2024
PUBLIC WATER SUPPLY SYSTEM
ANNUAL REPORT

Brandon, Manitoba

2024 PUBLIC WATER SUPPLY SYSTEM
Annual Report

Contents

INTRODUCTION

1.0 PREAMBLE

The City of Brandon Water Supply System is pleased to present this year's Annual Report. This report provides information about the quality of water services delivered to the City of Brandon every day. The goal is to provide all water users with a safe and reliable drinking water supply and to inform existing and future users of the efforts made to continually improve the water supply system.

The City of Brandon (the City) owns and operates its public water supply system and it is regulated by the Province's Office of Drinking Water to produce potable water under the *Drinking Water Safety Act*. In accordance with the *Drinking Water Safety Act*, the City's water supply system operates under a provincial licence. The Operating Licence has a five-year term and prescribes the terms and conditions required in order for the Utility to remain in compliance with the *Act*. The *Act* and supporting regulations can be viewed at the following website:

- Environment and Climate Change | Province of Manitoba (gov.mb.ca)

This Annual Report will cover all compliance and non-compliance issues within the regulations and will discuss any corrective actions required to bring non-compliance issues within compliance as per the regulations.

2.0 DESCRIPTION OF THE WATER SUPPLY SYSTEM

The City of Brandon has been providing water to the community since 1893, and in its current location since 1905. The City's current Public Water Supply System provides potable water to over 51,300 residents. The treated water that the water system provides has a defined number of parameters that are used to establish and monitor potable water quality. These parameters are to be in compliance with the Province of Manitoba *Drinking Water Quality Standards Regulation* under the *Drinking Water Safety Act*.

The Province of Manitoba regulates the City of Brandon water infrastructure and designates the associated facility classifications as stated in the *Water and Wastewater Facility Operators Regulation* under the *Environment Act*, as indicated in **Table 1**. The Operators in each of the facilities must obtain individual Certifications through training and experience to match those of the facility where they work.

Table 1. City of Brandon Water Facility Classifications

Facility	Classification
Water Treatment Facility	Class IV
Water Distribution Facility	Class IV

2.1 Water Treatment Source Water Supply

The City's Water Treatment Facility draws its source from the Assiniboine River. The Assiniboine's flow in Brandon is primarily controlled upstream by the Shellmouth Dam located north of Russell, Manitoba. Major tributaries to the Assiniboine River are the Qu'Appelle River from the west and the Little Saskatchewan River from the north, with dams at Minnedosa, Rapid City, and Rivers, Manitoba.

Water flows from the Assiniboine River to the City's intake wells through four gates located in the intake structure on the riverbank. From these gates, the water flows into two separate intake chambers and then through 1500 mm pipes from each chamber to a central circular well. From the circular well, the water flows through a 1500 mm pipe approximately 300 meters to the raw water wells located inside the Water Treatment Facility.

Potassium permanganate and activated carbon are added to the raw water, prior to entering the Water Treatment Facility, to help reduce taste and odor producing compounds during the spring and summer months.

2.2 Water Treatment Process

The City of Brandon currently utilizes a conventional water treatment process. The multiple barrier treatment approach is the guiding principle for providing safe drinking water. Low lift pumps deliver the raw water directly to three solid contact units inside the Water Treatment Facility. These units have a combined nominal design capacity of 54ML (million liters) per day. The two smaller process trains each have a nominal design capacity of 13.6ML per day. The largest process train has a nominal design capacity of 27.2ML per day. Each process train combines the functions of solids contacting, mixing, coagulation, flocculation, solids-water separation and sludge removal inside a single tank. Alum is added at the low lift pumps for coagulation and anionic polymer is added to the solids contact unit for flocculation. Lime and soda ash are added into the solids contact units to soften the water.

Chemicals are added to the solids contact units by feed pipes from the new chemical plant's feed systems. These pipes extend down into the reaction zone of the solids contact units. The excess sludge that is formed settles and is removed from the process by blow down valves at the bottom of each of these units. This sludge goes to a receiving station where the heavier particles settle to the bottom and the clear water overflows a weir and goes back to the river. The heavier sludge is pumped to a gravity thickener inside the Sludge Dewatering Facility where it is mixed with anionic and cationic polymers, then pumped onto belt presses where the water is separated via the belt presses. The dried sludge from the Sludge Dewatering Facility is transported and used on farmers' fields for soil conditioning purposes. Approximately 42-63 tonnes of sludge is removed per day.

