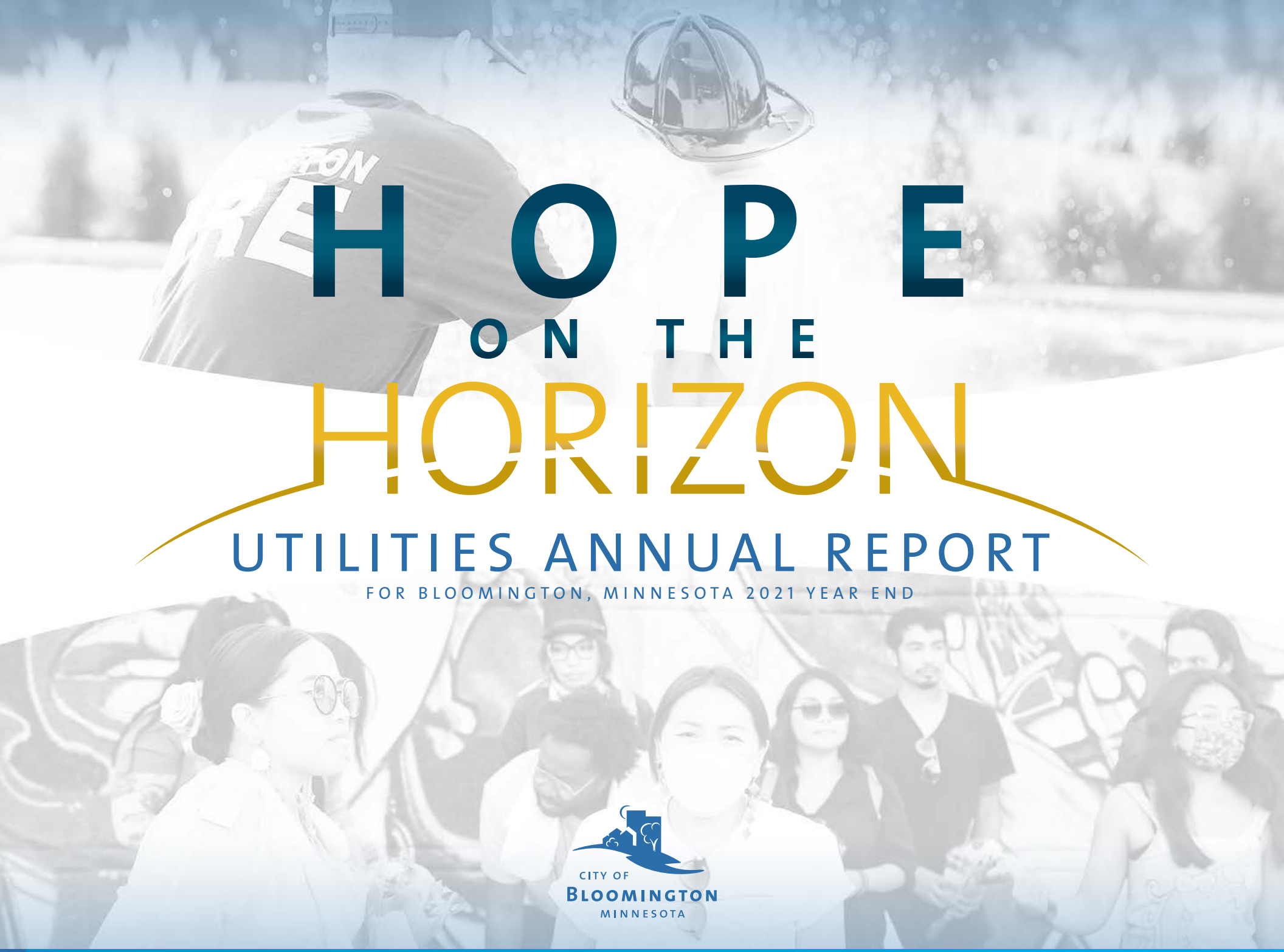
