

# WATER QUALITY REPORT

FOR BLOOMINGTON, MN • 2018 TEST RESULTS



JUNE 2019

## INSIDE

WQR 2 Where does your tap water come from?

WQR 3 FAQ.

WQR 4 2017 Water quality results.



## MAKING SAFE DRINKING WATER

The City of Bloomington works hard to provide you with high-quality, safe, reliable drinking water that meets every federal and state water quality requirement. This report contains information about the sources, treatment process and history of our water system. The results of water quality monitoring on Bloomington's water sources from January 1 to December 31, 2018, conducted by the Minnesota Department of Health, and the city of Minneapolis' and Bloomington's laboratories are on page WQR4.

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

## 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, give us a call or visit the City's website at [BLOOMINGTONMN.GOV](http://BLOOMINGTONMN.GOV).

- Water Plant (24 hours a day) 952-563-4905
- TTY (8 a.m. – 4:30 p.m., M – F) 952-563-8740

Este informe contiene información muy importante. Si necesita una traducción del mismo, sírvase llamar al 952-563-4944 V/TTY.

Bản báo cáo này có các thông tin rất quan trọng. Nếu quý vị cần bản dịch tiếng Việt, xin gọi số 952-563-4944 V/TTY.

Warbixintaan waxaa ku jira macluumaad aad muhiim u ah. Haddii aad u baahan tahay in lagu turjumo, fadlan la xiriir 952-563-4944 V/TTY.



## A TRADITION OF PUBLIC DRINKING WATER EXCELLENCE

The City's Utilities Division is dedicated to maintaining water quality, which constantly surpasses state and federal requirements—plus, it tastes fantastic. A recent rehabilitation project to the east tank and future plans for the west tank at Reservoir Park ensure that Bloomington's water will maintain its high-quality tradition for years to come. Pictured above, from left to right are *Senior Utility Operator Ben Whitcomb*, *Senior Utility Operator Adam Thene*, *Utility Operator Ben Doerr* and *Utility Operator Joe Gherity*.

## KEEPING GREAT WATER ON TAP

### RESERVOIR PARK REHABILITATION PROJECTS MAINTAIN QUALITY

Maybe you noticed the construction work around Reservoir Park at 82nd Street and Penn Avenue South? While some of the labor is noticeable from the outside, even more occurs underground. Keeping Bloomington's water safe and tasting great involves commitment on all levels.

Bloomington acquires about 30 percent of its distributed water through a contractual agreement with Minneapolis. That water comes through two large transmission mains that end at Reservoir Park where it's stored. Eventually, the water is pumped out for distribution.

In 2017, the Utilities Division began a project to clean, inspect and rehabilitate the reservoir's water storage facilities. The site contains two, 10-million gallon water reservoirs and a pump station.

The easterly of the two tanks was the subject of the City's first renewal effort. Taken out of service in June 2017, the City's plan achieved several objectives. Tanks were drained, cleaned and evaluated for improvement needs. This maintenance and troubleshooting would reveal if using only

one reservoir could reduce water age (the period of time that water remains idle in the distribution system.)

Constructed in 1968, the east reservoir has required minimal maintenance because of its reinforced concrete design. The structure is almost completely buried. A head house on the southwest corner of the tank provided the only access hatch and venting.

The renovation included repair work along with improvements to flow control and safety systems.

This first phase of the renovation is scheduled for completion in June when east tank is put back into service. Then, the project will restart in a different direction. The western reservoir will be drained, cleaned and evaluated for repair. Together these upgrades promise to make future maintenance safer and more convenient for utility operators.

The two-part renovation of the east and west tanks helps the City maintain water quality goals with even greater efficiency. When water age is reduced, improvements in the distribution system result. Bloomington is on track for providing safe and great-tasting water.

## MEASURING WATER DELIVERY

Every drop counts. The new metering equipment installation that began in 2018 as a joint project with the city of Minneapolis will heighten overall accuracy, and the updated controls will provide safer operation for years to come. The original metering equipment was installed in 1960 when Bloomington's distribution system received 100 percent of its water from Minneapolis.

