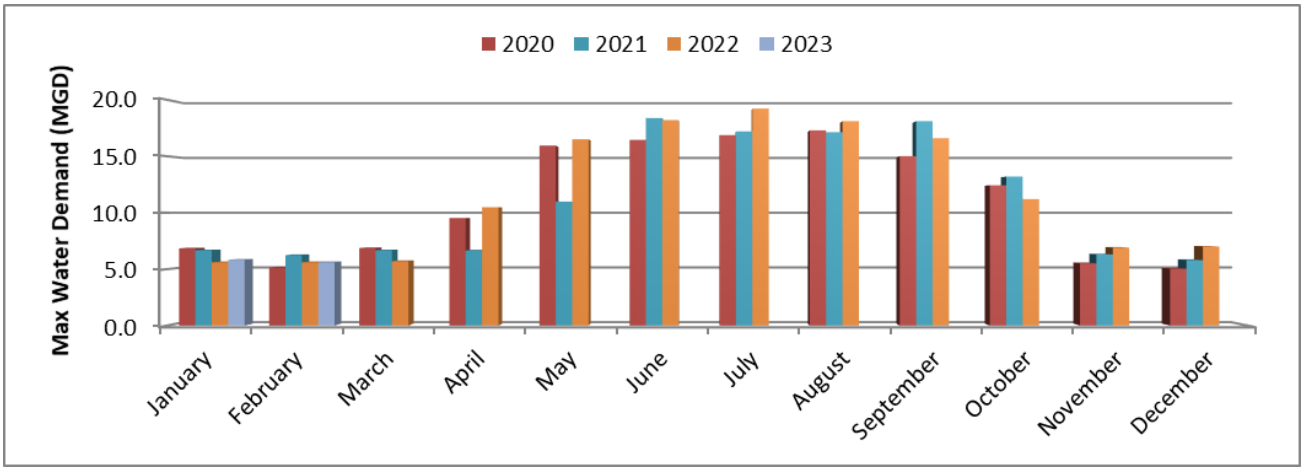
The Water Star Award recognizes a coworker within Castle Rock Water for doing an excellent job in fulfilling the Department's Vision and Mission.

Erin Sweeney, Cross Connection Control Tech was chosen as the Water Star this month. Debbie felt Erin ALWAYS provides exceptional internal and external customer service; ALWAYS is adaptable and open to change; ALWAYS is accountable and ALWAYS is committed to integrity, honesty and conducts herself with the highest standard of professionalism. "Simply put, she exemplified the Town's values and deserves the recognition of the Water Star Award!"

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.



Max Daily Demand:

- 5.6 million gallons/day (MGD)
- 5-year average: 5.6 MGD
- Equivalent to the 5-year average

Water Demand Total:

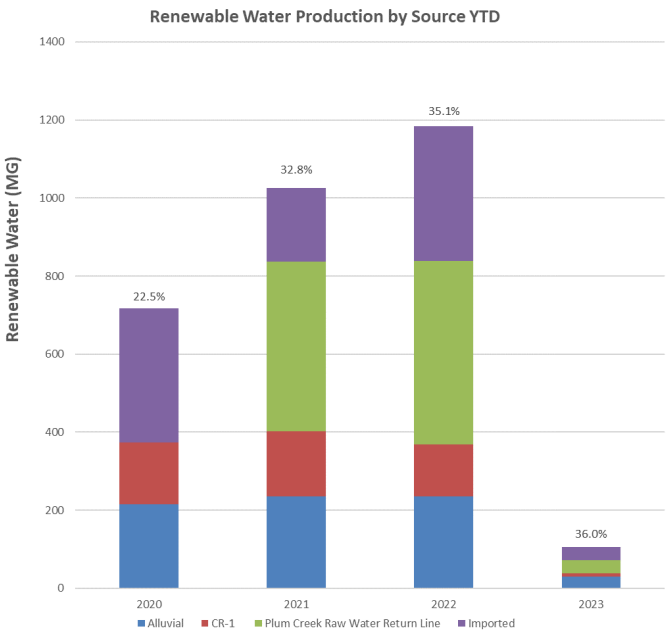
- The water demand total for February was 141.1 million gallons (MG) [433.0 acre-feet (AF)]
- 8% lower from the January 2023 total of 153.3 MG
- 0.3% Increase from the previous year's February 2022 demand of 140.7 MG.