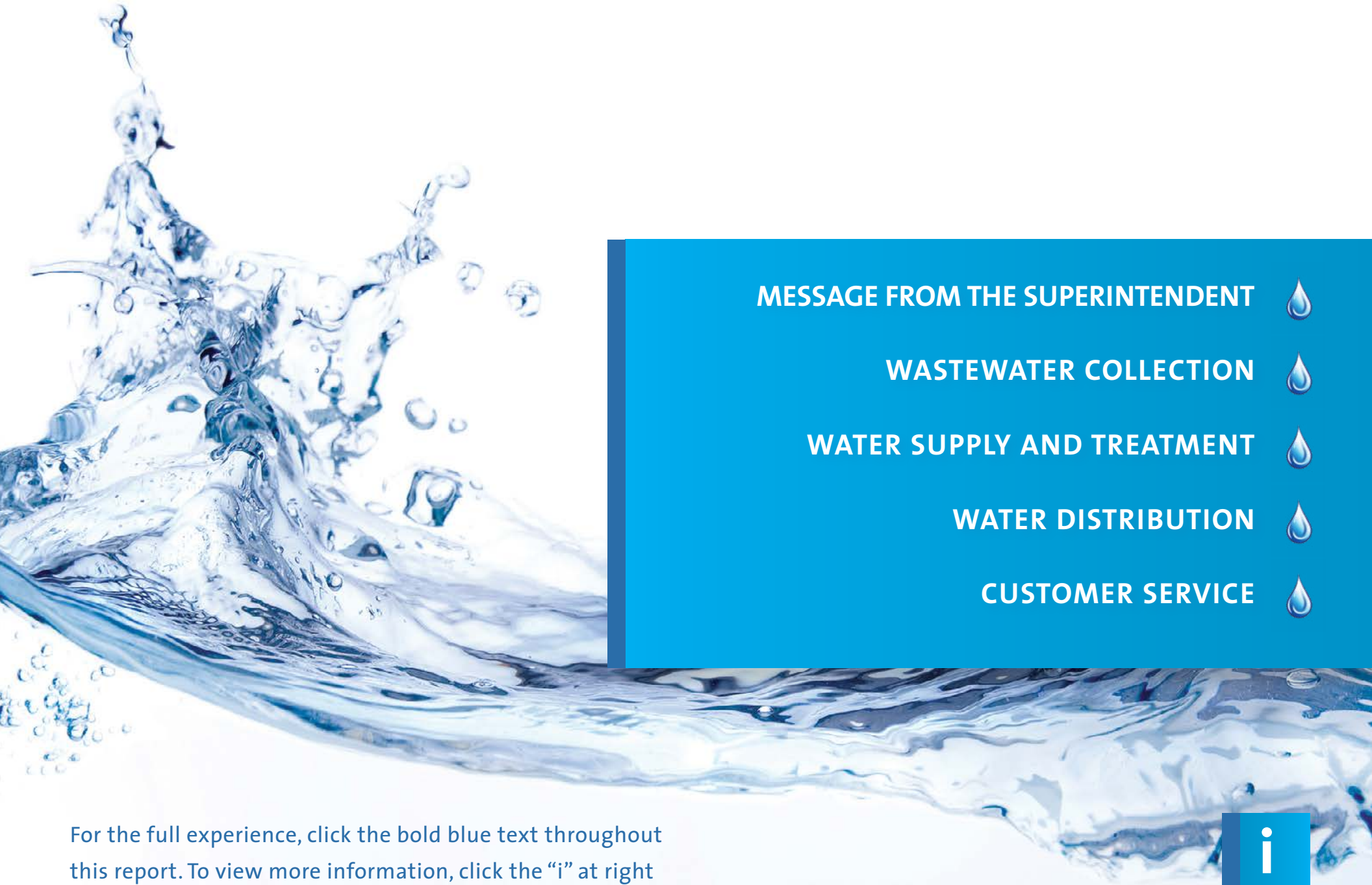


