# 2025 Water Quality Report

Covering Data for Calendar Year 2024

THORNTON

# Working Hard to Serve Quality Water

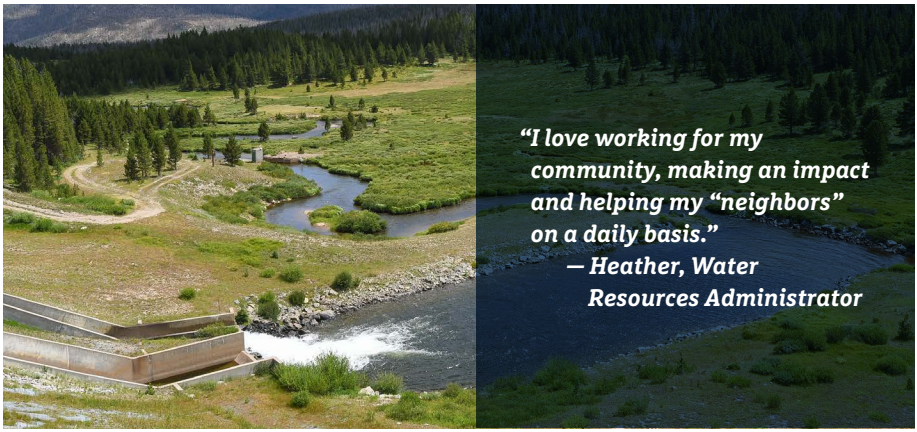
Thornton's drinking water relies on hundreds of dedicated staff to transform it from raw water in the mountains to a clean, refreshing product flowing out of customers' faucets. We have people responsible for moving the water to our treatment plants, protecting and acquiring water rights, running the treatment plants, testing to ensure the safety of the water, helping you conserve water, repairing and installing pipes and pumps to convey the water to your homes and businesses, and all the numerous other staff who work every day to support them. It's a grand, complex, coordinated design, to say the least.

Safe, reliable water is something we can all take for granted. So this year, we would like to step forward and give you the opportunity to become more familiar with some of the many people who work so hard and diligently to make sure we always have clean water to drink. Throughout the rest of this document are some thoughts from our valued staff and customers.

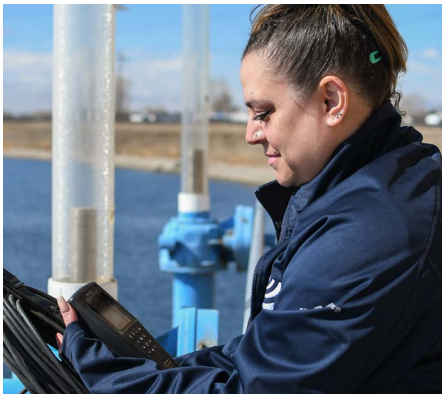
***"I take pride in knowing that my work contributes to providing clean, safe, and reliable water to thousands of residents and businesses. The sense of purpose and the satisfaction of knowing we're making a real difference in people's lives is what makes working for Thornton Water so rewarding."***
***— Kyle, Utilities Operations and Maintenance Superintendent***

This 2025 Annual Water Quality Report provides an overview of the tens of thousands of water quality samples and analyses performed in 2024. Staff members monitor the drinking water from where it starts as snowmelt in the headwaters of the South Platte River basin, throughout the treatment process and distribution system, to where it ends at customers' taps. The city's Water Quality Laboratory analyzes water samples for numerous contaminants to ensure your water is safe to drink. Most importantly, thousands of microbiological tests are performed to detect the presence of dangerous pathogens. This report summarizes the testing for the year and presents other important information. In 2024, all health-based state and federal drinking water standards were met.

In addition, Thornton analyzed many other unregulated contaminants. Thornton continues to be committed to reducing PFAS, which studies indicate are linked to health problems. Please contact Water Quality if you have further questions or want more recent and localized water quality data.