Renewable supplies

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

In total, renewable supplies accounted for 23.9% of the total water supply for the month (33.4 MG of 139.8 MG) and 36% of the annual water supply (105.7 MG of 294 MG).

- The CR-1 diversion produced an average of 0.0 MGD
  CR-1 offline due to PCWPF maintenance and elevated total dissolved solids (TDS) concentrations in East Plum Creek source water.
- The PC diversion produced an average of 0.91 MGD
- The 14 alluvial wells produced an average of 0.33 MGD
- Average imported water for the month was 0.28MGD
- The renewable water production average was 1.19 MGD
- The renewable water total production was 33.4 MG (102.5 AF)



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

Water Resources

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. This number changes every month.

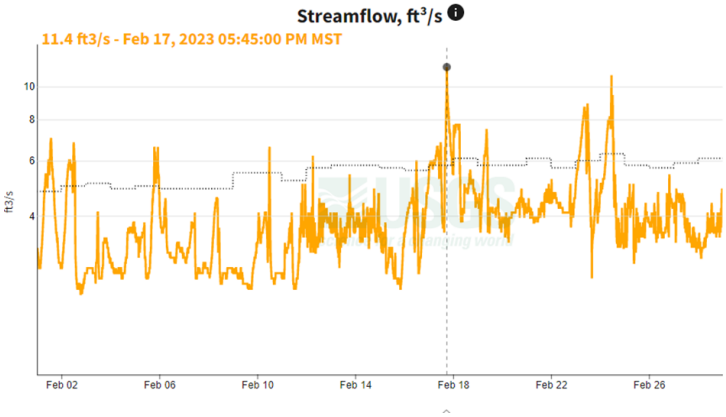
- For January and February, the total available supply was 860.66 AF
- The Town used 199.6 AF or 23.2%

Storage

Current reservoir storage

- Chatfield Reservoir: 726.73 AF of 2,000 AF
- Rueter-Hess Reservoir: Approx. 100 AF of 8,000 AF
- Castle Rock Reservoir No. 1 (CRR1): 160.35 AF of 240 AF

Local Plum Creek supplies

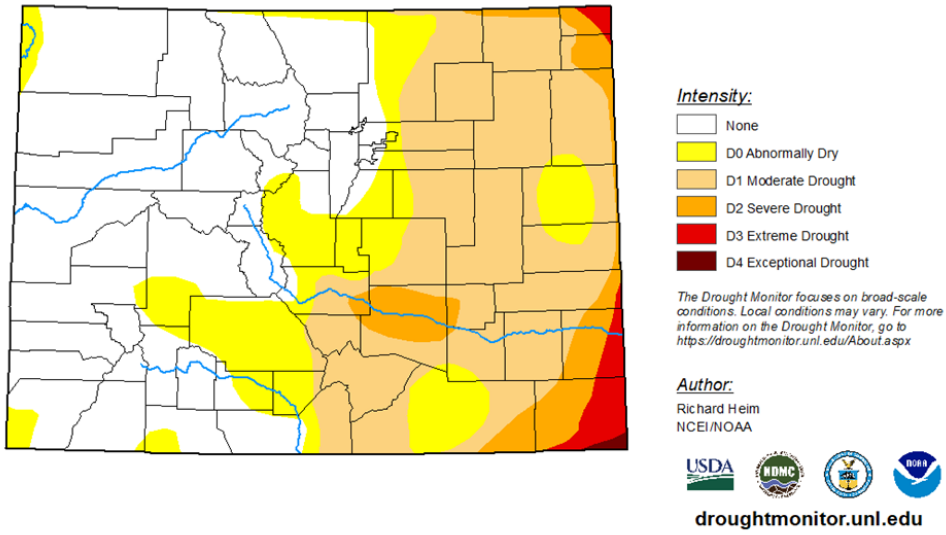


The hydrograph shows the estimated flows in the East Plum Creek basin.