HOPE ON THE HORIZON

UTILITIES ANNUAL REPORT

FOR BLOOMINGTON, MINNESOTA 2021 YEAR END

CITY OF BLOOMINGTON MINNESOTA



For the full experience, click the bold blue text throughout this report. To view more information, click the "i" at right for details.

MESSAGE FROM THE SUPERINTENDENT

Just when we thought we were getting to a point where the challenges of 2020 were behind us, 2021 reminded us that we must be continually prepared for events that are outside of our control.

The metro area along with most of the state experienced significant drought conditions resulting in water use restrictions being implemented in Bloomington for possibly the first time. The restrictions implemented were done so in concert with the City of Minneapolis and as outlined in the City's State-approved Water Supply Plan. Luckily, the restrictions faced by Bloomington's customers were predominantly limited to outdoor lawn irrigation to an odd-even schedule. Just as discussions were occurring to move to a more stringent phase of restrictions, Mother Nature cooperated and provided much-needed rain which helped move the area to a more favorable drought condition.

While water use restrictions have not been common in Bloomington, they became a necessary tool last year to help protect and ensure adequate water supplies for the region for the most critical needs such as household uses and firefighting. Bloomington is fortunate to have a dual-source water supply (look for more information on our website and upcoming Water Quality Report) consisting of both surface water and groundwater. Having two sources provides the City with flexibility and resiliency when it comes to ensuring a safe and uninterrupted water supply to residents and businesses.

The Utilities Division also continued providing high-quality wastewater services and completed work on a significant renewal project at the James Avenue Lift Station. This project was part of the City's asset renewal program and included concrete restoration, HVAC, electrical, and pumping improvements to reset the clock on this infrastructure for another 50 years or more!

Despite unforeseen challenges, it was another successful year, and I would like to thank the entire Utilities Division for their expertise, dedication, and resourcefulness, as well as thank the community for their continued support.

The Utilities Division employed more than 50 people, with a budget of more than $31 million.

ALSO IN 2021

- The Utilities Division employed more than 50 people. Professionalism is a highly touted value within the Division. All operations staff are encouraged to continue to ascend their **STATE LICENSES**.
- Utilities continued its **TOTAL ASSET MANAGEMENT** plan with the global goal of institutionalizing the program.

The Administrative Section of Utilities is committed to providing a comprehensive water and wastewater utility services package at a rate that is less than the average cost of other cities providing a similar level of service. Each year, the Utilities Division is benchmarked in our **ANNUAL RATE SURVEY** against similar utilities. Rates are ultimately driven by the **WATER AND WASTEWATER FUNDS' EXPENSES.**

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WASTEWATER WORK WITH THE MNDOT I-494: AIRPORT TO HIGHWAY 169 PROJECT

In 2021 Bloomington worked with MnDOT Engineers and Consultants to start identifying needed wastewater system work in the proposed I-494: Airport to Highway 169 project area. Staff has been watching for project design elements that conflict with existing sewer pipes and structures. Bloomington can also request that some needed wastewater system upgrades (located within the project limits) be included. In some cases, MnDOT will pay for wastewater infrastructure to be moved out of the way of highway features, while in other cases, the MnDOT design will be altered to avoid the conflicts. The cost for any requested wastewater system upgrades that fall outside of the original MnDOT project scope or limits will be the responsibility of Bloomington.

The Identified Wastewater Work Items Include:

- Replacing roughly 2,600-feet of existing 10-inch cast iron sewer main with new pipe installed on a helical piling system. (Located in W 78th St - Computer Ave to W 78 St Cir). Cost shared between MnDOT and Bloomington as some pipe needs to be moved and the rest (located outside the project limits) needs to be replaced.
- About 700-feet of 18-inch pipe, which crosses I-35W at W 80 1/2 St, needs to be upsized to 24-inch pipe so that it will have capacity for estimated future peak flows. A defective CIPP repair in the area will also be fixed. Bloomington will be responsible for the cost of this work.
- Modeling indicates the Met Council's 18-inch regional interceptor sewer, crossing I-494 at Computer Ave, will flow at 91 percent of capacity with estimated peak flow conditions by year 2030. This information was shared with the Met Council. Any requested changes to the interceptor must come from the Met Council.
- A total of 4,800 feet of inactive 9-inch thru 12-inch sewer mains along with 22 manholes will be abandoned in place. Properties along these routes currently receive their sewer service from another portion of the system.
- There are 22 sewer manholes in the project called out needing adjustment as part of the MnDOT work. If done according to current City specifications the result will be reduced inflow and infiltration at those manholes.
- CCTV inspection records for 114 sewer lines in the project area were evaluated. Inspection for 14 of those segments were incomplete. Scheduled cleaning and revised CCTV of these segments may identify additional needed work.

Almost 8 million gallons of wastewater flow out of the City each day. The City's 28 pumping stations are used to move more than 2 million gallons of that flow.

Wastewater Collection strives to provide the continuous conveyance of wastewater into the regional treatment system. One benchmark used to evaluate Utilities' performance is the number of **POSITIVE SEWER STOPPAGES** in 2021 – our goal continues to be zero stoppages. The Division used routine operational and maintenance activities, such as **SEWER JETTING AND RODDING**, and **CLOSED CIRCUIT TELEVISING** to keep the sewage flowing in 2021.