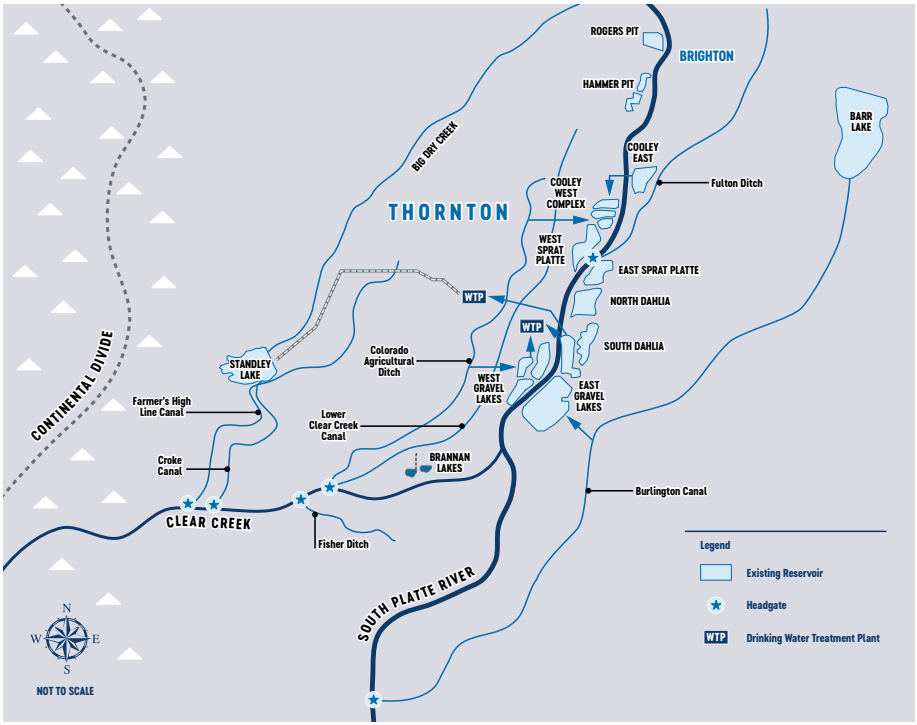


***"I love working for my community, making an impact and helping my "neighbors" on a daily basis."***
***— Heather, Water Resources Administrator***



# Thornton's Water Sources

The city maintains a large and complex portfolio of water rights in the South Platte River, Clear Creek, and Cache la Poudre River. These three watersheds cover a land area of almost 6,000 square miles! Thornton's South Platte water is diverted north of Denver and stored in a network of reservoirs before treatment. Most of Thornton's Clear Creek water is stored in Standley Lake, while a smaller portion is diverted into reservoirs in Thornton. Water from the Cache la Poudre River is diverted by existing irrigation ditches to reservoirs near Ft. Collins. It will then be pumped through a 70-mile pipeline to Thornton's treatment plants. The city plans to have this water available to its customers in 2028.

# SWAP: Source Water Assessment and Protection Report

In 2002, the Colorado Department of Public Health and Environment (CDPHE) conducted a statewide Source Water Assessment for all municipal drinking water providers. The report identified potential sources of contaminants, such as gasoline storage tanks, wastewater plant discharges, mine drainages and others. These sites do not necessarily pose a threat but were identified only as potential sources of contamination. Thornton uses this information to ensure all routine monitoring includes these potential contaminants. ***View the report at ThorntonCO.gov/SWAP.***

# Health Information

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 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).***

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 from infections. These people should seek advice about drinking water from their healthcare providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the ***Safe Drinking Water Hotline (1-800-426-4791).***

To ensure that tap water is safe to drink, CDPHE prescribes regulations that limit the number 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.

The sources of drinking water (both tap water and bottled water) such as rivers, lakes and streams, contain naturally occurring minerals, including radioactive material, that are not completely removed at the water treatment plant and can pose a human health risk if present at a concentration above the safe levels set by the EPA. Contaminants that may be present in source water include:

