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ENSURING SAFE DRINKING WATER

The City of Bloomington works hard to provide you with high-quality, safe, reliable drinking water that meets federal and state water quality requirements. This report contains information about the sources, treatment process and history of our water system. See page *WQR4* for the results of water quality monitoring on Bloomington's water sources from January 1 to December 31, 2022, conducted by the Minnesota Department of Health, and laboratories operated by the cities of Bloomington and Minneapolis.

The goal of this report is to advance your understanding of drinking water and heighten awareness of the need to protect precious water resources.

2022 UTILITIES BY THE NUMBERS

25,250 residential, commercial, and multifamily customers served.
3.7 billions of gallons of clean water provided throughout the year.
10.2 millions of gallons of water processed daily.

Learn more at: blm.mn/water.

GET INVOLVED

Public Works welcomes input on water quality issues. Contact the water quality supervisor at 952-563-4904. If you have questions about your water or need assistance, call or visit the City's website at blm.mn/utilities. Contact the Water Plant (24 hours a day) at 952-563-4905.

Este informe contiene información muy importante. Si necesita una traducción del mismo, sírvase llamar al MN RELAY 711.

Warbixintaan waxaa ku jira macluumaad aad muhiim u ah. Haddii aad u baahan tahay in lagu turjumo, fadlan la xiriir MN RELAY 711.

Ban bao cao nay co cac thong tin rat quan trong. Neu quy vi can ban dich tieng Viet, xin goi so MN RELAY 711.



Bloomington's six water storage facilities provide the storage and maintain pressure that helps to keep drinking water flowing.

UNDERSTANDING PFAS AND OTHER EMERGING CONTAMINANTS

State and national news sources have been reporting per- and polyfluoroalkyl substances (PFAS), also referred to as perfluorochemicals, showing up in some private and public water supplies. PFAS have been found in groundwater supplies near sites where these chemicals were manufactured or disposed of. In Minnesota, this has previously been predominantly in the east metro.

PFAS are chemicals commonly associated with industrial applications, firefighting foam, nonstick cookware, stain-resistant fabrics, etc. They are extremely stable and do not readily breakdown in the environment. They are considered emerging contaminants because their effects are still unknown.

The Environmental Protection Agency (EPA) recently released draft maximum contaminant levels health advisory guidelines that reflect the most recent science. In 2022, the Minnesota Department of Health (MDH) sampled Bloomington's water supply and detected three PFAS contaminants: PFBA, PFOA, PFPeA. All were well below the MDH health-based guidance values for PAFS and below proposed maximum contaminant level values.

The City of Bloomington works with MDH to continually test water samples for emerging contaminants, ensure Bloomington's water remains safe to drink and maintain the highest quality standards. As technologies advance, and more is understood about how these and other contaminants move in the environment and affect public health, treatment processes may be adjusted to address new standards.

For more information about PFAS testing, including current PFAS monitoring efforts and results, visit MDH at blm.mn/PFASTest.

PFAS: FOREVER CHEMICALS

PFAS are plastics that can resist water, heat, and grease, and are used in both industrial and commercial products. Often referred to as "forever chemicals," these human-made molecules can build up in the environment without breaking down. They can even enter our bodies.

NEW TECHNOLOGIES STREAMLINE UTILITY FUNCTION AND ASSET PLANNING

Bloomington Utilities recently integrated data management and analysis to help with fast and accurate decision making and to keep water treatment operations at peak performance.

The first technological update is a powerful data historian system with real-time analytics. The system gathers information from sensors throughout the utility system, related databases and manually entered data. Calculations and analysis then make predictive and proactive maintenance easier. The system even provides early warnings if an issue arises.

The second technological update is long-term asset financial modeling software. The software records the current condition of various utility assets and models how the assets may age. This allows the City to better understand the lifespan of the asset and plan for maintenance, updates and replacement, as necessary.

We plan to link these systems—the real-time water system analytics system and the financial modeling software—in the future. This will help the City track the condition of its water treatment equipment and provide a more precise long-term model for maintaining these assets.