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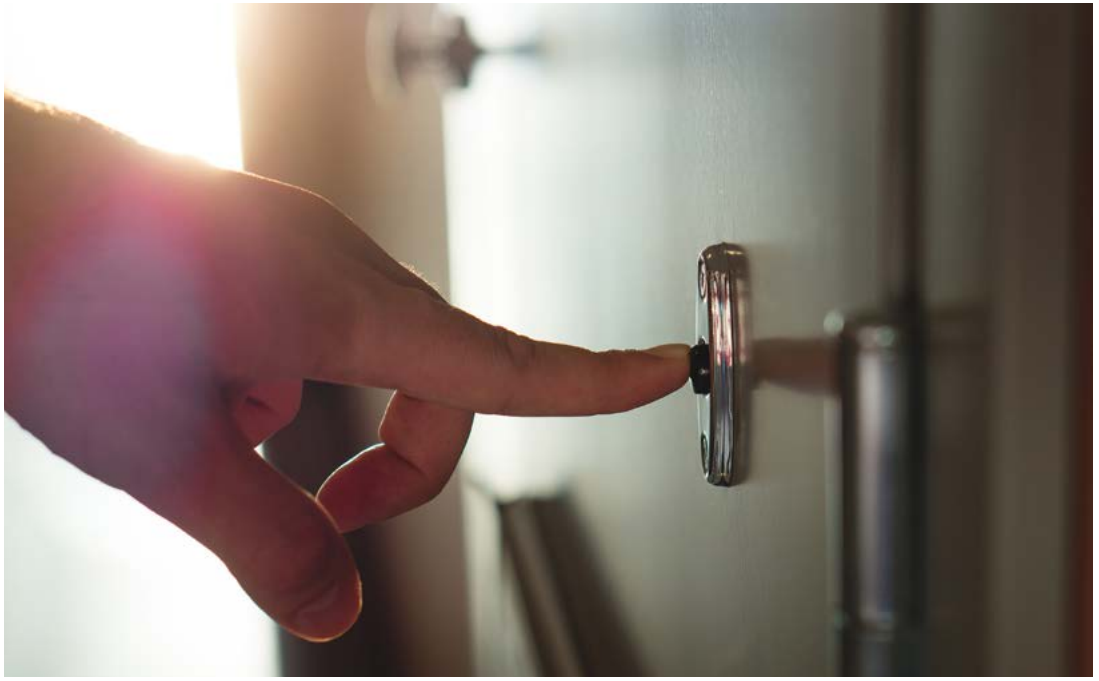
BUYER BEWARE: EVERYTHING YOU NEED TO KNOW ABOUT WATER QUALITY TO PREVENT SALESMAN SCAMS!

We all know there are scammers out in the world that are ready to pounce on the vulnerable. Those businesses that offer "free" water quality tests hoping to scare you into purchasing an expensive filtration system or water softener, etc.

During a recent phone call from a concerned resident, it was brought to my attention that a plumber came to their home, offering free water testing. He added a pill to this and some colored drops to that, swished it around a few times in the test tube and then directed the resident to avoid drinking the water. He proceeded to tell the resident that the water contained high chlorine; chlorine levels were like pool water. He also told them that the water was extremely hard.

Salesmen, plumbers and so-called filtration experts will try to pull the wool over your eyes to sell you something that you may not need. It is important to get the facts before inviting these people into your home. These people use scare tactics and promise to help you get the best water possible by lying to you. Here are some things to consider...

1. Most tests can't be accomplished by simply adding a pill or colored drops to tap water. Most certified lab tests are complex and use sophisticated equipment and educated analysts to run them.



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WATER SUPPLY AND TREATMENT

2. Municipal water can sometimes have a taste/odor issue. This taste/odor comes from the organics that are in the river water, not from bacteria. In fact, bacteria in water is unobservable to the naked eye and doesn't have a specific taste or smell. Municipal water supplies kill any and all bacteria by adding chlorine to the water system.
3. Calcium spots that appear on or around faucet fixtures or on glasses is NOT hazardous nor is it considered "bad" water quality. Calcium is a natural element in ground water and is part of the lime softening treatment process. Calcium in the water is a good thing because it prevents corrosion.
4. Municipal water is extremely regulated and numerous tests are done on it every year.