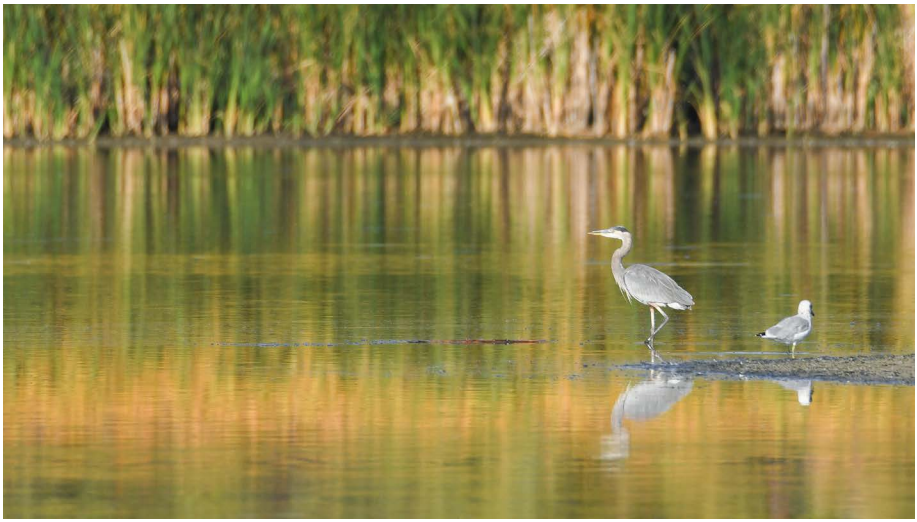
- **Microbial contaminants**, such as viruses and bacteria that may come from sewer treatment plants, septic systems, agricultural livestock operations, and wildlife. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the ***Safe Drinking Water Hotline (1-800-426-4791).***
- **Inorganic contaminants**, such as 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.
- **Lead** can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. We are responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact ***Water Quality at 303-255-7770.*** Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at ***epa.gov/safewater/lead.***

***"I take the most pride in the excellent customer service we provide for our residents. Customers who contact Water Quality will always receive a human response from our group."***

***— Shay, Senior Water Quality Analyst***

- **Pesticides and herbicides** that may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
- **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.
- **Radioactive contaminants**, that can be naturally occurring or be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the ***EPA Safe Drinking Water Hotline (1-800-426-4791).***



## For Water Quality Information

Please share this information with others who drink Thornton water, especially those who may not receive this notice directly, such as people in apartments, nursing homes, schools, and businesses.

***Website — ThorntonCO.gov/waterinfo***

***Email — waterquality@ThorntonCO.gov***

***Phone — 303-255-7770***

# Thornton Water

## There were no health-based state or federal drinking water standards exceeded in 2024.

| Primary Standards | | | | | | |
|---|---|---|---|---|---|---|
| **Contaminant** | **MCL** | **MCLG** | **Range of Results (min-max)** | **Units** | **Typical Sources** | **Violation?** |
| Barium | 2,000 | 2,000 | 43 - 52 | ppb | Discharge of oil drilling wastes and from metal refineries, erosion of natural deposits | No |
| Selenium | 50 | 50 | 0.8 - 1.3 | ppb | Discharge from petroleum, glass and metal refineries, erosion of natural deposits, discharge from mines and chemical manufacturers, runoff from livestock lots (feed additive) | No |
| Fluoride | 4 | 4 | 0.5 - 0.8 | ppm | Erosion of natural deposits; Thornton does not fluoridate | No |
| Nitrate | 10 | 10 | 0.1 - 0.8 | ppm | Fertilizer, septic tanks, sewer plant discharges, naturally occurring deposits | No |
| Nitrite | 1 | 1 | 0 - 0.05 | ppm | Fertilizer, septic tanks, sewer plant discharges, naturally occurring deposits | No |
| Lead | AL > 15<br>90% samples ≤ 15 | 0 | 0 - 45.1<br>90% samples ≤ 1.5<br>One site >15<br>Sample size = 52 | ppb | Household plumbing, battery manufacturing, erosion of natural deposits | No |
| Copper | AL > 1,300<br>90% samples ≤ 1,300 | 1,300 | 40 - 797<br>90% samples ≤ 529<br>No sites >1,300<br>Sample size = 52 | ppb | Household plumbing, wood preservatives, erosion of natural deposits | No |
| **Disinfectants** | | | | | | |
| Chlorine (as Chloramine) | RAA ≤ 4 | 4 | 1.7 - 3.9<br>RAA = 2.9 | ppm | Added in the water treatment process | No |
| **Organic Chemicals** | | | | | | |
| Total Organic Carbon (TOC) | Removal Ratio RAA ≥ 1 | N/A | 0.8 - 2.2<br>RAA = 1.8 | N/A | Naturally occurring in the environment, sewer treatment plant discharges | No |
| Haloacetic Acids | LRAA ≤ 60 | 0 | 4.8 - 12.9<br>LRAA = 6.1 - 9.0 | ppb | Produced as a byproduct of chlorination at the water treatment plant | No |
| Trihalomethanes | LRAA ≤ 80 | 0 | 17.4 - 50.7<br>LRAA = 24.5 - 36.3 | ppb | Produced as a byproduct of chlorination at the water treatment plant | No |
| Bromate | LRAA ≤ 10 | 0 | 0 - 2.3<br>LRAA = 0 | ppb | By-product of drinking water disinfection | No |
| **Micro Organisms** | | | | | | |
| Coliform Bacteria | 95% samples free of coliform bacteria | 0 | 99.9% free of coliform<br>Two positives in 1,746 samples | % | Human and animal waste, stormwater run-off, sewer plant discharges | No |