Following the treatment softening process in the solids contact units, carbon dioxide is diffused through the water in a re-carbonation basin to control the pH level in the water so that it is suitable for human consumption and provides corrosion control for pipes. The stabilized water from the re-carbonation basin flows through 16 rapid sand filters into clear well storage located inside the Water Treatment Facility. Before the finished water is pumped to the distribution system, chlorine is added to the water for disinfection and fluoride is added for tooth protection. To provide an extra measure of safety, the water is finally disinfected with ultraviolet light before it is distributed from the Water Treatment Facility.

2.3 Distribution System

The high lift pumps at the Water Treatment Facility convey water to the distribution system and the 9th Street Reservoir. There are also two transfer pumps inside the Water Treatment Facility that can pump directly to the Reservoir, bypassing the distribution system. These transfer pumps can act as a backup for the high lift pumps to move water through the City. The Reservoir provides a short term water reserve for the City if additional water demand is required. There are four booster pumping stations located on the distribution system which help to maintain constant water pressure throughout the City, in addition to the pumping station located at the Reservoir.

The water distribution system network includes nearly 274kms of watermain pipe, ranging in size from 150mm to 900mm diameter. There are approximately 14,700 individual water service connections in Brandon.

2.4 Groundwater Supply

The City maintains two emergency supply wells along the Assiniboine River Valley. These wells were completed in 1996 in order to provide the City with a short-term emergency back-up source of water in the event that the Assiniboine River source becomes temporarily interrupted. Although the annual groundwater withdrawal is limited, since 2011 the City has been authorized to use the wells on a non-emergency basis. Well water is blended with the river source during spring runoff and other periods when the river turbidity is high or the quality is poor from elevated organic carbon and hardness. Turtle Crossing Well is planned to be back in service in 2025 after extensive damage due to flooding.

The City is in year three of a five year ground water monitoring program to collect comprehensive data, analysis and an interpretation of the Assiniboine River Valley Aquifer and Assiniboine Delta Aquifer hydrogeological system with the expertise of consulting engineers. While this work is required for continued use of the aquifer, the analysis will inform decision makers on the long-term viability of this water supply for back up emergency situations that may arise.

WATER QUALITY

3.0 WATER QUALITY STANDARDS

The following regulatory requirements form the basis of the City's water supply system operation in regards to monitoring and reporting in accordance with the Operating Licence. The standards are unchanged from the previous year.

3.1 List of Water Quality Standards

The Province of Manitoba has adopted a number of health-based parameters that the water supply system is required to achieve. The water quality standards are specified in **Table 2**.

Table 2. Water Quality Standards

Parameter	Quality Standard
Total coliform	Less than one total coliform bacteria detectable per 100 mL in all treated and distributed water
E.coli	Less than one *E. coli* bacteria detectable per 100 mL in all treated and distributed water
Chlorine residual	• A free chlorine residual of at least 0.5 mg/L in water entering the distribution system following a minimum contact time of 20 minutes • A free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution system
Ultraviolet Disinfection	• 95% of water produced per month is disinfected within validated conditions
Turbidity	• Less than or equal to 0.3 NTU in 95% of the measurements in a month of the effluent from each operating filter • Not exceed 0.3 NTU for more than 12 consecutive hours of filter operation • Not exceed 1.0 NTU for any continuous measurement
Total Trihalomethanes (THMs)	Less than or equal to 0.10 mg/L as locational running annual average of quarterly samples
Total Haloacetic acids (HAAs)	Less than or equal to 0.08 mg/L as locational running annual average of quarterly samples
Arsenic	Less than or equal to 0.01 mg/L
Benzene	Less than or equal to 0.005 mg/L
Ethylbenzene	Less than or equal to 0.14 mg/L

Fluoride	Less than or equal to 1.5 mg/L
Lead	Less than or equal to 0.005 mg/L in the water distribution system
Nitrate	Less than or equal to 45 mg/L measured as nitrate (10 mg/L measured as nitrogen)
Trichloroethylene	Less than or equal to 0.005 mg/L
Tetrachloroethylene	Less than or equal to 0.03 mg/L
Toluene	Less than or equal to 0.06 mg/l
Total xylenes	Less than or equal to 0.09 mg/l
Uranium	Less than or equal to 0.02 mg/L

4.0 WATER QUALITY RESULTS

The results of the City's water testing program are detailed, as required, in the following sections.

4.1 Bacteriological

As indicated in **Table 2,** the Office of Drinking Water directive on regulatory information for public water systems requires less than one *Escherichia Coli (E. coli)* per 100-milliliter sample of water, and less than one Total Coliform per 100-milliliter sample of water, collected from the water distribution system.