- Flows ranged from 2.1 to 11.4 cubic feet per second (cfs)
- The monthly average streamflow was 3.8 cfs
- For the monthly streamflow, the 3 year average for 2020-2022 is 4.01 cfs.
- The 22-year median is 6.4 cfs

Drought

According to the most recent U.S. Drought Monitor maintained by the United States Department of Agriculture (USDA), Douglas County is experiencing **no conditions to Abnormally Dry (D0) conditions.**

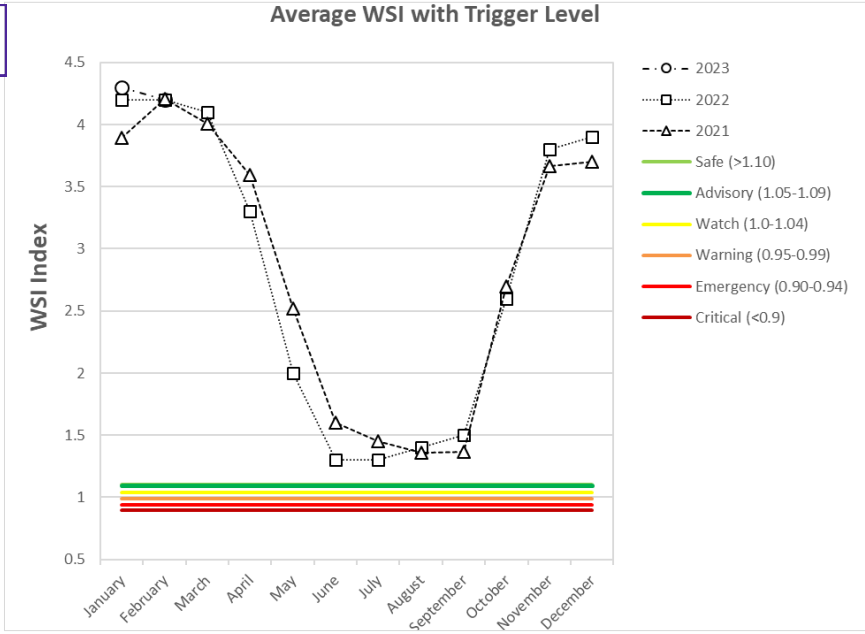


Water Resources

Water supply index

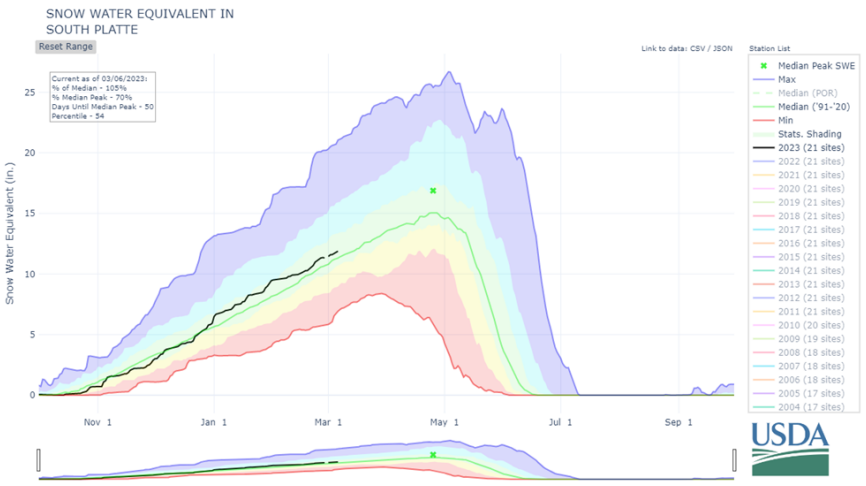
The Town of Castle Rock's Drought Management Plan uses a Water Supply Index (WSI) for the Town that accounts for local conditions relative to the Town's capability to address our water resources and daily water demands. Anything below a 1.1 will trigger a drought stage relative to its severity.

