

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

Castle Rock Water recognized for outstanding performance

Supplying high-quality drinking water is Castle Rock Water's top priority. Now, the department is being recognized for those efforts. Castle Rock Water was recently awarded **Outstanding Water Treatment Plant** by the Rocky Mountain Section of the American Water Works Association.

The recognition, in the large category (serving more than 50,000 people), was for excellent operation of the **Plum Creek Water Purification** Facility throughout 2020 and the newly added advanced treatment

processes to accommodate purified reuse water.

These advanced treatment processes make the water treatment plant one of the most advanced treatment facilities in the State, and provide a multi-barrier approach to surface water and purified reuse water treatment.

"This AWWA award for our flagship plant, in addition to receiving the Commitment Award from the Colorado Department of Public Health and

Environment in 2020, shows how our work at Castle Rock Water is effectively leading the industry," said Castle Rock Water Assistant Director Tim Friday.

The association also presented Castle Rock Water plant mechanic Casey Devol with the Water **Treatment Maintenance Award**



performance, dedication and teamwork. Devol was also recognized for his contribution to the Water to Wire efficiency study to reduce energy usage and pumping costs.

The Rocky Mountain Section is the regional division of the American Water Works Association, the

> principal association for scientific and educational opportunities dedicated to managing and treating water. The Rocky Mountain Section represents water industry organizations in Colorado, New Mexico and Wyoming.



The engineering industry publication, Engineering News-Record also took notice of the Advanced Treatment Project which won the ENR Mountain States' Best Projects (Water/Environment category). This competition spanned a seven-state region, with 108 total entries which were reviewed by a panel of 10 industry-related judges.

On another front, Castle Rock Water received recognition for its efforts in environmental stewardship. This is the third consecutive year the water provider has received a Gold Level in the Environmental Leadership Program by the Colorado Department of Public Health and Environment. Reducing energy consumption, increasing water conservation efforts and instituting purified reuse water were among the primary considerations for the award.





Conservation

Conservation is Inspecting for best practices

A primary doctrine for the Conservation division is the Landscape and Irrigation Performance Standards and Criteria Manual. These criteria provide the framework for a water-efficient landscape with irrigation design and installation. The Town requires non-residential properties (including new residential development) to submit a landscape and irrigation design for review and then an inspector ensures proper installation.

The inspectors look at design and installation to ensure it promotes water conservation and utilizes appropriate



materials. For instance, there is a prescribed plant list of low-water plants that do well in Castle Rock's semiarid environment. Most specifically, Kentucky Bluegrass is no longer allowed on any new or remodeled development, including new residential lots. Overhead sprinklers are not allowed on areas less than 10 feet wide, like medians, as this could easily create water waste with overspray. All landscaped areas require a minimum addition of organic compost for soil amendment. Smart controllers and rain sensors are required for irrigation efficiency.

Professional landscapers working on non-residential properties must be registered with Town and take training which outlines these water efficient guidelines. However, recently an increasing number of properties have been failing their inspection. Castle Rock Water typically performs the inspection as a part of the building permit, but is now instituting re-inspection fees at a proportionately higher rate for failed inspections. The intent for this fee is for these professional landscapers to understand the importance conservation and water efficiency play in the Town's plans. With 50% of the annual water consumption used on landscape, ensuring best practices is a major component in water conservation.

Good Job!

NEW CERTIFICATIONS

The water, wastewater and stormwater utility business is highly technical and regulated. As such, Castle Rock Water has to maintain an extensive staff of professionally licensed individuals. Most of these licenses require specialized education and the passing of state testing, as well as proof of continuing education.



Courtney Stoddard Water Treatment D Operator Certification



David Brewster Collections I Operator Certification



Matt Arpaio Water Treatment C and Distribution 2 Certification



....and promoted to Water Plant Operator II



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 **Ken Ritchie,** Sr. Distribution Operator, was presented the Water Star award by Tim Friday in recognition of his consistent

hard work. Ken exemplifies the mission and vision of Castle Rock Water and provides the quality and value of service, we as an organization, strive for. Tim appreciates Ken's can-do attitude. Whether running the backhoe or digging in the trench, no job is beneath him. He is an exemplary mentor to his co-workers and a team player. Tim says that when you look in the dictionary, there is a picture of Ken under Senior Water Distribution Operator.



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.

August 2021 August 5 yr. avg. **17.1 million gallons/day** 15.5 million gallons/day

10% 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.

August 2021 August 2020 **450.1 million gallons** 476.4 million gallons

476.4 minon gain

5.5% decrease from last year

Water demand total for 2020 3,251.7 MG



Renewable water supply

- The CR-1 diversion produced an average of 0.53 MGD for the month of August.
- The Town's thirteen alluvial wells, CR-1, and the Plum Creek Raw Water Return Line (PCRWRL) produced a total of 119.19 MG of renewable water (and an average of 1.28 MGD).
- In total, renewable supplies accounted for 33.5% of the total water supply for the month and 32.3% of the annual water supply (2,142 MG or 6,575 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 August is 44.4%.

Alluvial supply

August 2021 production: 20.7 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 August was 20.7 MG
- We had three alluvial well rehabilitations completed this year.



