



BrightonSM

COLORADO

2020 Drinking Water Quality Report
For Calendar Year 2019



Public Water System ID: CO0101025

Esta es información importante. Si no la pueden leer,
necesitan que alguien se la traduzca.

We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water. Please contact MICHAEL WOODRUFF at 303-655-2241 with any questions or for public participation opportunities that may affect water quality.

Please see the water quality data from our wholesale system(s) (either attached or included in this report) for additional information about your drinking water.

Source Water Assessment and Protection (SWAP)

Potential contamination sources can change over time, so the Source Water Assessment is periodically updated. The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply. For general information or to obtain a copy of the report please visit wqcdcompliance.com/ccr. Search the table using 101025, BRIGHTON CITY OF, or by contacting MICHAEL WOODRUFF at 303-655-2241. The Source Water Assessment Report provides a screening-level evaluation of potential contamination that *could* occur. It *does not* mean that the contamination *has or will* occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan. Potential sources of contamination in our source water area are listed on the next page. Please contact us to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Quality Report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you may wish to have your water tested. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at epa.gov/safewater/lead.

Detected Contaminants

BRIGHTON CITY OF routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table(s) show all detections found in the period of January 1 to December 31, 2019 unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one year old. Violations and Formal Enforcement Actions, if any, are reported in the next section of this report.

Note: Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section then no contaminants were detected in the last round of monitoring.

Terms and Abbreviations Used in the Preceding Tables

Maximum Contaminant Level (MCL) – The highest level of a contaminant allowed in drinking water.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Health-Based – A violation of either a MCL or TT.

Groundwater Under Direct Influence (GUDI) – Filtration is required only when source quality cannot meet certain conditions.

Non-Health-Based – A violation that is not an established MCL or TT.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements.

Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Contaminant Level Goal (MCLG) – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant, below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Violation (No Abbreviation) – Failure to meet a Colorado Primary Drinking Water Regulation.

Formal Enforcement Action (No Abbreviation) – Escalated action taken by the State (due to the risk to public health, or number or severity of violations) to bring a non-compliant water system back into compliance.

Variance and Exemptions (V/E) – Department permission not to meet a MCL or treatment technique under certain conditions.

Gross Alpha (No Abbreviation) – Gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222, and uranium.

Picocuries per liter (pCi/L) – Measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) – Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical person.

Compliance Value (No Abbreviation) – Single or calculated value used to determine if regulatory contaminant level (e.g. MCL) is met. Examples of calculated values are the 90th Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).

Average – Typical value.

Range (R) – Lowest value to the highest value.

Sample Size (n) – Number or count of values (i.e. number of water samples collected).

Parts per million = Milligrams per liter (ppm = mg/L) – One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion = Micrograms per liter (ppb = ug/L) – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Not Applicable (N/A) – Does not apply or not available.

Level 1 Assessment – A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment – A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

General Information About Drinking Water

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791) or by visiting epa.gov/ground-water-and-drinking-water.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and microbiological contaminants call the EPA Safe Drinking Water Hotline at (1-800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

Microbial contaminants: viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants: salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides: may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.

Radioactive contaminants: can be naturally occurring or be the result of oil and gas production and mining activities.

Organic chemical contaminants: including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.

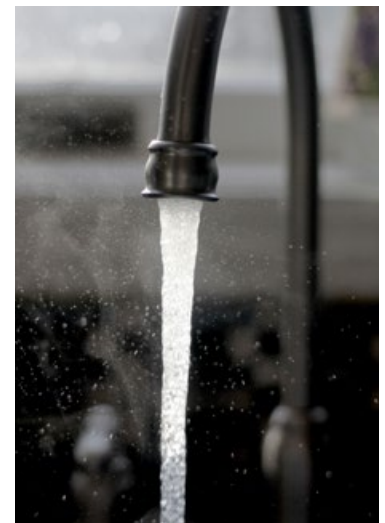
In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Our Water Sources

Brighton's drinking water comes from alluvial wells in the South Platte River Basin and the Beebe Draw Alluvium just below Barr Lake with a mix of up to 2.2 million gallons per day delivered through the city of Thornton. Groundwater is generally, very clean and pure, and lacks many of the contaminants that can be found in surface water, as soils can act as a natural filter. You can help protect our water supplies by limiting the use of pesticides, fertilizers and outdoor chemicals. Remember, anything that is poured onto the ground or in the streets has the potential for reaching the alluvium.