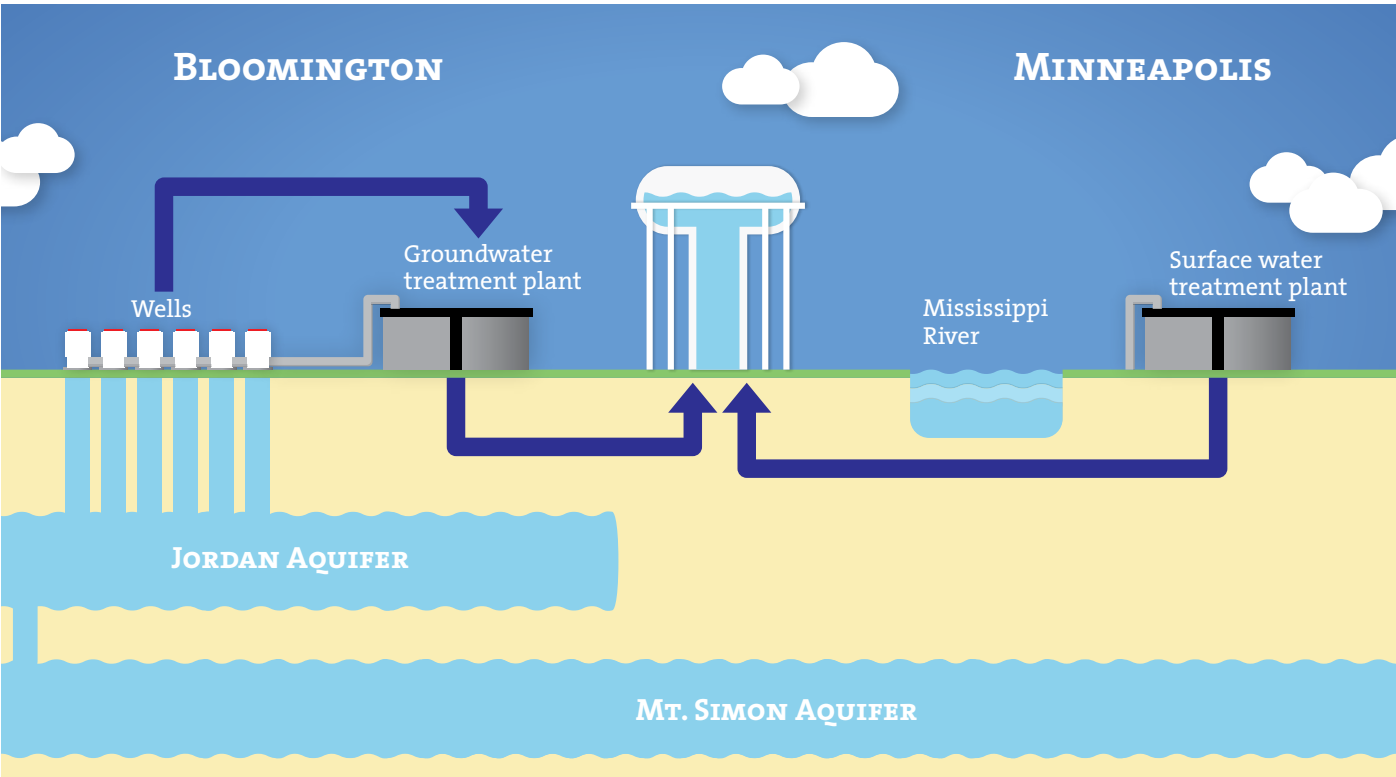


Bloomington’s Water Supply

The City of Bloomington’s municipal water supply comes from two sources: Bloomington municipal water supply wells and a connection with the city of Minneapolis water supply system.

Water Testing

The Tri-City William Lloyd Analytical Laboratory is certified by the Minnesota Department of Health to test water. In 2022, the lab performed 9,665 tests on Bloomington’s well, raw, finished and distribution water. The lab also analyzed 84 samples for new water main construction projects and conducted 1,048 water quality tests on Bloomington’s surface water bodies.



Bloomington Wells

The City’s water treatment plant draws water from deep groundwater wells that extend into the Jordan Sandstone, Prairie du Chien Group, Tunnel City-Wonewoc Sandstone and Mt. Simon aquifers.

Mississippi River

To supplement production at the water treatment plant, Bloomington purchases finished water from the city of Minneapolis. Minneapolis’ surface water treatment plant takes raw water from the Mississippi River. Treated water from Bloomington’s plant is blended with similarly treated water from Minneapolis.

FOR MORE INFORMATION ABOUT WATER SOURCES, VISIT [BLM.MN/WATER](https://blm.mn/water).

FREQUENTLY ASKED QUESTIONS



Why is the water from my faucet cloudy?

Cloudy water usually indicates presence of either oxygen or calcium. Both are perfectly safe to drink.

Oxygen: Changes in temperature and pressure can cause more oxygen in water than it can hold. Water passing through a faucet can release excess oxygen and form bubbles so tiny it can appear cloudy as it slowly rises. Once oxygen disperses, the water becomes clear. No harm comes from using oxygenated water, and there’s no need for corrective action.