Side notes...

Complex water filtration systems can remove necessary minerals that your body needs and can become a breeding ground for bacteria. Most water softeners remove too many calcium and magnesium ions which will create corrosive water and leach lead and copper from your household plumbing.

Just remember...

Ask crucial questions and become informed. Call your municipality to get the answers you need!

Between October 11 and November 1, 2021, 13,834 tons of Agricultural Liming Material were transported and spread over 1,588 acres of farm fields.

Water Supply and Treatment strives to provide a sustainable supply of water that meets or exceeds all federal and state standards.
A benchmark of this endeavor is the results reported in the federally mandated **WATER QUALITY REPORT.** In 2021, water usage fell short of the **PROJECTED DEMAND.**

DELIVERING WATER – HEAT, DROUGHT, COVID AND SUPPLY CHAINS

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The Bloomington Water Utility's goal to provide the best water under any circumstances that may arise requires redundancy, resiliency, and dedication of our staff and infrastructure.

In 2021, we experienced:

- COVID pandemic impacts to residents and businesses, keeping workers safe and available, and especially the hospitality industry which struggles with limitations,
- Near record heat, drought, high water demands (Peak demand of 21MGD) and regional watering restrictions,
- Delays of materials due to supply chain disruptions affecting maintenance and construction,
- And the normal challenges of delivering quality water for Bloomington's residential, commercial, industrial, and firefighting requirements.

Bloomington has redundancy with two sources of treated water, our Water Treatment Plant (up to 14 MGD) and water purchased from Minneapolis via two large transmission pipes, 36" and 42" that cross under Highway 62 and 494 and Richfield.

Our average daily demand in 2021 was about 10 million gallons per day (MGD). About 3 MGD came from Minneapolis, but in June it averaged over 6 MGD for ten days, with a peak of 9.5 MGD. Maintaining these two Minneapolis transmission lines is critical for Bloomington to meet summer demands and provide vital fire protection. We plan for construction or maintenance during off-season, between late-fall and spring (Resiliency in supply). The 42" pipe was realigned in winter 2019/2020 under 494 for the Orange Line BRT tunnel along Knox Avenue. It appears the 36" pipe will be impacted and require realigning with the future 494 construction, likely to be replaced by tunneling under the existing freeway. Bloomington Planning, Engineering and Utilities staff have been meeting with MnDOT, their consultants, and other stakeholders on the future 494 project, from Hwy 169 to the airport. While the roads and bridges are the most visible aspects, there are numerous buried facilities that will be impacted. Along with the private utilities including gas, power, and communications, there are over 80 impacts to City-owned sewer and water. A handful are sewer and water freeway crossings, others will be impacted by loss or alteration of the frontage roads. MnDOT is moving forward with a design/build process, meaning a consortium of consultants and contractors bid on both design and build. This process has benefits in speed and cost but will require local agency design reviews and construction oversight for the duration of the project (Dedication over years).

Other large projects in 2021 included the rehabilitation of the Round 10MG Reservoir at 82nd & Penn and repairing a watermain leak on the 42" Knox supply line. The 10 MG Reservoir is a 245-foot diameter concrete tank, originally constructed in 1964; the rehab work included interior joint repairs, replacing interior and exterior overflow piping, and ladder and hatch safety improvements. The nearby below ground 10MG was rehabbed two years ago, again Redundancy.

A leak was discovered by an Orange Line contractor at the intersection of Knox Ave. and American Blvd. in early August. We were able to identify the leak at joint of the 42" Prestressed Concrete Cylinder Pipe the next day and start procurement of these specialty pipe repair products. Materials were sourced from multiple suppliers. The pipe and fittings were received within the expected 10–12-week lead time, but specialty (1-1/4"x8") stainless steel T-bolts didn't arrive until near the end of November; Resiliency and dedication of crews and our contractor to work in winter conditions due to supply chain problems. More information on the watermain repair is detailed under the Customer Service Section.

The water distribution system's 4,600 hydrants and 6,900 valves require constant vigilance.

Water Distribution strives to provide an uninterrupted flow of high quality potable water for both domestic and firefighting purposes. The largest potential disruption to service occurs as a result of main breaks.

There were 19 **MAIN BREAKS REPAIRED** in 2021.