Source	Source Type	Water Type	Potential Source(s) of Contamination
PURCHASED WATER FROM THORNTON	Consecutive Connection	Surface Water	
WELL 7R	Well	Groundwater	
NO 8 WELL	Well	Groundwater	
BEEBE WELL A	Well	Groundwater UDI Surface Water	
BEEBE WELL B	Well	Groundwater UDI Surface Water	
BEEBE WELL C	Well	Groundwater UDI Surface Water	
WELL 11	Well	Groundwater	
WELL 12	Well	Groundwater	
WELL 13	Well	Groundwater	
WELL 17	Well	Groundwater	
WELL 18	Well	Groundwater	

As a consecutive system to Thornton, the sampling results included in this CCR inherently include data from the water purchased from Thornton. To view a copy of the CCR specifically for the City of Thornton, visit: www.cityofthornton.net/government/infrastructure/water/



Lead and Copper Sampled in the Distribution System

Contaminant Name	Time Period	90 th Percentile	Sample Size	Unit of Measure	90 th Percentile AL	Sample Sites Above AL	90 th Percentile AL Exceedance	Typical Sources
Copper	06/11/2019 to 09/09/2019	0.97	48	ppm	1.3	4	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	06/11/2019 to 09/09/2019	4	48	ppb	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Disinfectants Sampled in the Distribution System TT Requirement

At least 95% of samples per period (month or quarter) must be at least 0.2 ppm **OR** if sample size is less than 40 no more than 1 sample is below 0.2 ppm.
Typical Sources: Water additive used to control microbes

Disinfectant Name	Time Period	Results	Number of Samples Below Level	Sample Size	TT Violation	MRDL
Chlorine	December, 2019	<u>Lowest period</u> percentage of samples meeting TT requirement: 100%	0	40	No	4.0 ppm

Disinfection Byproducts Sampled in the Distribution System

Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Total Haloacetic Acids (HAA5)	2019	16.8	6.5 to 34.7	16	ppb	60	N/A	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2019	47.14	22.6 to 79.8	16	ppb	80	N/A	No	Byproduct of drinking water disinfection

Summary of Turbidity Sampled at the Entry Point to the Distribution System

Contaminant Name	Sample Date	Level Found	TT Requirement	TT Violation	Typical Sources
Turbidity	July 2019	<u>Highest single</u> measurement: 0.266 NTU	Maximum 1 NTU for any single measurement	No	Soil Runoff
Turbidity	Dec. 2019	<u>Lowest monthly</u> percentage of samples meeting TT requirement for our technology: 100%	In any month, at least 95% of samples must be less than 0.3 NTU	No	Soil Runoff

Radionuclides Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Combined Uranium	2016	2.75	2.6 to 2.9	2	ppb	30	0	No	Erosion of natural deposits

Inorganic Contaminants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Arsenic	2019	1	1 to 1	2	ppb	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2019	0.03	0.03 to 0.03	2	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	2019	2	2 to 2	2	ppb	100	100	No	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	2019	0.66	0.61 to 0.7	2	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2019	4.1	4.1 to 4.1	2	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2019	2	2 to 2	2	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

Volatile Organic Contaminants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Ethylbenzene	2019	0.43	0 to 0.9	4	ppb	700	700	No	Discharge from petroleum refineries
Xylenes	2019	3.38	1 to 5.2	4	ppb	10,000	10,000	No	Discharge from petroleum factories; discharge from chemical factories

Secondary Contaminants**

**Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin, or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.

Contaminant Name	Year	Average	Range Low-High	Sample Size	Unit of Measure	Secondary Standard
Sodium	2019	65	63.5 to 66.5	2	ppm	N/A

Unregulated Contaminants***

EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Unregulated Contaminant Monitoring Rule (UCMR). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (epa.gov/dwucmr/national-contaminant-occurrence-database-ncod). Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR sampling and the corresponding analytical results are provided below.