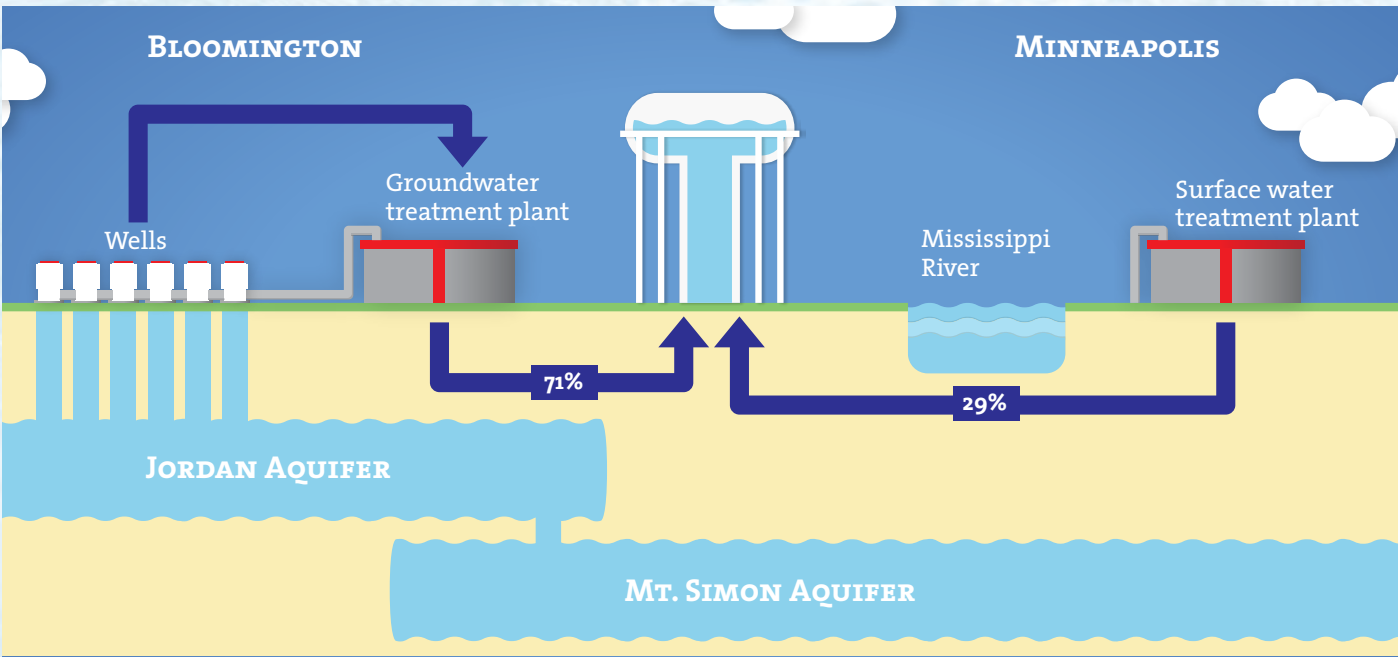
Bloomington purchases millions of gallons of treated water from the city of Minneapolis each month to supplement our own water production to meet peak customer demand. The water from Minneapolis blends with Bloomington water in the distribution system but first must pass through a very large meter just like any other water customer. Through this project and more, Public Works upholds Bloomington's tradition of the highest quality water.

Find out more about water distribution on WQR 2.





# THE SOURCES OF BLOOMINGTON’S TAP WATER



## BY THE NUMBERS

Numbers speak volumes, especially for the work the Utilities Division does to support the City’s exemplary standards for quality water.

**6** Water storage facilities used by the City of Bloomington.

**6** Year interval, on average, between inspections to storage facilities.

**22 1/2** Year interval, on average, before reconditioning (complete repainting) is required.

**25,300** Water service accounts handled by the City for residential, commercial and multi-family customers.

**10** Millions of gallons of water were consumed, on average, every day in 2018.

**30** Millions of gallons of storage capacity available in the City’s water distribution system.



## MAKE A CAREER SPLASH IN THE WATER INDUSTRY

Working in this high-demand field is rewarding and makes a difference in people’s lives. Everyone needs clean, safe drinking water.