- The average WSI for February was 4.2



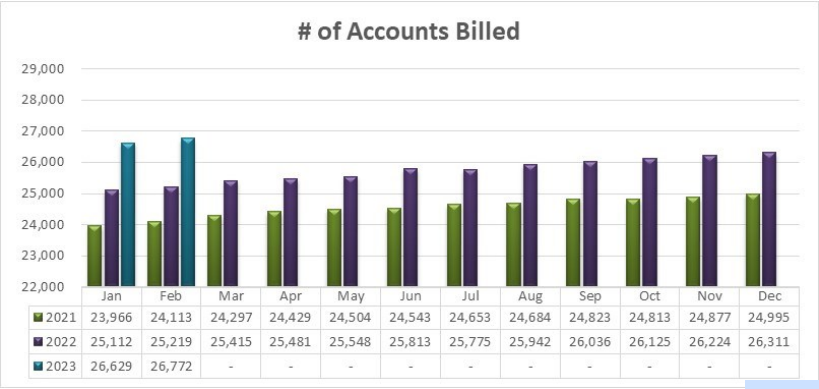
South Platte River Basin Snow Pack

- Year-to-date precipitation at 97% of average
- Snow Water Equivalent (SWE) at 105% of average



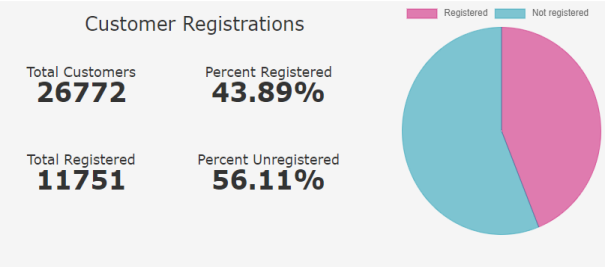
Business Solutions

Customer Service & Billing



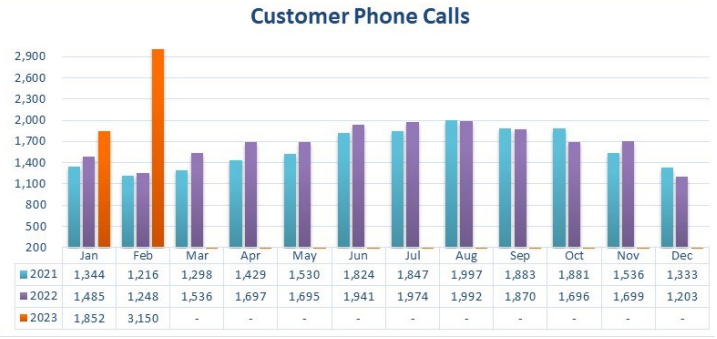
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	23,966	24,113	24,297	24,429	24,504	24,543	24,653	24,684	24,823	24,813	24,877	24,995
2022	25,112	25,219	25,415	25,481	25,548	25,813	25,775	25,942	26,036	26,125	26,224	26,311
2023	26,629	26,772	-	-	-	-	-	-	-	-	-	-

To match statistics before the conversion, another 25% of customers are expected to sign up for an online account.

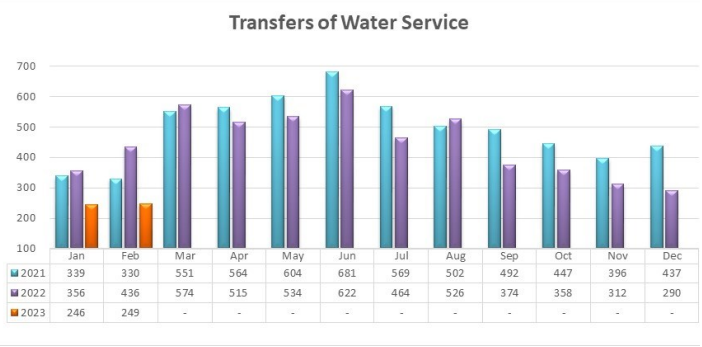


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	175	167	205	190	203	225	214	123	58	154	147	98
2022	91	124	175	123	259	184	171	196	165	169	137	110
2023	111	148	-	-	-	-	-	-	-	-	-	-