Contaminant Name	Year	Average	Range: Low – High	Sample Size	Unit of Measure
None	N/A	N/A	N/A	N/A	N/A

***More information about the contaminants that were included in UCMR3 monitoring can be found at: drinkingwater.org/Water-Info/Whats-in-My-Water/Unregulated-Contaminant-Monitoring-Rule-UCMR. Learn more about the EPA UCMR at: epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule or contact the Safe Drinking Water Hotline at (800) 426-4791 or epa.gov/ground-water-and-drinking-water.

Violations, Significant Deficiencies, and Formal Enforcement Actions

Health-Based Violations

Maximum contaminant level (MCL) violations: Test results for this contaminant show that the level was too high for the time period shown. Please read the information shown below about potential health effects for vulnerable populations. This is likely the same violation that we told you about in a past notice. We are evaluating, or we already completed an evaluation, to find the best way to reduce or remove the contaminant. If the solution will take an extended period of time, we will keep you updated with quarterly notices.

Treatment technique (TT) violations: We failed to complete an action that could affect water quality. Please read the information shown below about potential health effects for vulnerable populations. This is likely the same violation that we told you about in a past notice. We were required to meet a minimum operation/treatment standard, we were required to make upgrades to our system, or we were required to evaluate our system for potential sanitary defects, and we failed to do so in the time period shown below. If the solution will take an extended period of time, we will keep you updated with quarterly notices.

Name	Category	Time Period	Health Effects	Compliance Value	TT Level or MCL
CROSS CONNECTION RULE	FAILURE TO MEET CROSS CONNECTION CONTROL AND/OR BACKFLOW PREVENTION REQUIREMENTS - M614	07/24/2019 - 10/09/2019	We have an inadequate backflow prevention and cross-connection control program. Uncontrolled cross connections can lead to inadvertent contamination of the drinking water. This is due to one or more of the following: We have permitted an uncontrolled cross connection, AND/OR we have installed or permitted an uncontrolled cross connection, AND/OR we failed to comply with the requirements for surveying our system for cross connections, AND/OR we failed to complete the testing requirements for backflow prevention devices or methods, AND/OR we failed to notify the State Health Dept of a backflow contamination event. Corrective action was taken and the issue is no longer a concern.	N/A	N/A

Additional Violation Information

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Describe the steps taken to resolve the violation(s), and the anticipated resolution date: The steps taken to resolve the issue were drastic changes in the code enforcement areas of cross-connection. Testing enforcement and notification were modified to follow the new enforcement flowchart. The Survey data issues were then identified and rectified.

Backflow and Cross-Connection

We have an inadequate backflow prevention and cross-connection control program. Uncontrolled cross connections can lead to inadvertent contamination of the drinking water. **Corrective action was taken and the issue is no longer a concern.**

WATER CONSERVATION

The City of Brighton is promoting our water conservation programs to assist residents with water efficiency. The City has also updated rebates for 2020 by including a more efficient toilet and better irrigation controllers. Brighton will have public gatherings in our city buildings covering a variety of topics such as irrigation efficiency, xeriscape design, how to fix a leaking toilet, and water conservation FAQs. Brighton residents now have an opportunity to receive consultations on their home water use to improve their water efficiency. Upon request, a city employee will review water use analytics and data to provide information about a home's water use. We may also provide in-person assistance by reviewing the irrigation system to find the best irrigation controller settings.

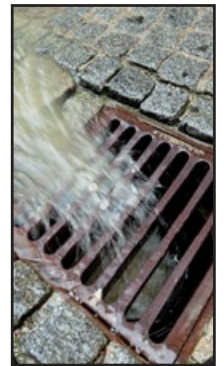
If you would like more information on a consultation* or have questions about your water use please contact waterconservation@brightonco.gov.

* Due to the current state of the Coronavirus pandemic the consultation and public gatherings may not be provided in person and will be provided virtually. The City will continue to monitor the situation to provide safety to our residents and city employees.



STORMWATER PROGRAM

Did you know that the City of Brighton has a Stormwater Program? The primary goal of the City of Brighton Stormwater Program is to reduce the amount of pollutants entering our local streams, lakes and rivers. Pollutants, such as fertilizers, pesticides, sediment, trash and spilled chemicals may be transported by stormwater runoff from residential, commercial and industrial areas into the storm sewer system discharging directly into our local waterways, causing water pollution. Unlike the wastewater in our sewer system, stormwater is not treated before entering our streams, rivers, and lakes.