*"I have been a citizen of Thornton my entire life. My education is in water and I am proud and happy to be involved in sampling our water and I get to see it in all of its stages."*

*— Helene, Laboratory Technician*

| Primary Standards (Continued) | | | | | | |
|---|---|---|---|---|---|---|
| **Contaminant** | **MCL** | **MCLG** | **Range of Results (min-max)** | **Units** | **Typical Sources** | **Violation?** |
| **Turbidity** | | | | | | |
| Turbidity, Thornton Treatment Plant | 95% samples < 0.3<br>No samples > 1.0 | 0 | 100% samples < 0.3<br>No samples > 1.0 | NTU | Particles and sediment present in natural water sources and storm run-off | No |
| Turbidity, Wes Brown Treatment Plant | 95% samples < 0.1<br>No samples > 0.5 | 0 | 100% samples < 0.1<br>No samples > 0.5 | NTU | Particles and sediment present in natural water sources and storm run-off | No |

| PFAS Sampling Results | | | | | |
|---|---|---|---|---|---|
| **Contaminant** | **MCL (effective 2029)** | **MCLG** | **Range of Results (min-max)** | **Units** | **Typical Sources** |
| PFOS | RAA < 4 | 0 | 0 - 2.5 / RAA = 0 - 1.9 | ppt | Consumer products, firefighting foam |
| PFOA | RAA < 4 | 0 | 0 - 3.9 / RAA = 0.4 - 3.0 | ppt | |
| PFBS | Hazard Index < 1.0 (unitless) | | 0.1 - 0.3 | N/A | |
| PFHxS | | | | | |
| PFNA | | | | | |
| GenX | | | | | |

| Secondary Standards (Non-health based) | | | | | |
|---|---|---|---|---|---|
| **Contaminant/Parameter** | **SMCL** | **Range of Results (min-max)** | **Units** | **Typical Sources** | **Violation?** |
| Chloride | 250 | 49 - 150 | ppm | Erosion of natural deposits | N/A |
| Sulfate | 250 | 68 - 157 | ppm | Erosion of natural deposits | N/A |
| Calcium | N/A | 52 - 81 | ppm | Erosion of natural deposits | N/A |
| Potassium | N/A | 4 - 11 | ppm | Erosion of natural deposits | N/A |
| Magnesium | N/A | 11 - 21 | ppm | Erosion of natural deposits | N/A |
| Sodium | N/A | 56 - 115 | ppm | Erosion of natural deposits | N/A |
| pH | 6.5 - 8.5 | 7.7 - 9.0<br>Average = 8.3 | N/A | Corrosion control | N/A |
| Iron | 300 | 0 - 30 | ppb | Erosion of natural deposits, industrial wastes, used in water treatment | N/A |
| Manganese | 50 | 0 - 35 | ppb | Erosion of natural deposits | N/A |
| Total Dissolved Solids (TDS) | 500 | 174 - 608 | ppm | Runoff/Erosion of natural deposits | N/A |

# Definitions

**Primary Standards:** EPA has established National Primary Drinking Water Regulations (NPDWRs.) Legally enforceable standards that apply to public water systems. These standards protect drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and which are known or anticipated to occur in public water supplies.

**Secondary Standards:** EPA has established National Secondary Drinking Water Regulations (NSDWRs) that set non-mandatory water quality standards for 15 contaminants. EPA does not enforce these "secondary maximum contaminant levels" (SMCLs). They are established as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. These contaminants are not considered a risk to human health at the SMCL.

**MCL:** Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available water treatment technology.

**MCLG:** Maximum Contaminant Level Goal. 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.

**SMCL:** Secondary Maximum Contaminant Level. These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

**Removal Ratio:** A value greater than or equal to one indicates that the required amount of TOC is being removed.

**AL:** Action Level. The concentration of a contaminant, which if exceeded, triggers treatment or other requirements a water system must follow.


***"Thornton Water's taste and appearance is great and communication on watering during warmer months is good as well."***
***— Thornton Water Customer***

**N/A:** Not Applicable

**NTU:** Nephelometric Turbidity Units, used in the measurement of clarity.

**pCi/L:** Picocuries per Liter, used to measure radioactivity. A picocurie is one ten-thousandth the energy emitted from one gram of radium.