East Plum Creek Flows Average August streamflow: 2.83cfs

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 0.8 and 200 cubic feet per second (cfs) during the month of August, with



an average streamflow of 2.83 cfs. This month's average streamflow of 2.83 cfs is below the 20-year median of 5 cfs.

There were active calls on the South Platte River in August. Most 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-ofpriority, 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 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 August, we have approximately 1,640 AF of water stored in Chatfield.

Water Demand

Drought Monitor

The average WSI for August 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 50.6% of Colorado is experiencing Moderate Drought (D1) to Exceptional Drought (D4) conditions, with no drought 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** August 31, 2021

South Platte River Basin:

- YTD precipitation is at 96% of average
- YTD snowpack is completely melted for the season

U.S. Drought Monitor Colorado

August 31, 2021
(Released Thursday, Sep. 2, 2021)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	49.43	50.57	36.47	24.44	15.05	3.91
Last Week 08-24-2021	49.27	50.73	36.61	24.44	15.05	3.91
3 Month s Ago 06-01-2021	51.10	48.90	43.36	35.53	29.15	16.39
Start of Calendar Year 12-29-2020	0.00	100.00	100.00	93.73	76.17	27.60
Start of Water Year 09-29-2020	0.00	100.00	99.29	89.35	52.88	2.64
One Year Ago	0.00	100.00	98.80	91.55	36.85	0.38

Intensity:



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:

David Simeral Western Regional Climate Center



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.

Reviews

160 Development Services PROJECT plan reviews 188 Building PERMIT reviews for 59 separate projects

Total Distinct	2020:	2021:	Decreased
Projects	65	59	10%
Total Dev Review	2020:	2021:	Increased
project reviews	147	160	8%
Total Bldg permit	2020:	2021:	increased
reviews	159	188	17%

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.



CRWater Plan Review DS projects reviews + BLDG permit reviews



Monthly Development Project Applications Reviewed



August 2021 total reviews: 348

Service levels

The average number of days assigned to review: 12.5 days The average days to complete assigned reviews: 10.7 days

Plan Review: 95% 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 H20access 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/Q2 statistics

16,323 or 66% of our total customers have enrolled in an online account

Customer Phone Calls

10,350or 63% of the customers with an online account have chosen to go to paperless billing



Mywaterbill Email Inquiries Aug



1,423

1.254



Customer Outreach

Keeping customers informed about the value of water.

Castle Rock Water is updating the Water Resources Strategic Master Plan and having input from customers is critical to its creation and acceptance. Education was provided through email, bill messaging, and webpages, along with a survey to solicit responses. The ColoradoScape contest was in full force attracting entries for a free front-yard water-wise makeover.

Water Outreach Social Media Stats	REACH
Rebates — Aug. 4	3,975 people
ColoradoScape Contest reminder—Aug 6	1,514 people
Stormwater project — Aug. 11	2,237 people

HOA/Overwatering reporting—Aug. 18	6,359 people
Reuse Water video #3 rerelease—Aug. 25	1,946 people 591 views
National Dog Day/Poop Fairy—Aug. 26	3,299 people
Admin building closure—Aug. 31	3,178 people
ColoradoScape Contest voting—Aug. 31	6,324 people
EMAIL: It's your water; we'd like your input	7,684 opened (37% open rate)
EMAIL: One more week to get in your ColoradoScape entry!	7,043 opened (34% open rate)

Walk-In Customers

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

August 2021: 0.26%

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: 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.

Work Orders

August 2021: 1,001

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.





ALL Service Work Orders





Operations & Maintenance

LEVELS OF SERVICE

August 2021

Drinking Water Compliance	Castle Rock Water will deliver water that meets or surpasses the requirements of both Primary Drinking Water Regulations and Secondary Maximum Contaminant Levels 100% of the time.	<i>Ninety routine samples were completed.</i> 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 no water system integrity issues in August.
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 August

Operations & Maintenance

Locate Report



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

4			0/				•••				_0	
	<u>2010</u>	<u>2011</u>	<u>2012</u>	2013	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	2020	<u>2021</u>
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	969	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	
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	18,240

ANNULAL LITH ITVI OCATES

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 Lines Inspected SSO Rate

65.15 miles 25.52 miles 0.0 SSO/100 mi

August: No sanitary sewer issues.

While conducting manhole inspections on Wilcox Street, the Collections Team found five manholes that were backed up. After the lines were vacuumed, a broken clay pipe likely caused by area construction, was found to be blocking the sewer main.

The team will TV the line, to identify the location of the damaged main, and schedule repairs.







Operations & Maintenance

Stormwater Maintenance



OOPS!

Once again, the Stormwater Team has saved the day by retrieving a resident's cell phone from the storm drain. They have saved many types of prized possessions, including: Keys, garage door openers, tools, Xboxes, tools, scooter and other toys!

Distribution



The Distribution Team assisted the Meter's division by renovating a dual meter pit in the Woodlands.

The team replaced the entire coil pit and installed copper lines inside the pit.



The Distribution Team assisted with AL-8 Ice Pigging Project, by installing a new blow off valve and spool piece next to the well head, enabling efficient well cleaning operations.

Facility Maintenance



An old valve was repurposed to bring more beauty to the O&M Building landscape while providing a safe space for some water-wise perennials.