Calcium: Water treatment efforts to reduce corrosion in water mains and lead or copper leaching from customers’ plumbing can result in trace amounts of calcium sediment, which is usually noticed in cold water as white or grayish flecks. Calcium sediment gets stirred-up when large volumes of water are needed for firefighting, water main breaks, hydrant maintenance or filling street-cleaning trucks’ tanks. Calcium usually settles within 30 minutes and is safe for drinking and cooking.

To clear calcium sediment, allow an hour or two for the calcium in the City’s system to settle, then open a large faucet and run cold water for about 20 minutes to draw clear water through your system and remove any remaining calcium. If water remains cloudy after these steps, call 952-563-4905.



Should I get a water filtration system?

Bloomington’s water surpasses all federal and state standards, so home filtration systems are not necessary. If you choose to purchase a filtration system anyway, here are a few tips:

- Research to find the filter capable of removing substances that concern you.
- Look for filters certified by NSF International (an independent testing group) and Underwriters Laboratory (UL).

For optimal performance, follow the manufacturer’s maintenance instructions and filter replacement guidelines.

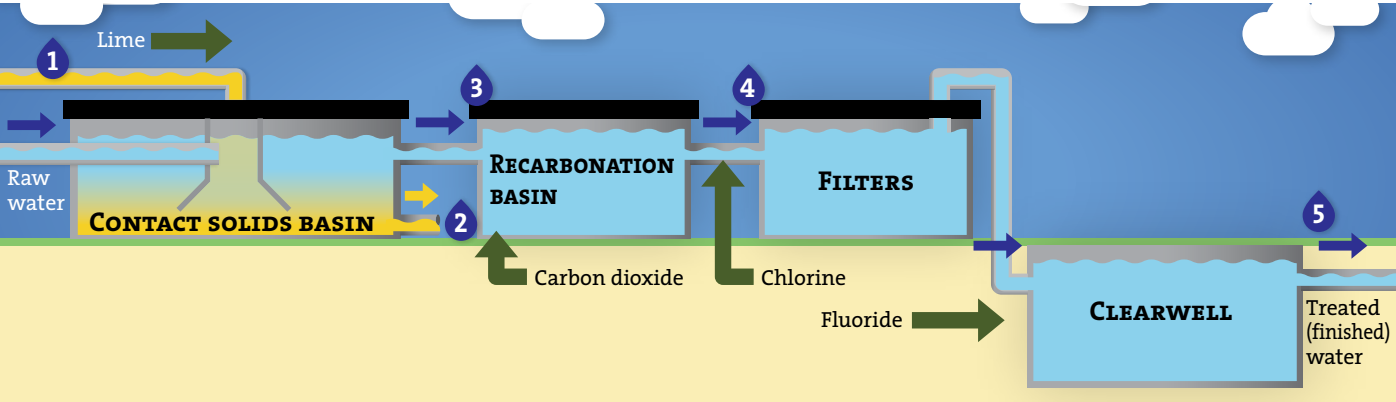


Should I have a water softener?

Bloomington is one of only 24 Minnesota municipal utilities that softens its water, which means homeowners do not need to purchase their own water-softening systems.

The City’s lime-softening process removes most of the hardness in Bloomington’s water, reducing it from 19 grains per gallon to about 5.2 grains per gallon finished water. The water is also treated to be noncorrosive to help prevent unsafe levels of lead and copper from leaching into the water from home plumbing.

WATER TREATMENT



WATER TREATMENT PROCESS



The softening process begins when slaked quicklime is mixed with raw water in one of the City’s two solids contact basins. Each basin holds half a million gallons of water.



The lime-and-water mixture causes a chemical reaction that causes calcium and magnesium, two main components of hardness, to form insoluble particles called floc. Floc particles settle to the bottom of the basins and are removed, dewatered and used by Minnesota farmers as a USDA-approved source of lime to stabilize the pH in farm fields.



The water enters a recarbonation basin where it is adjusted to the proper pH by adding carbon dioxide. A precise amount of chlorine is added to discourage bacterial growth as the water travels through the City’s distribution system.



The water is filtered to remove any remaining particles, then enters an underground reservoir called a clearwell where small quantities of fluoride are added. Because fluoride promotes strong teeth and bones, fluoridation is mandated by state law at a dosage between 0.5 and 0.9 parts per million. See page *WQR 4*.



Finished water from the City’s treatment plant is pumped into the distribution system, where it is mixed with treated water purchased from the city of Minneapolis. For more information, visit blm.mn/water.