**ppm:** Parts per Million (also known as mg/L). A unit used to express the concentration of an element or compound in a liquid. One part per million is equivalent to one teaspoon of salt in 2,000 gallons of water.

**ppb:** Parts per Billion. A unit used to express the concentration of an element or compound in a liquid. One part per billion is equivalent to one teaspoon of salt in 2,000,000 gallons of water (more than three Olympic-sized swimming pools).

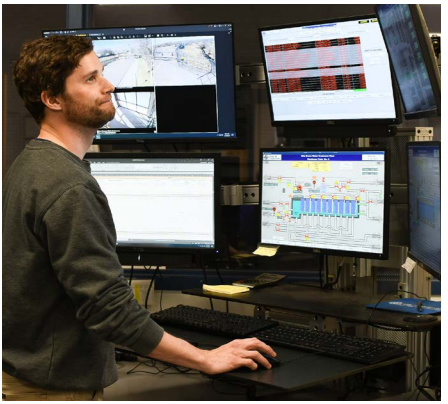
**ppt:** Parts per Trillion. A unit used to express the concentration of an element or compound in a liquid. One part per trillion is equivalent to one drop in over 10 million gallons of water.

**RAA:** Running Annual Average. The average value over the last 12 months.

**LRAA:** Locational Running Annual Average. The average value over the last 12 months taken at one specific site.

**PFAS:** Per- and Polyfluoroalkyl Substances. A group of synthetic compounds used in many consumer goods and manufacturing processes. They can accumulate in the environment and human body due to their extreme resistance to natural degradation.

**Health Index:** EPA tool to understand the health risk from chemical mixtures.



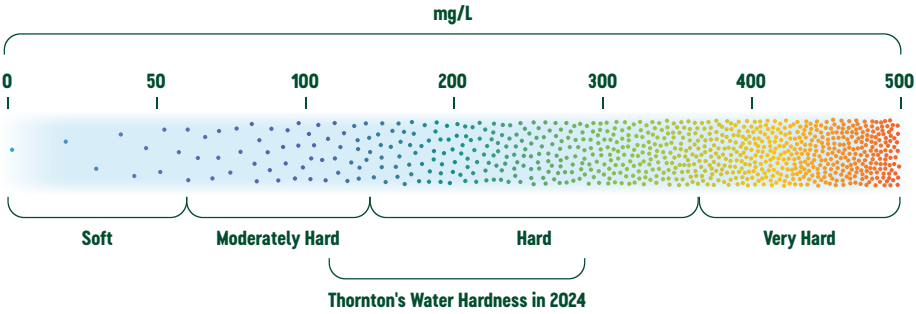
***"I feel Thornton Water does well by providing a good quality service and works to secure water sources."***

***— Thornton Water Customer***

# Hardness of Thornton Water

Hardness is a measure of calcium and magnesium minerals in the water. Water naturally dissolves minerals as it comes into contact with rocks and soil. While not harmful to health, hard water can cause aesthetic problems like mineral build-up on dishes, fixtures, and in pipes. Thornton's water hardness can vary greatly during the year and by location within the city. ***Hardness varied between 116 mg/L and 288 mg/L in 2024, averaging around 183 mg/L or 10.7 grains per gallon.*** These values are typical of water systems in the western United States, which tend to have higher hardness than other parts of the country.

Thornton's water treatment plants do not remove hardness. Homeowners and businesses may reduce the hardness by installing systems like softeners and reverse osmosis units. Please contact the city's Water Quality Laboratory if you would like to know the hardness at your specific location or have any questions on the treatment systems.




***"Thornton water customers place their trust in us day in and day out, they expect and deserve the best from Thornton Water. Every day Thornton Water delivers our best we make Thornton an attractive city for residents and businesses alike."***

***— Liz, Water Resources Analyst***

## Water Sample Collection

Water Quality staff sample at nearly 40 sites within the service area each week, year-round. For the most recent test results in your area, please call the ***Water Quality Information Line at 303-255-7770.***

# Next Steps

Thornton continues investing in water treatment infrastructure to provide residents with the best possible water.

