

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

## Water Wiser Online

By: Sandi Aguilar

The Water Wiser course promotes irrigation efficiency so there is less water wasted in the yard while still maintaining a healthy landscape. In 2018. Castle Rock Water required homeowners to renew their Water Wiser designation to keep them apprised of new technology, techniques and Town regulations. Water Wiser participants have the benefit of watering outside of the every-thirdday water schedule and are eligible for rebates. There are potentially 300-600 renewals each year.

As this renewal is simply an update, a shorter course was created with the convenience of being taken online. The Water Wiser Renewal Online course is currently in the testing phase, but should be launched in late February. The course is a series of engaging videos along with short quizzes and a final test. Participants must get 80 percent of the answers correct to pass, but there is no limit as to how many times the final can be taken. There is a cache of questions which are shuffled for subsequent testing. The



Completed. Let's continue. •

course is approximately 40-60 minutes long and, for the students' convenience, it can be stopped and saved at any time. Residents with expiring designations will be sent a registration email. Registration will be required for proper tracking and to minimize sharing. There are two, in-person renewal workshops still being offered for those that prefer this style of learning.

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The traditional Water Wiser courses are open for registration and can be found at CRconserve.com.

## Council open houses offer chance to talk to customers

By: Sandi Aguilar



Keeping our residents informed about water projects, road construction and development activity is important for the Town and especially for our Council members. Councilmembers George Teal and Kevin Bracken each held an open house in January to meet with and listen to their constituents. Town staff from each department was on hand to answer questions.

Castle Rock Water provided information on water conservation measures, long-term water resource plans, and the specific projects in the districts.

Under construction in District 3, are two rehabilitated deep groundwater wells, the Plum Creek raw water

return pipeline and the well tie-in for the golf course reuse line. A new project scheduled for late 2020 is East Plum Creek stream stabilization. In District 6, the new Lantern's wells are almost complete and some rehab work on Prestwick Way is scheduled for this summer.



Water Fund Projects Corrosion Control Study Heckendorf Raw Waterline Highway 85 Transmission Main Project Lanterns 1 Well Facility and Raw Waterline Meter Replacement Project, 2019 Pressure Reducing Valve (PRV) Improvements

### Water Resources Fund Projects

Plum Creek Diversion Pump Station Plum Creek Diversion Walkway Plum Creek Raw Water Return Pipeline Plum Creek Water Purification Facility Expansion/ Advanced Treatment

### Wastewater Fund Projects

Plum Creek Water Reclamation Authority Wastewater Plant Expansion Red Hawk Reuse Pump Station

#### **Stormwater Fund Projects**

Meadows Filing 16 Subsurface Edge Drain Minor Drainageway Improvements



**2019 Capital Improvement Projects** 



Rates and fees pay for water infrastructure ensuring consistent, highquality water is delivered to our customers 24/7.

### **Operations and Maintenance Projects**

Bell Mountain Well Updates Brushcat for Stormwater Maintenance Castle Oaks Lift Station Pump Rehabilitation Castle Rock Reservoir Gate Valves Miller Water Treatment Plant Rehabilitation Plum Creek Diversion SCADA Controls Conversion SCADA Master Plan Well 7 Rehabilitation Woodlands Valve Replacement Project

### **Special Projects**

Gordon Drive Improvements Project Pavement Improvements at Castle Rock Water

Enployee Recognition water and stormwater utility business is ind regulated. As such, Castle Rock Water has ensive staff of professionally licensed requires specialized education, state testing,

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 which requires specialized education, state testing, and continuing education.



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John Chrestensen Water Treatment B Certification



Collections Operator I Certification



Lanre Ajayi Water Treatment A Certification, which is the State's top certification for a Water Treatment Operator!



Henry Mahaffey Distribution 1 Operator Certification



CONGRATULATION

#### **Rob Daniels**

Rob was promoted to Stormwater Conveyance System Supervisor from Operator 1. Rob has been with the Town for 5 years, having worked for both Public Works and Castle Rock Water.



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



### Denise Lannan, Cross-Connection Technician, received the Water Star Award from Jonathon Cornwell.

"I gave the Rock Star Award to Denise because of all she does for Field Services daily and myself in my current position. She has been a constant support system and encourager for me. Denise is always willing to help us with insurance, 401K, benefits, payroll, and HR info. She comes to work every day with a positive attitude and a is a go getter which I truly admire. She's also been with the town 24 years which is admirable and shows her dedication to the Town Of Castle Rock. She brings a lot of knowledge to the Field Services Team. She has be friended me since day one and has always treated me kindly. I enjoy working with her and I am grateful to call her my friend."