So how does this pollution from stormwater runoff occur? Nutrient loading, when excessive amounts of nutrients (mainly Nitrogen and Phosphorus) enter our waterways, is the biggest culprit for pollution. Nitrogen and Phosphorus naturally exist in our environment, but also tend to excessively end up in our stream, rivers and lakes. This type of pollution can cause problems for wildlife, algae blooms, water quality, and flooding during storms. The most common sources of this type of pollution in our community are leaf litter (plant leaf debris), fertilizer (lawn and garden), and pet waste.

What can I do to help prevent nutrient loading in Brighton? Easy, mindful behavioral practices can go a long way to reducing the pollution that reaches our waterways. Check out the handy pollution prevention chart below:

STORMWATER POLLUTION PREVENTION DO'S & DON'TS		
WHAT IS THE POLLUTION SOURCE?	DON'T	DO
Fertilizer: Improper application of fertilizer leads to runoff into storm drainage system.	<ul style="list-style-type: none"> Apply fertilizer to your lawn when grass is not actively growing, or when ground is frozen. Apply fertilizer to paved surfaces. 	<ul style="list-style-type: none"> Read the fertilizer bag labels and apply according to label directions. Sweep up any excess or spilled fertilizer and dispose of properly.
Pet Waste: During rain events, pet waste washes off into storm drainage system, ending up in local waterways.	<ul style="list-style-type: none"> Let your pet poop or pee in or near waterways. Dispose of pet waste in the storm drain or the street. 	<ul style="list-style-type: none"> Always pick up after your pet, even in your yard. Spread the word, help your neighbor! Carry extra bags to share on your walks or request/create pet waste bag holders in your local parks.
Leaf Litter: Gathering of leaves, grass clippings, and other yard debris in roadways.	<ul style="list-style-type: none"> Blow, rake, or sweep yard debris into the roadways. 	<ul style="list-style-type: none"> Bag your yard debris and dispose of properly. Compost your yard waste for gardens and flower beds.



WaterSmart transforms utility consumption data into an effective water-use efficiency and customer engagement program.

The City of Brighton is proud to partner with WaterSmart Software to provide customers with an innovative engagement portal and tailored home water reports to learn more about their household water usage and ways to save water and money. This program also improves the city's understanding of water use by our residents.

Residents and business owners receive six Home Water Reports annually, which present resident-specific water use data, customized water saving recommendations, and events and updates for the city. The Home Water Reports are not a bill, and are based on your water usage from monthly meter readings. This program is intended to be informational, providing water saving suggestions and additional information that can be easily implemented. An online Customer Portal is also available as a resource to Brighton residents to track their usage, offer personalized recommendations for the most effective ways to save water, and provide information about the City's water conservation programming.

Log on to:

www.brightonco.gov/waterSMART

Enter your account number and zip code to get your full list of recommended actions, and see:

- Where you're using the most
- Your progress over time
- Efficient products for purchase

SUGGESTED WATERING SCHEDULE BY SPRINKLER TYPE

THESE NUMBERS REPRESENT NUMBER OF MINUTES PER ZONE, PER DAY.

The City of Brighton has created a suggested irrigation schedule for residents to encourage efficient irrigation practices and reduce water waste. This schedule is for the Kentucky bluegrass lawns that we typically see along the Front Range in Colorado. These watering times are based on seasonal averages that promote healthy grass lawns, but can vary based on local weather and site conditions.



Based on a three day per week irrigation schedule**

	FIXED SPRAY	ROTOR	ROTARY	MANUAL
MAY	13	25	30	19
JUNE	18	35	42	27
JULY	19	37	45	26
AUG.	15	26	35	20
SEPT.	10	24	27	15

** To enhance the efficiency of your irrigation schedule, consider programming your controller to a cycle/soak setting. The cycle/soak method applies water to your landscape in separate short cycles to allow for the water to soak into your soil, preventing run off. For example, a 13-minute zone run could be set to irrigate for 6 minutes, turn off while another zone irrigates, then turn back on to irrigate for another 7 minutes. This method is especially helpful for soils with heavier clay content, like we see frequently in Colorado.

These times are averages, so be sure to adjust your watering times based on rainfall amounts, grass or plant type, sun exposure, and other site characteristics.



Brighton™

Utilities Customer Service
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