The **10-YEAR AVERAGE** for main breaks is 25 per year.

42 INCH SUPPLY LINE

Bloomington Utilities strives to constantly provide high-quality drinking water to residents and businesses throughout the city of Bloomington. At times, the services may be interrupted due to scheduled construction or emergency watermain leaks. Bloomington crews routinely repair watermain leaks with City-owned resources; most of the leaks occur on cast iron and some ductile iron pipe that is between 6" to 12" diameter.

This past year, a watermain leak occurred at the intersection of Knox Ave. and American Blvd. that required a private contractor to be hired for the repair due to the size and weight of the watermain. The watermain is a 42" diameter pre-stressed concrete cylinder pipe (PCCP) that supplies the City of Bloomington with water from the City of Minneapolis as a supplement to the water that is produced at Bloomington's Water Treatment Plant. The 42" supply line does not directly supply any customers with water and was able to be shut down without interruption of service to customers.

Approximately 15' of the watermain had to be replaced, each foot weighs 575 pounds, with the new ductile iron pipe weighing 275 pounds per foot. The ductile iron pipe has additional coatings and is also covered in polyethylene to protect from corrosion. All of the parts for the repair needed to be special ordered and, due to the pandemic, some of the parts took several months to arrive. That said, with the material delays and scheduling conflicts, the repair took place the first week of December with temperatures not climbing out of the single digits. While the initial repair duration estimate was anticipated to take up to five days, and given the congested underground utilities that crews had to work around, they still completed the large-scale repair in under four days.

Due to the time of year that the repair took place, the street was temporarily patched with concrete and will be fully restored in the spring

Customer Service processes more than 135,000 meter readings per year and manages approximately 27,000 accounts

Photos courtesy Valley Rich Co. Inc.
Photo on the top of repair pipe lowered into the hole; bottom photo after repair completed.

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HOW TO READ YOUR WATER METER

Your water meter can be one of the biggest tools you have in helping you manage your water efficiently and effectively. One way to keep track of how much water you use is to read your own water meter every now and then.

Reading the meter is easy, the City of Bloomington's water meters measure in Gallons. First, look at your water meter to determine if you have an analog (dial with numbers) or a digital display. Your water meter reads exactly like a car odometer. Read all the numbers from left to right. The vast majority of water meters are read electronically (commonly known as touch-read), which means the water meter gets a digital readout from the water meter reading dial which is located outside of your property. Below is a step-by-step process for reading your water meter based on the type of meter you have.

Reading the Analog display

The large sweeping hand on the dial measures water use in gallons. One gallon of water passes through the water meter as the sweeping hand moves from one number to the next (example 0 to 1). A complete rotation equals 10 gallons of water. That said, most analog dials have a low-flow indicator that turns as water moves through the water meter. This indicator typically looks like a small triangle (shown), star, or gear.

Analog Example: The sweeping hand is on the "1" so the read is 0538811 gallons. The last number on the right is a static zero and does not change. When the sweeping hand is on the "2" the read will be 0538812 gallons. When you record your reading, make sure to use the number indicated by the sweeping hand as the final digit.

Activating and Reading the Digital Display (LCD)

The digital water meter needs light for activation, so you may need to shine a flashlight or use your phone light on it. The LCD display alternates between the meter read and the flow rate. The meter read equals the gallons used, while the flow rate equals the number of gallons per minute flowing through the water meter.

LEAK DETECTION TEST

For Analog Display Water Meters

- Observe the sweeping hand. If it is moving and you are not using any water, you have a continuous leak.
- Observe the low-flow indicator. If it is moving, you have a continuous leak.
- Some leaks are so small that the movement is almost undetectable. In this case, to determine if you have a slow leak:
  - Read your water meter and record the numbers (see example below). Use the number indicated by the sweeping arm as the final digit (1st reading).
  - Wait 30 minutes, then read your water meter again and record those numbers (2nd reading).
  - Subtract the first water meter reading from the second.
  - If the gallons used is greater than zero, then you have a leak.

2nd Read:	enter 2nd reading
- 1st Read:	enter 1st reading
= Gallons Used:	

Customer Service continually strives to meet or exceed our customers' expectations. In addition to the permitting duties, staff is charged with mandated **ONE-CALL UTILITY LOCATING.** Customer Service also oversees the water meter maintenance program, and read more than 134,480 readings in 2021.

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