St. Cloud Technical and Community College’s Water Environment Technologies program provides training for this rapidly growing industry. Placement rates for water environment technology graduates average 95 percent.

For information, call St. Cloud Technical and Community College at 320-308-5952, email Instructor Gregg Kropp at [greg.kropp@sctcc.edu](mailto:greg.kropp@sctcc.edu) or visit [blm.mn/sctcc](http://blm.mn/sctcc).

## BLOOMINGTON WELLS FULFILLED 71 PERCENT OF WATER NEEDS IN 2018

The City’s water plant draws groundwater from six deep wells. The wells extend downward between 375 and 1,000 feet into the Jordan, Prairie du Chien-Jordan, Tunnel City-Mount Simon and Jordan-St. Lawrence aquifers, porous underground rock formations that hold vast amounts of water.

In 2018, the City drew 2.6 billion gallons of water, 71 percent of Bloomington’s needs, from these deep groundwater wells. The City continues to monitor water usage and takes appropriate actions to encourage wise water use. Additionally, the City continues to implement its wellhead protection study to ensure Bloomington well water continues to be safe.

## MISSISSIPPI RIVER SUPPLIED NEARLY 29 PERCENT OF WATER NEEDS IN 2018

To supplement production at the water treatment plant, Bloomington purchases treated water from Minneapolis. Treated water from our plant is blended with similarly treated water from Minneapolis and sent throughout Bloomington’s distribution system.

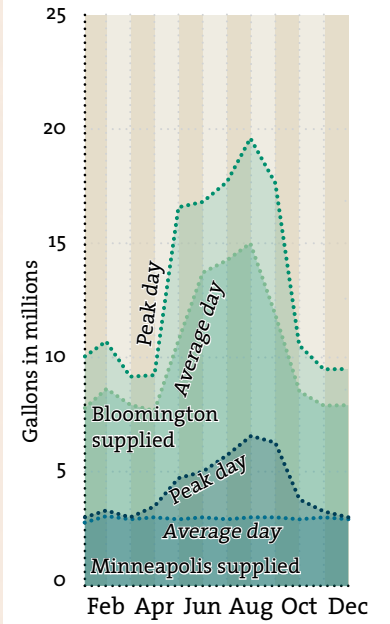
Minneapolis’ surface water treatment plant takes raw water from the Mississippi River. In 2018, Bloomington purchased 1.1 billion gallons of water from Minneapolis to supply almost 29 percent of Bloomington’s water needs. For more information, visit the City’s website at [blm.mn/watertreatment](http://blm.mn/watertreatment).

## HOW MUCH IS USED?

In 2018, residents and businesses in Bloomington used 3.7 billion gallons of water, 61 million more gallons than 2017. Average usage was 10.1 million gallons of water per day last year.

The chart below shows the peak day and average day of water use for each month during 2018, as well as the average amount of water treated at the City’s plant and purchased from Minneapolis. To get a more accurate picture of the actual water consumed, peak day data was adjusted to account for fluctuations in the City’s reservoir levels. To learn more, visit [blm.mn/water-usage](http://blm.mn/water-usage).