The city continues working with northern communities to plan and design a pipeline that will deliver high-quality, Cache la Poudre River water to Thornton. The city achieved a monumental milestone in 2024 when Larimer County commissioners approved the permit to construct one of the final segments of the 70-mile pipeline. Delivery of water through the pipeline is planned for 2028. This will help meet the consumption needs of the city's growing population and serve as a clean source to assist with blending needs for PFAS reduction.

**Our permit has been approved to construct the final 70-mile pipeline**

**We have upgraded our lab and trained our staff to analyze for PFAS**

**We are designing upgrades to remove PFAS from our water**

Last year, the EPA finalized health limits for six PFAS compounds: establishing an MCL of 4 ppt for PFAS and PFOA and a maximum Hazard Limit calculated from the four other compounds. To meet these strict limits, the city of Thornton devoted considerable resources to upgrading its drinking water laboratory and training its staff to analyze for these compounds in-house; the lab anticipates becoming state-certified this year. The city is also in the design phase for treatment upgrades at the Thornton Treatment Plant to remove PFAS, with construction anticipated for completion in 2027. While Thornton has been able to meet PFAS limits by controlling source water blends and increased treatment chemical dosing, the plant upgrades will give the city additional resiliency to reduce contaminants when other options are unavailable. Meanwhile, the city remains involved in ongoing litigation against makers and users of PFAS compounds to help recoup capital improvement and ongoing treatment costs.

In 2024, Thornton completed an extensive survey to more accurately determine the population size served by our drinking water system. Counting visitors, people who work in Thornton but don't live in Thornton, and permanent residents, it was determined that the city provides water to approximately 225,000 people, a 69,000 increase from the previous estimates. Thornton now ranks as Colorado's fourth largest water provider, after Denver Water, Colorado Springs, and Aurora. The new water service population size bumped up several testing requirements, and those changes were implemented in the latter half of the year.

2024 also marked the beginning of the largest changes to the Lead and Copper Rule for drinking water. Water providers had to determine if and where lead service lines are installed in their area, with the goal of replacing them in the coming years. A service line is an underground pipe that carries water from the water main, likely in the street, into your home or building. Thankfully, Thornton has no lead service lines, and those findings have been submitted to the EPA. We have also created an ***interactive map*** where customers can search for their address and find the service line information for their property. You can access this map at ***GoCOT.net/servicelines.*** If you have questions about the material of your service line, please contact the ***Water Quality Laboratory at 303-255-7770 or waterquality@ThorntonCO.gov.***

Additionally, the city is testing for lead and copper in schools and childcare facilities. The city will continue to partner with these facilities to make sure they are all tested in the next several years.

***"Loved getting the free test to check for lead and copper in our water. Thornton Water seems to be transparent about issues and their efforts which I appreciate."***
***Thornton Water Customer***

# Failure to Meet Cross Connection Control and/or Backflow Prevention Requirements

**Required language:** We have an inadequate backflow prevention and cross-connection control program. Uncontrolled cross connections can lead to inadvertent contamination of the drinking water.

**Explanation:** During a sanitary survey conducted by the CDPHE in August 2024, the inspector identified issues regarding how the city was implementing its Backflow Prevention and Cross-Connection Control (BPCCC) program. We did not correctly identify the last test dates for three backflow prevention assemblies owned by private parties. The inspector further advised the city to update and improve its tracking spreadsheets and reports and develop better mechanisms for evaluating compliance of uncontrolled connections and tracking untested assemblies. Because of these findings, it was determined that the city has failed to develop or implement a written BPCCC program.

Our system's BPCCC program has been revised and submitted to CDPHE on October 3, 2024. Thornton expects to report full program compliance to CDPHE by December 2025.

As the three identified assemblies were not in service, there were no indications that this incident posed any direct threat to the city's population, so consumers do not need to seek alternative water supplies or take any further actions. You may contact the city's ***Water Quality laboratory at 9500 Civic Center Drive, Thornton, CO 80229, or 303-255-7770*** for additional information regarding this public notice. 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 public places or by distributing copies by hand.

*"There is so much more to that glass of water we drink every day. From the snow at the Continental Divide to Clear Creek and the South Platte River, Thornton professionals shepherd water to Thornton's storage reservoirs and clean it to the highest drinking water standards."*

*Laura, Senior Water Resources Administrator*

## For Water Quality Information

It is vitally important that our customers are aware of the quality and safety of the water they are drinking. Please contact Water Quality if you have further questions or concerns.

***Website — ThorntonCO.gov/waterinfo***

***Email — waterquality@ThorntonCO.gov***

***Phone — 303-255-7770***