The Water Treatment Facility Operators collect weekly water samples from the Assiniboine River, the laboratory tap in the Water Treatment Facility, and 18 separate locations throughout the entire City to confirm bacteriological compliance. In 2024, there were over 900 routine tests performed for Total Coliform and *E. coli* from the City's water distribution system.

4.2 Disinfection

On Monthly Disinfection Reports, the City must record and report the results of disinfection monitoring to the Senior Regional Drinking Water Officer. Corrective Action Report forms must also be completed in instances where adequate chlorine residuals have not been met.

The minimum chlorine residual entering the distribution system following at least 20 minutes of contact time at the Water Treatment Facility is 0.5 mg/L. The chlorine dosing and residuals at the Water Treatment Facility are to be controlled to ensure that this requirement is met using online analyzers and continuous monitoring. This is an extremely important part of the operation in order to disinfect the water against bacteria and viruses. Chlorine residuals are also monitored and maintained throughout the distribution system to ensure adequate

disinfection. With over 107,000 online samples taken in 2024, there were no incidences recorded where the disinfectant residual went below the minimum requirement of 0.5mg/L.

Every week the Water Treatment Facility Operators test the water for chlorine residuals at each of the bacteriological sample locations throughout the City. The City is required to maintain at least 0.10 mg/L free chlorine residual in the distribution system. With over 936 free chlorine samples collected in 2024, there were no incidences where the residual was less than 0.10 mg/L.

To guard against an outbreak of Giardia lamblia and Cryptosporidium, the Water Treatment Facility's ultraviolet (UV) light disinfection equipment and controls must be maintained to achieve results greater than or equal to 95% of the water produced per month undergoing UV light disinfection within validated conditions and at a minimum dose of 24 mJ/cm^2. In 2024, the Water Treatment Facility operated and maintained the ultraviolet disinfection systems as required by the regulators. Regular monthly ultraviolet disinfection reports are submitted to the Office of Drinking Water.

4.3 Turbidity

The water supply system has to meet specific turbidity standards and ensure that appropriate monitoring and reporting programs are in place to demonstrate compliance with the standards. The Water Treatment Facility has 16 rapid sand filters, each with online turbidity instruments that measure the turbidity continuously. These readings are recorded on trend charts and spreadsheets on the computer system every five (5) minutes.

The turbidity standard readings of the water leaving the filters are to be less than or equal to 0.3 NTU (turbidity units) in 95% of the measurements in a month, not to exceed 0.3 NTU for more than 12 consecutive hours of filter operation and not to exceed 1.0 NTU for any measurement. There were no incidents through out the year where the filters did not meet these standards. Corrective actions were taken and the multi-barrier treatment approach ensured that there was no risk to public health.

4.4 Chemical

The annual audit report indicates that all of chemical results from the treated water samples met the water quality standard. Chemical results are primarily reported on quarterly, with averages included herein; however, Haloacetic Acids (HAAs) and Trihalomethanes (THMs) results are included as annual running averages of quarterly samples. The 2024 results of all chemical tests are summarized in **Table 3**, **Table 4**, and **Table 5**.

Table 3. Treated Water Chemical Sample Results

Parameter	Water Quality Standard	Source Water (mg/L)	Civic Works Sample (mg/L)
Arsenic	Less than or equal to 0.01 mg/L	0.00062	0.00071
Benzene	Less than or equal to 0.005 mg/L	<0.00050	<0.00050
Ethylbenzene	Less than or equal to 0.14 mg/L	<0.00050	<0.00050
Fluoride	Less than or equal to 1.5 mg/L	0.155	0.630
Lead	Less than or equal to 0.005 mg/L in the water distribution system	0.000197	0.000207
Nitrate	Less than or equal to 45 mg/L measured as nitrate (10 mg/L measured as nitrogen)	< 0.010	0.160
Trichloroethylene	Less than or equal to 0.005 mg/L	<0.00050	<0.00050
Tetrachloroethylene	Less than or equal to 0.03 mg/L	<0.00050	<0.00050
Toluene	Less than or equal to 0.06 mg/L	<0.00050	<0.00050
Total xylenes	Less than or equal to 0.09 mg/L	<0.00064	<0.00064
Uranium	Less than or equal to 0.02 mg/L	0.00337	0.000094

Note: Average for quarterly samples of source and treated

The chemical results of water tests performed at the standard sample locations were in compliance with the requirements of the Operating Licence, as shown in **Table 3**.