### 2018 DAILY WATER USE

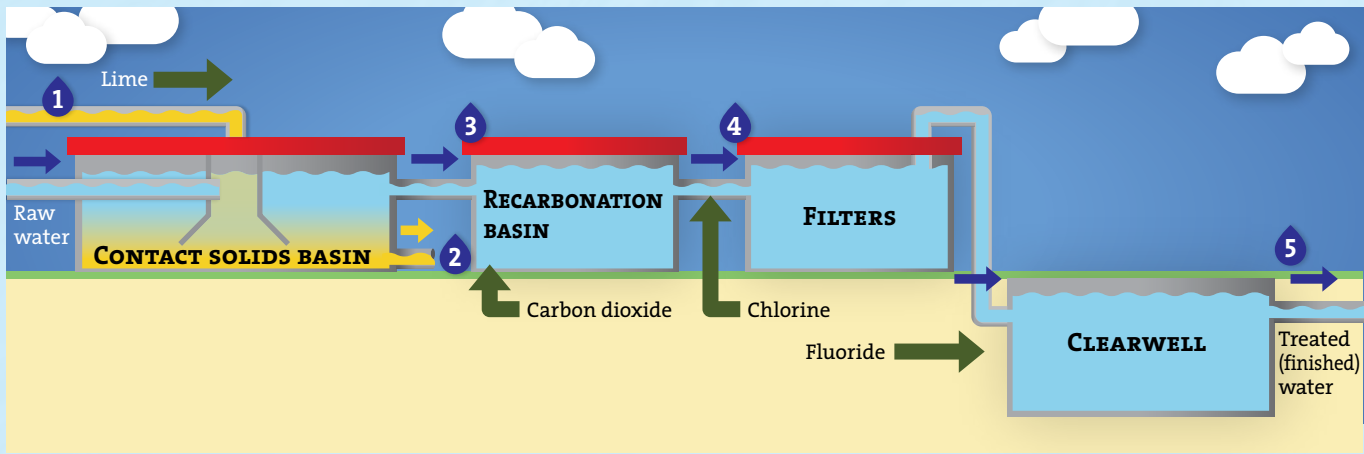


## WATER TREATMENT PROCESS

- 1** The softening process begins when lime, in the form of slakened quicklime, is mixed with raw water in one of the City’s two contact solids basins. Each basin holds half a million gallons of water.
- 2** The lime-and-water mixture causes a chemical reaction that results in calcium and magnesium (the main components of hardness) forming insoluble particles called flocs. As these floc particles grow in size, they settle to the bottom of the contact solids basins. The solids are removed, dewatered and used as a USDA-approved source of lime by Minnesota farmers to stabilize the pH in farm fields.
- 3** The water enters a recarbonation basin where it is adjusted to the proper pH by adding carbon dioxide.
- 4** The water is filtered to remove any remaining particles. Then it 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 of 0.7 parts per million. *See page WQR 4.*
- 5** The 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/watertreatment](http://blm.mn/watertreatment).

## WATER TESTING

The Tri-City William Lloyd Analytical Laboratory is certified by the Minnesota Department of Health to test water. In 2018, the lab performed more than 9,894 tests on Bloomington’s well, raw, finished and distribution water. The lab also analyzed 84 state-mandated bacteria tests for new water main construction projects and conducted 522 water quality tests on Bloomington’s surface water bodies.





# FREQUENTLY ASKED QUESTIONS ABOUT BLOOMINGTON’S WATER

## WHY IS THE WATER FROM MY FAUCET CLOUDY?



Occasionally, the City receives calls about water that appears cloudy or milky. Usually indicating the presence of either oxygen or calcium, cloudy water is perfectly safe to drink.

**Oxygen in water:** Sometimes water fresh from the tap appears cloudy. Within a minute or two, the cloudiness rises toward the top of a glass and before long the whole glass is crystal clear. This is caused by excess oxygen escaping from the water.

Changes in temperature and pressure can cause the oxygen dissolved in water to reach a supersaturated state where more oxygen is in the water than it can hold. When the water passes through a faucet, the disturbance is enough to release the excess oxygen from the water, forming microscopic bubbles. The bubbles are so tiny that it takes them a long time to rise through the water. No harm will come from using oxygenated water, and you don’t need to take any corrective action if you experience it.

**Calcium in water:** The chemistry of water is surprisingly complex, and many factors influence how it behaves. The City treats Bloomington’s water so that it is slightly prone to deposit a trace of calcium sediment as it travels

through our distribution system. This reduces the likelihood that it might corrode water mains or leach lead or copper from customers’ plumbing and fixtures. Usually, this calcium sediment remains at the bottom of the water mains, unnoticed by water users.