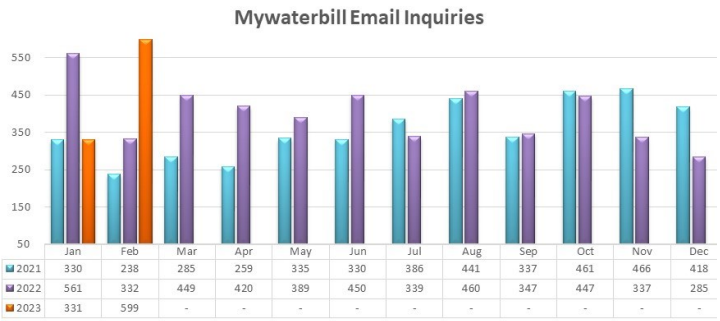
The astounding volume of calls and email inquiries reflect the assistance provided to customers to enroll in the new online system launched Jan. 16.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	1,344	1,216	1,298	1,429	1,530	1,824	1,847	1,997	1,883	1,881	1,536	1,333
2022	1,485	1,248	1,536	1,697	1,695	1,941	1,974	1,992	1,870	1,696	1,699	1,203
2023	1,852	3,150	-	-	-	-	-	-	-	-	-	-



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	339	330	551	564	604	681	569	502	492	447	396	437
2022	356	436	574	515	534	622	464	526	374	358	312	290
2023	246	249	-	-	-	-	-	-	-	-	-	-



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	330	238	285	259	335	330	386	441	337	461	466	418
2022	561	332	449	420	389	450	339	460	347	447	337	285
2023	331	599	-	-	-	-	-	-	-	-	-	-

Customer Outreach

Water Outreach Social Media Stats	REACH
Shoveling snow—Feb. 1	1,284 people
New billing system launched—Feb. 1 NR	695 people
Stormwater and snow—Feb. 8	6,437 people
Billing update—Feb. 13	1,850 people
Workshops—Feb. 15	2,942 people
Too much pressure—Feb. 22	280,494 people (see pg. 10)
Billing system video—Feb. 23	1,114 people
Email: Register for a workshop	10,850 opened (61% open rate)
HOA Email: Water wiser seminar	92 opened (49% open rate)

Outreach was focused on the new billing system and multiple emails were sent to targeted audiences to encourage re-registering for the online account system. These emails had a good response rate at about 75%.

Meters

Meters Read

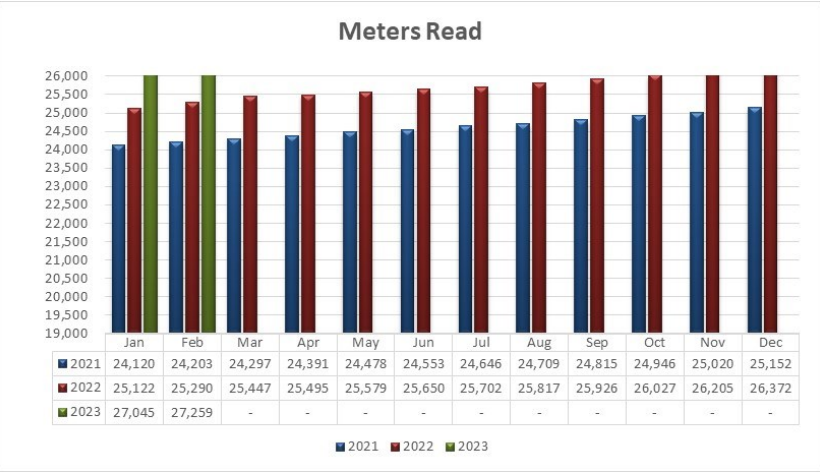
Meters are read the first two days of every month. The number of meters read continues to increase month to month and is a significant increase over last year.