CONTINUAL PLANT IMPROVEMENTS KEEP WATER FLOWING

Keeping Bloomington’s water safe is the primary focus for the City’s Utilities Division. Over this past year, three projects totaling approximately \$800,000 were initiated as part of an ongoing asset renewal plan for the water plant and the entire utility.

New effluent launder weirs (a low dam built to raise the level of water upstream or regulate its flow) were fitted in the solids contact basins. Over time the weirs accumulate hardened lime and require rehabilitation or replacement.

Renovation of the recarbonation basins is underway. To improve the chemical recarbonation process and extend the life of filters, contractors will install baffle walls throughout the long narrow basin to improve hydraulic performance.

Finally, replacement of mechanical components on the solids contact mixers recently started. This replacement will extend the life of mechanical components of the solids contact units.

CAREERS IN WATER

Everyone needs clean, safe drinking water. Working in the water industry makes a positive difference in people’s lives and strengthens the quality of life in communities.

Careers in the field are also in high demand. Placement rates for water environment technology professionals are higher than many other occupations and opportunities exist in both the public and private sectors.

For more information, visit the American Water Works Association Minnesota Section’s website at blm.mn/watercareers.

PAYING YOUR UTILITY BILL

The City’s online bill pay service provides residents with easy, convenient and secure options to pay their utility bills.

It’s easy to set up an online bill-pay account. Residents create a username and password to get email notifications when the bill is available and just before the due date. Users can also log in as a guest by using the account number and name on their billing statement. Make payments using your bank routing and account number or by Visa, Mastercard, Discover and American Express.

For more information, visit blm.mn/paymybill

IS THERE LEAD IN THE WATER?

Home plumbing is the primary source of lead in drinking water. The City is responsible for providing high-quality drinking water but does not control the materials used in home plumbing. Bloomington’s water system has undergone years of regular, rigorous monitoring and has never been found to be a significant source of lead.

MINIMIZING EXPOSURE TO LEAD

Lead pipes, solder, brass faucets and other plumbing pose the greatest threat of increasing levels of lead in water. Lead ranks among the most common health concerns people have about drinking water. Studies suggest levels of lead can pose risks, especially to unborn babies and children.

A few simple practices can minimize your exposure to lead from your home.

- Use cold water for cooking and drinking. If your plumbing contains lead, hot water draws out more.
- Allow cold water to run for 30 seconds to two minutes before using it to flush out any water in your pipes long enough to potentially pick up higher concentrations of lead.

For more information, call the Safe Drinking Water Hotline at 1-800-426-4791 or visit epa.gov/safewater/lead.



COMPROMISED IMMUNE SYSTEMS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those with cancer undergoing chemotherapy, who have undergone organ transplants, with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk of infections. People should seek advice from their health care providers about drinking water.

Guidelines from the Environmental Protection Agency and Centers for Disease Control to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline: 1-800-426-4791.



WATER PURITY
INFORMATION
PROVIDED BY THE UNITED
STATES ENVIRONMENTAL
PROTECTION AGENCY

Drinking water sources in the United States for both tap water and bottled water include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over or through the ground, it dissolves naturally occurring minerals and, sometimes, radioactive material. Water also picks up substances resulting from animal or human activity.

To ensure that tap water is safe to drink, the Environmental Protection Agency regulates the amount of certain contaminants in water provided by public systems. The Food and Drug Administration regulates contaminants in bottled water to provide the same public health protection.

Drinking water, including bottled water, may be expected to contain reasonably small amounts of some contaminants. Their presence does not necessarily indicate that the water poses a health risk. Information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

CONTAMINANTS THAT
MAY BE PRESENT IN
UNTREATED SOURCE
WATER

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

Inorganic contaminants, such as salts and metals, can occur naturally or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.

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

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

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

2022 WATER QUALITY RESULTS

The Minnesota Department of Health and City staff regularly test samples of Bloomington’s water for contaminants. Substances detected appear in the table below. Undetected substances are not listed and unregulated contaminants are only listed if federal health risk limits are exceeded. The top half of the table summarizes test

results performed on Bloomington water. The lower half presents results for Minneapolis water which is blended into Bloomington’s distribution system.