# Water Demand

■ 2016 ■ 2017 ■ 2018 ■ 2019 ■ 2020



## 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.

Jan. 2020 Jan. 5 yr. avg Difference **6.8 million gallons/day** 5.1 million gallons/day 35% higher

Max daily water demand in 2019 15.8 MGD in August

### **Renewable water supply**

- The CR-1 diversion produced an average of 0.29 MGD for the month of January.
- The Town's thirteen alluvial wells and CR-1 produced a total of 25.42 MG of renewable water (and an average of 0.82 MGD).
- WISE water supplied an additional 10.7 MG of renewable water.
- In total, renewable supplies accounted for 25.4% of the total water supply for the month and 25.4% of the annual water supply (142.1 MG or 436 acre-feet) to date.

## Water demand total

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

Jan. 2020 Jan. 2019 Difference **146.6 million gallons** 137.1 million gallons 6.9% decrease

Water demand total for 2019 2,838.5 MG



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

# Water Demand

Renewable supplies are those water sources that are replenished by precipitation (think of our alluvial wells, CR-1, and WISE), whereas reusable supplies are those waters that are either from the Denver Basin (deep wells) or imported supplies (such as WISE and RHR) that can be used over and over, to extinction. The average reusable supplies used by Castle Rock for 2020 through January is 9.7% with 9.7% of available reusable supplies used in the month of January.

# Alluvial supply

### Jan. 2020 production: 16.4 MG



The monthly production of the Town's alluvial well system helps to supply PCWPF.

The production from the alluvial wells in January was 16.4 MG. We completed four well rehabilitation projects this past fall/winter and four more are scheduled for this winter/spring.

## **East Plum Creek Flows**

Jan. 2020 avg flow:

3.3 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 0.67 and 12.7 cubic feet per second (cfs) during the month of January, with an average streamflow of 3.3 cfs. This month's average streamflow of 3.3 cfs is below the 19 year median of 5.5 cfs.

There were active calls on the South Platte River in January. 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 covered 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.

# Water Demand

## **Drought Monitor**

The average WSI for January was 3.8, 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 78% of Colorado is experiencing Abnormally Dry (D0) to Severe Drought (D2) conditions. 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 SNOTEL Report Jan. 4, 2020

- YTD precipitation for the South Platte River Basin is at 99% of average
- The snow water equivalent is at 110% of median

### U.S. Drought Monitor Colorado

January 28, 2020 (Released Thursday, Jan. 30, 2020) Valid 7 a.m. EST





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: Richard Heim



# 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.

363 development services PROJECT plan reviews 124 building PERMIT reviews for 97 separate projects

- Total number of distinct projects under review in January 2020 increased by 37% from January 2019
- Plan Review Team reviewed 76 single family home permits
- All Master Plan permits/projects had to be updated to the 2018 Building Code. CRWater provided 131 reviews for 65 Master Plans in January.

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.





## **Service levels**

The average number of days assigned to review: 13.4 days The average days to complete assigned reviews: 11.1 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.* 



# Stormwater

#### Updated quarterly Quarterly Report: 2019 Q4

### **Stormwater Inspections**

The inspection team regulates permitted residential and commercial properties.

In 2019, there was an overall 25% increase in inspections over 2018. However, this past July, new inspection frequencies were implemented due to State permit requirements causing a **46%** increase (1460 additional inspections) over the last half of the year compared to the same period in 2018.





### **Customer Service Requests**

The Stormwater Division receives various customer concerns (CSRs) from excessive water to dust to maintenance of infrastructure. Complaints often rise and fall with weather patterns.

2019 ended with a downward trend as irrigation was shut off and rain turned to snow and caused fewer issues. We will see what January 2020 brings since we saw a **600%** increase in January 2019 due to ice complaints from a long freeze/ thaw pattern.



The Stormwater Division saw a sharp 33% rise in customer service requests (61 additional requests) this past year.

Inspections have increased 75% (3451 additional inspections) over the past 4 years. This is likely due to Castle Rock being one of the fastest growing cities in America.