Skipped Reads

Feb. 23: 0.88%

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.

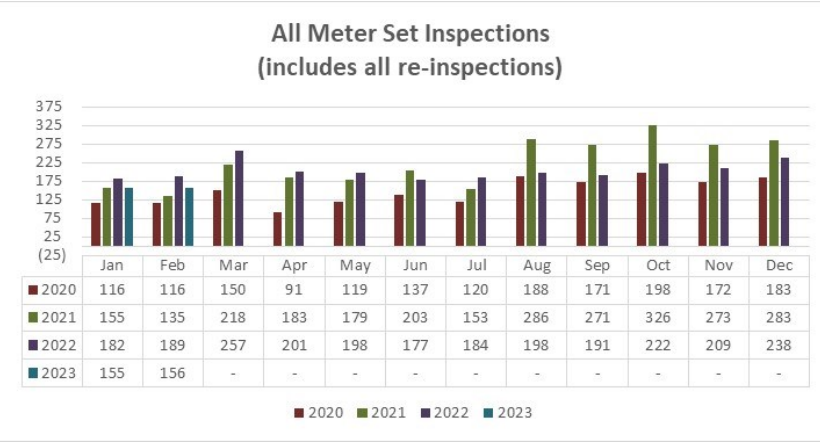
The AWWA standard is 2%, so we still continue to stay well below the industry average.



Meter Set Inspections

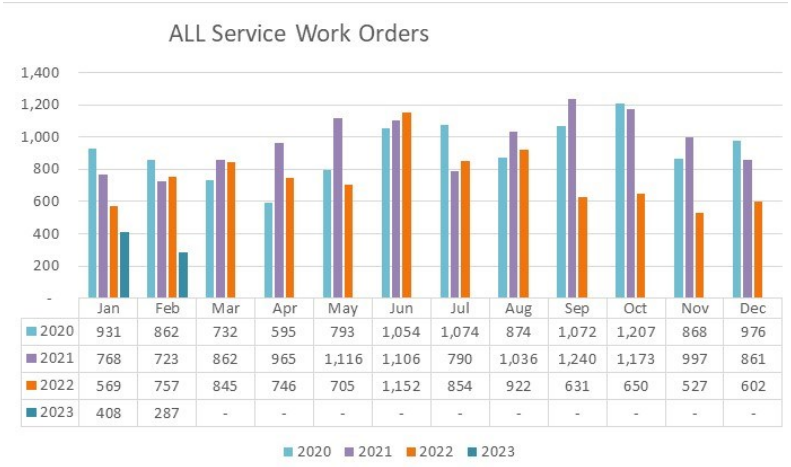
Re-inspections: 32%

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.

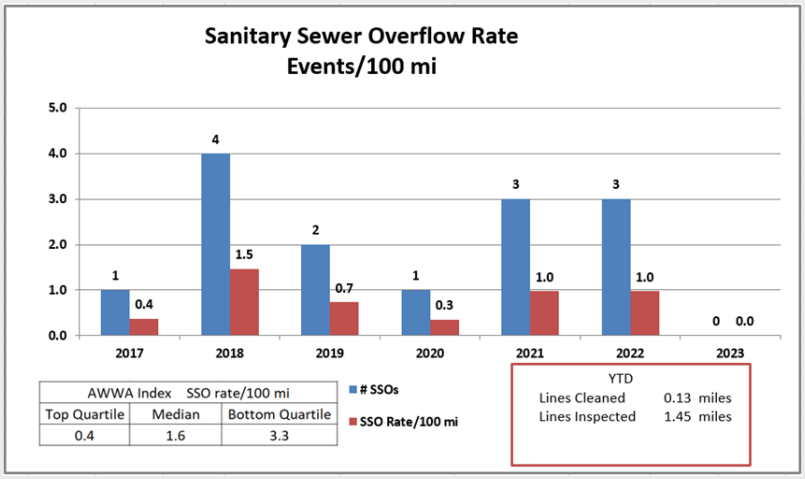


Work Orders

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		February 2023
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 February.***
Sewer System Effectiveness	<1% of our customers will experience a sewer backup caused by the utility's sewer system per year.	***There were no sanitary sewer issues in February.*** 
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 for February.*** ***We conducted 3 educational visits.***