However, the calcium can be stirred up when a large volume of water is drawn through a water main in a short time. Events that can increase water velocity include firefighting, water main breaks, hydrant maintenance and the filling of water or street-cleaning trucks’ tanks at a hydrant. If you happen to turn on your cold water right after such an event, you may draw some of the stirred-up water into your pipes.

When calcium causes cloudiness, it is usually noticed in cold water. Let a glassful of the cloudy water sit for about 30 minutes and any calcium, appearing as a white or grayish substance, will settle to the bottom of the glass. Though it may be visually unappealing, such water is perfectly safe to drink or use for cooking.

To clean calcium sediment from your system, we recommend that you wait an hour or two to allow the calcium in the main to settle. Then, open a large faucet such as a bathtub faucet and let the cold water run for about 20 minutes. This will draw clean water through your system and should remove any remaining calcium from your pipes.

If you have any concerns or if your water remains cloudy after taking these steps, call 952-563-4905.



## SHOULD I GET A WATER FILTRATION SYSTEM?

Because Bloomington’s water surpasses all federal and state standards, home filtration systems are not necessary. However, if you choose to purchase a filtration system for aesthetic or medical reasons, keep the following in mind:

- Find out if the filter you are considering is capable of removing substances that concern you.
- Look for filters that have been certified by NSF International (an independent testing group) and Underwriters Laboratory (UL).
- Follow the manufacturer’s maintenance instructions carefully for usage and filter replacement frequency guidelines.



## WATER SOFTENING

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. (Zero-grain water is ultra-soft while 19-grain water is considered raw.) The water is also treated to be noncorrosive. This helps prevent unsafe levels of lead and copper from leaching into the water from home plumbing. Home softening systems can further reduce water hardness, usually by adding a small amount of sodium.

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

The estimated cost of home water softening ranges between \$4.93 and \$5.53 per 1,000 gallons of water, compared to \$3.39 per 1,000 gallons for City-treated water in 2018.



## LEAD IN WATER

Lead in drinking water primarily comes from components associated with home plumbing. The City is responsible for providing high-quality drinking water, but cannot control the materials used in home plumbing.

### Minimizing exposure to lead

Lead pipes, solder, brass faucets and other plumbing in your home pose the greatest threat of adding dangerous levels of lead to your water. A few simple practices can minimize your exposure to lead from your home.

First, always use cold water for your cooking and drinking. If your plumbing contains lead, hot water will draw more lead out of it. Second, allow your cold water to run for 30 seconds to two minutes before using. This flushes out any water that may have been in your pipes long enough to pick up higher concentrations of lead.

The presence of lead ranks among the most common health concerns people have about drinking water. Studies suggest levels of lead once thought to be safe can pose risks, especially to unborn babies and children.

Infants and children who drink water containing excessive levels of lead could experience delays in their physical or mental development. Children can show slight deficits in attention span and learning abilities. Adults who drink this water over many years can develop kidney problems or high blood pressure.

Fortunately, over years of regular and rigorous monitoring, Bloomington’s water has never been found to be a significant source of lead.

For more information, call the Safe Drinking Water Hotline at 1-800-426-4791 or visit [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead). If you are concerned about your home’s lead levels, our laboratory can test your water for a fee. For more information, call 952-563-4904.

## FOR PEOPLE WITH 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, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk of infections.

These people should seek advice from their health care providers about drinking water. Guidelines from the



Environmental Protection Agency and Centers for Disease Control 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.

The average American drinks about one quart of water daily. In Bloomington, water consumption averages about 65 gallons per person daily. Only one percent of water provided by water suppliers is used for drinking and cooking. Water is more frequently used for other purposes, including washing machines, toilets, showers, baths, faucets and leaks.

WWW.EPA.GOV



WATER PURITY INFORMATION PROVIDED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



Drinking water sources in the United States, 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 (EPA) 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.