The Stormwater Division is anticipating that overall inspections will decrease in 2020 due to the phasing out of the DESC program which required each house to be inspected under a



separate permit. The new TESC program requires only one permit per builder in a neighborhood. This will eliminate hundreds of inspections annually and increase efficiency for the inspection team.

# **Business Solutions**

## **Customer Service**

The Business Solutions Team tracks a host of statistics and data as we evaluate our levels of service and look for efficient ways to improve on these levels. *Levels are consistently rising due to the growing number of accounts.* 

Accounts billed						
Jan. 2020	22,971					
Jan. 2019	21,976					













- Paperless customers: 61% for the quarter.
- Paperless billing provides significant cost savings.
- Online enrollment is encouraged so customers have access to their account 24/7.

# 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**

Jan.	2020:	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**

Jan. 2020	116
YTD	116
Re-inspections	42%

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

Jan. 2020

815

Meter services performs a variety of service orders every month beyond meter reading. These include curb stop maintenance, meter replacement and repair, final reads for transfer of service, disconnection and reconnections, meter set inspections, just to name a few.









# **Operations & Maintenance**

#### LEVELS OF SERVICE **JAN. 2020** Castle Rock Water will deliver water **Ninety routine samples were completed. Drinking Water** All samples were within the parameters set forth by the that meets or exceeds the Compliance Safe Drinking Water Act and Colorado Drinking Water requirements of both Primary Standards. **Drinking Water Regulations and** Secondary Maximum Contaminant Levels 100% of the time. < 1% of our customers will There were no water pressure issues this Pressure month. experience less than 43 pounds Adequacy per square inch (psi) of pressure at the meter during normal operations. There were no sewer system issues this Sewer System <1% of our customers will month. experience a sewer backup Effectiveness 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 4 water system integrity issue in **Drinking Water** <5% of our customers will experience water outages for one January. **Supply Outages** There were two service line repairs in The Meadows, or more events totaling more than one repair on Bearlily put seven homes were out of 30 hours/year. water for less than 10 minutes. The other, on Coachhouse Loop, put 20 homes out of water for less Castle Rock Water remains in the than four hours. There was a main break on Park St., Top Quartile for water system on a 6" ductile iron pipe (DIP), with two businesses out integrity based on the American of water for less than 12 hours during the repair. A 6" Water Works Association DIP main break in Plum Creek was isolated and will be repaired in early February. The golf course restroom benchmarking. near the site, will be temporarily out of service during this time. Staff has communicated with Plum Creek Golf Course regarding the upcoming repair. There were no water quality issues this month. Castle Rock Water remains in the Water Quality There was one water quality customer education visit. Top Quartile for water quality **Complaints** complaints based on the American Water Works Association benchmarking.

# **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 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 incidence of damage to lines, as a result of incorrect locate marks.

	2010	2011	2012	<u>2013</u>	2014	2015	2016	2017	2018	<u>2019</u>	2020	2021
January	577	475	617	1,190	1,289	1,162	1,199	1,334	1,442	1,472	1,612	
February	521	485	538	1,094	1,093	1,383	1,334	1,378	1,293	1,404		
March	660	552	818	1,437	1,349	1,906	1,625	1,851	1,514	1,560		
April	838	681	1,025	1,482	1,552	1,784	1,631	1,760	1,856	1,984		
May	853	863	985	1,541	1,531	1,609	1,809	2,002	1,801	2,122		
June	969	844	982	1,314	1,399	1,654	2,075	1,872	1,854	1,716		
July	680	582	859	1,350	1,392	1,477	1,675	1,582	1,556	1,937		
August	901	723	1,123	1,476	1,468	1,494	1,651	2,001	1,986	1,603		
September	880	723	1,029	1,240	1,373	1,343	1,701	2,102	1,747	1,979		
October	715	688	1,155	1,501	1,376	1,314	1,579	1,792	2,064	1,839		
November	536	518	1,041	1,072	866	1,134	1,131	1,460	1,469	1,649		
December	415	405	925	1,005	1,043	1,063	1,059	1,277	1,293	1,175		
Totals	8,545	7,539	11,097	15,702	15,731	17,323	18,469	20,411	19,875	20,440	1,612	

ANNUAL UTILITY LOCATES

## 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.

### Jan. 2020

Lines cleaned: 4.3 miles Lines inspected: 2.3 miles



## **Plant Maintenance**

The floor refinishing project at the Founders and Meadows Water Treatment Plant was completed. The waterproof epoxy coating will allow for ease of maintenance and it looks great too!