Utility locates

811 Know what's below. Call before you dig.

Water locates conducted

- February tickets: 1,418

Locating public water, wastewater and stormwater lines

Operations & Maintenance

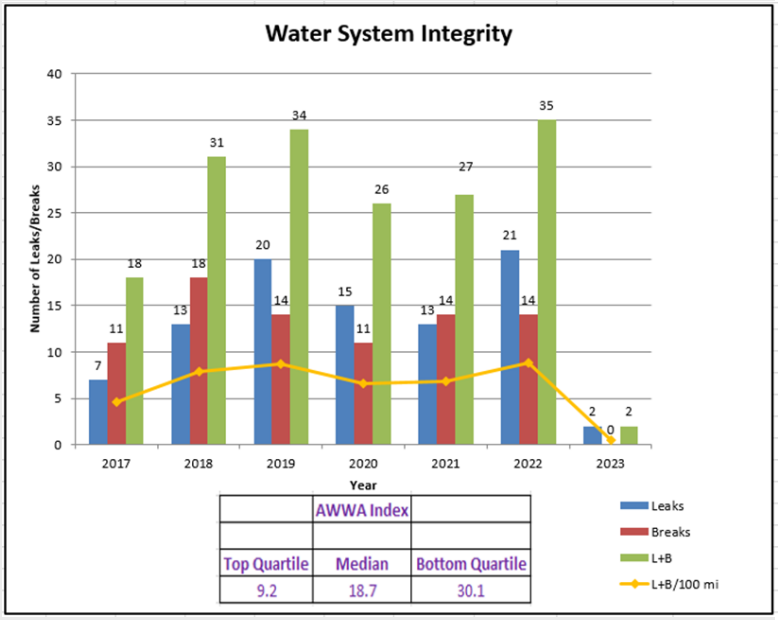
LEVELS OF SERVICE

February 2023

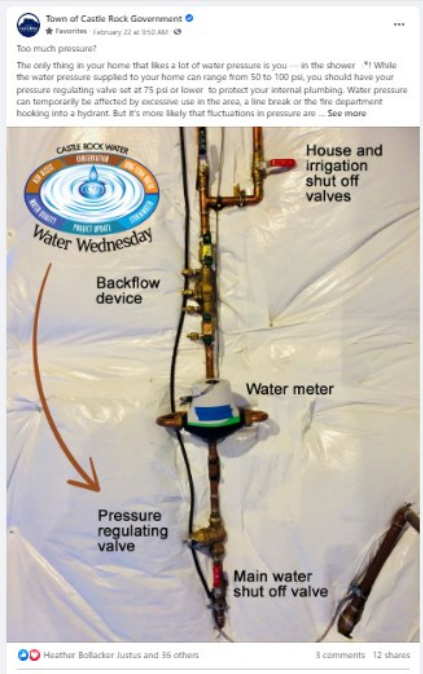
Drinking Water Supply Outages	<5% of our customers will experience water outages for one or more events totaling more than 30 hours/year. Castle Rock Water remains in the Top Quartile for water system integrity based on the American Water Works Association benchmarking.

There was one water system integrity issue in February.

- *There was a service line leak in the Meadows neighborhood. During the service line repair and curb stop box replacement 23 homes were out of water for less than one hour.*



A leaking hydrant was replaced on October Place by the Distribution Team.



Helping to alleviate calls about pressure, a social media post explaining the PRV was sent out. It was shared by a local real estate company and a magazine. The post reached an astounding 280,000 people. Water posts generally only get 2,000-6,000 hits.