2018 WATER QUALITY RESULTS

The Minnesota Department of Health (MDH) 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. This response is the same as if a maximum contaminant level had been exceeded and would include

customer notification and corrective actions. 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. = 2.2 (1.51 – 2.47)           | 4 MRDL        | 4 MRDLG       | Water additive used to control microbes  | R    | Yes              |
| Copper (ppm) (6/14/2017)      | 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. = 0.65 (0.63 – 0.65)          | 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. = 19.2 (6.2 – 28.3)           | 60            | 0             | Byproduct of drinking water disinfection   | R    | Yes              |
| Lead (ppd) (6/14/2017)        | 90% = 5.3 (1 of 30 sites over AL)  | AL = 15       | 0             | Corrosion of household plumbing systems; erosion of natural deposits<br>See page WQR 3   | R    | Yes              |
| Sodium (ppm)                  | 6.33                               | U             | U             | Erosion of natural deposits  | U    | NA               |
| Sulfate (ppm)                 | 18.2                               | U             | U             | Erosion of natural deposits  | U    | NA               |
| Trihalomethanes (TTHM) (ppb)  | Avg. = 16.1 (5.1 – 24.1)           | 80            | 0             | Byproduct of drinking water disinfection   | R    | Yes              |

|                               |                                    |          |         |  |   |     |
|-------------------------------|------------------------------------|----------|---------|--|---|-----|
| CITY OF MINNEAPOLIS           |                                    |          |         |  |   |     |
| Total Chlorine (ppm)          | Avg. = 3.18 (2.6 to 3.5 ppm)       | 4 MRDL   | 4 MRDLG | Water additive used to control microbes  | R | Yes |
| Copper (ppm) (07/25/18)       | 90% = 0.06 (0 of 50 sites over AL) | AL = 1.3 | 1.3     | Corrosion of household plumbing systems; erosion of natural deposits   | R | Yes |
| Fluoride (ppm)                | Avg. = 0.69 (0.64 to 0.75)         | 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. = 28.4 (1.2 to 42)            | 60       | 0       | Byproduct of drinking water disinfection   | R | Yes |
| Lead (ppb) (07/25/18)         | 90% = 3.8 (2 of 50 sites over AL)  | AL = 15  | 0       | Corrosion of household plumbing systems; erosion of natural deposits   | R | Yes |
| Nitrate (as nitrogen) (ppm)   | 0.2                                | 10.4     | 10.4    | Runoff from fertilizer use; leaching from sewage; erosion of natural deposits  | U | NA  |
| Trihalomethanes (TTHM) (ppb)  | Avg. 28.7 (6.2 – 45.9)             | 80       | 0       | Byproduct of drinking water disinfection   | R | Yes |
| Turbidity (NTU)               | 0.35                               | NTU      | NA      | Soil runoff  | R | Yes |

| Detected substance   | Range of percent removal achieved | Average of percent removal achieved | Typical source of substance          | Quarters out of compliance |
|----------------------|-----------------------------------|-------------------------------------|--------------------------------------|----------------------------|
| CITY OF MINNEAPOLIS  |                                   |                                     |                                      |                            |
| Total organic carbon | Avg.=59% (52 – 63%)               | 25 to 30%                           | Naturally present in the environment | 0                          |

| Contaminant                          | Comparison Value | Highest Average Result or Highest Single Test Result | Range of detected test results |
|--------------------------------------|------------------|--|--------------------------------|
| CITY OF BLOOMINGTON                  |                  |  |                                |
| Manganese                            | 100 ppb          | 1.29 ppb   | 0.00-1.29 ppb                  |
| Group of 6 Haloacetic Acids (HAA6Br) | NA               | 0.66 ppb   | 0.60-0.72 ppb                  |
| Group of 9 Haloacetic Acids (HAA9)   | NA               | 12.74 ppb  | 11.19-14.14 ppb                |
| CITY OF MINNEAPOLIS                  |                  |  |                                |
| Manganese                            | 100 ppb          | 0.61 ppb   | 0.00-1.31 ppb                  |
| Group of 6 Haloacetic Acids (HAA6Br) | NA               | 1.09 ppb   | 0.00-2.73 ppb                  |
| Group of 9 Haloacetic Acids (HAA9)   | NA               | 20.38 ppb  | 2.18-41.80 ppb                 |

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

\*\* Follow-up sampling showed no contamination present.