Information on Bloomington’s Source Water Assessment can be found at blm.mn/swa or by calling the MDH at 651-201-4700 or 1-888-345-0823.

| Detected substance | Amount detected | Maximum (MCL) | Target (MCLG) | Typical source of substance | Type | Meets standards? |
|-------------------------------|------------------------------------|---------------|---------------|--|------|------------------|
| CITY OF BLOOMINGTON | | | | | | |
| Chlorine (ppm) | Avg = 2.11 (1.57-2.47) | 4 MRDL | 4 MRDLG | Water additive used to control microbes | R | Yes |
| Copper (ppm) (08/10/2020) | 90% = 0.02 (0 of 30 sites over AL) | AL = 1.3 | 1.3 | Corrosion of household plumbing systems; erosion of natural deposits | R | Yes |
| Fluoride (ppm) | Avg = 0.71 (0.66-0.70) | 4 | 4 | State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories | R | Yes |
| Haloacetic acids (HAA5) (ppb) | Avg = 18.3 (5.0-43.5) | 60 | 0 | Byproduct of drinking water disinfection | R | Yes |
| Lead (ppb) (8/10/2020) | 90% = 2.2 (0 of 30 sites over AL) | AL = 15 | 0 | Corrosion of household plumbing systems; erosion of natural deposits <i>See page WQR 3</i> | R | Yes |
| Trihalomethanes (TTHM) (ppb) | Avg. = 17.5 (3.7-24.2) | 80 | 0 | Byproduct of drinking water disinfection | R | Yes |

| Contaminant | EPA's Ideal Goal (MCLG) | EPA's Limit (MCL) | Number of Test Results with E. coli | Number of treatment Technique Exceedances | Violation | Typical Sources |
|-------------------------|-------------------------|-------------------|-------------------------------------|---|-----------|--------------------------------------|
| Total Coliform Bacteria | NA | TT | NA | 1 | Yes | Naturally present in the environment |

| | | | | | | |
|-------------------------------|------------------------------------|----------|---------|--|---|-----|
| CITY OF MINNEAPOLIS | | | | | | |
| Chloramine (ppm) | Avg = 3.23 (2.9-3.5) | 4 MRDL | 4 MRDLG | Water additive used to control microbes | R | Yes |
| Copper (ppm) (08/11/21) | 90% = 0.05 (0 of 63 sites over AL) | AL = 1.3 | 1.3 | Corrosion of household plumbing systems; erosion of natural deposits | R | Yes |
| Fluoride (ppm) | Avg = 0.72 (0.69-0.73) | 4 | 4 | State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories | R | Yes |
| Haloacetic acids (HAA5) (ppb) | Avg = 30.2 (0-40.8) | 60 | 0 | Byproduct of drinking water disinfection | R | Yes |
| Lead (ppb) (08/11/21) | 90% = 1.6 (0 of 63 sites over AL) | AL = 15 | 0 | Corrosion of household plumbing systems; erosion of natural deposits | R | Yes |
| Trihalomethanes (TTHM) (ppb) | Avg = 32.5 (0-51.5) | 80 | 0 | Byproduct of drinking water disinfection | R | Yes |
| Turbidity (NTU) | 0.12 NTU | NTU | NA | Soil runoff | R | Yes |
| Nitrate (ppm) | Avg =1.2 (1.1-1.2) | 10 | 10.0 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. | R | Yes |

| DETECTED SUBSTANCE | RANGE OF PERCENT REMOVAL ACHIEVED | AVERAGE OF PERCENT REMOVAL ACHIEVED | TYPICAL SOURCE OF SUBSTANCE | THREE-MONTH PERIODS (QUARTERS) OUT OF COMPLIANCE |
|----------------------|-----------------------------------|-------------------------------------|--------------------------------------|--|
| CITY OF MINNEAPOLIS | | | | |
| Total organic carbon | 53 – 66% | 59% | Naturally present in the environment | 0 |

| KEY | | | | | |
|-------|---|--|-----|--|--|
| AL | Action level. An amount that, if exceeded, triggers a specific response that a water system must follow. | | NTU | Nephelometric turbidity unit. A measure of water clarity. | |
| cfu | Colony forming unit. | | ppb | Parts per billion. Units of a substance, in pure form, found in every billion units of water. | |
| MCL | Maximum contaminant level. The highest level allowed in drinking water. MCLs are set as close to MCLG as feasible using the best available treatment technology. | | ppm | Parts per million. Units of a substance, in pure form, found in every million units of water. | |
| MCLG | Maximum contaminant level goal. Below this level there is no known or expected health risk. MCLGs allow for a margin of safety. | | R | Regulated. | |
| MRDL | Maximum residual disinfectant level. | | TT | Treatment technique. A required process intended to reduce the level of a contaminant. | |
| MRDLG | Maximum residual disinfectant level goal. | | U | Unregulated, but monitoring is required by the State of Minnesota. No limits have been set for this compound. | |
| NA | Not applicable. | | 90% | Value obtained after disregarding the 10 percent of the samples taken that had the highest levels. | |
| nd | No detection. | | | | |