HAAs and THMs are chemicals that are categorized as Disinfection By-Products and are not found in the City's source water. When chlorine is added to water with organic matter, the chemical reaction can result in by-products, the most common of which are HAA and THM. With chlorine as the City's primary disinfectant, used to destroy or inactivate many harmful microorganisms, it is important to monitor the occurrence of the Disinfection By-Products in the distribution system.

Table 4. HAAs Sample Results

Date	Sample Location				Limit (mg/L)
	Willowdale 7-11 (mg/L)	Reservoir (mg/L)	Civic Works (mg/L)	1st Street Booster Station (mg/L)	
Feb 7/24	0.038	0.050	0.064	0.044	**0.08**
May 6/24	0.083	0.102	0.103	0.086	
Aug 7/24	0.045	0.090	0.097	0.077	
Nov 5/24	0.031	0.043	0.059	0.032	
Average	**0.049**	**0.071**	**0.080**	**0.060**	

Note: HAA results were at or below the locational running annual average of quarterly samples, which are to be less than or equal to 0.08 mg/L

As defined in the Operating Licence, the HAAs quality standard is to be less than or equal to 0.08 mg/L as locational running annual average of quarterly samples. The Office of Drinking Water has identified sample locations and months for collecting samples for HAAs for the City. Based on these results the City of Brandon was in compliance and met the Provincial standards for 2024.

Table 5. THMs Sample Results

Date	Sample Location					Limit (mg/L)
	Water Plant (mg/L)	Comfort Inn (mg/L)	Waverly (mg/L)	Civic Works (mg/L)	River Heights (mg/L)	
Feb 7/24	0.056	0.195	0.106	0.129	0.126	**0.10**
May 6/24	0.083	0.146	0.120	0.148	0.137	
Aug 7/24	0.056	0.175	0.186	0.250	0.195	
Nov 5/24	0.049	0.105	0.118	0.136	0.110	
Average	**0.060**	**0.155**	**0.132**	**0.165**	**0.142**	

Note: THM results were above the locational running annual average of quarterly samples, which are to be less than or equal to 0.10 mg/L

As defined in the Operating Licence, the THMs quality standard is to be less than or equal to 0.10 mg/L as locational running annual average of quarterly samples. The Office of Drinking Water has identified sample locations and months for collecting samples for THMs for the City.

Based on these results the City of Brandon was not in compliance and did not meet the Provincial standards for 2024.

As part of the Water Treatment Facility Master Plan to mitigate Disinfection By-Products in the system, consultants have reviewed the water source and treatment system information, identifying the Water Treatment Facility upgrades necessary to meet this regulatory requirement. Further, the City has employed a subsequent consultant to design the necessary upgrades to be constructed.

The future Water Treatment Facility is based on a new ultrafiltration/nanofiltration (UF/NF) Membrane Treatment Facility capable of providing approximately 50% of the City's design year Maximum Day Demand. The balance of water demand would be made up from the existing Water Treatment Facility processes. The membrane technology will remove raw water organics that react to form Disinfection By-Products and blend the membrane treated water with the existing facility's treated water, which once combined, will meet Provincial standards.

Additional information regarding Disinfection By-Products can be located on the following Government of Manitoba website and Guidelines for Canadian Drinking Water Quality website:

- Disinfection by-products (THMs and HAAs) (gov.mb.ca)
- Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Trihalomethanes - Canada.ca
- Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Haloacetic Acids - Canada.ca

4.5 Lead Programs

The City of Brandon continues to address the issue of lead water service connections that exist in certain areas of the City's distribution system. The City of Brandon Lead Water Services strategy was developed to address issues precipitating from a draft provincial study released in 2013. The study indicated that in some older Brandon homes where lead water service connections were present, lead concentration levels at the water tap were found to be in excess of the National Drinking Water Guideline of 0.01 mg/L at the time of the testing. The National Drinking Water Guideline for lead has since been reduced to 0.005 mg/L.

As part of the City's strategy, several types of messaging were undertaken by the City of Brandon to stress to residents and the wider public that the water supply leaving the City's Water Treatment Facility meets the Provincial Standards and National Guidelines for lead concentrations. The concentration concerns arise strictly from the individual water service connection pipe material in specific, older areas of Brandon.

In 2024, an informational package was issued by the Medical Officer of Health from Prairie Mountain Health that was jointly put together with the Province of Manitoba's Office of Drinking Water and the City of Brandon. This major piece of this messaging was delivered to approximately 14,000 properties in Brandon. The mailout targeted residents based on the age

of the property that have the potential to have a lead water service connection, either: from the water main to the property line, from the property line to the house, or both. While the properties with the potential lead service lines in Brandon is approximately 5,200, the mailout was expanded to capture additional addresses based on postal code nearest the potential lead service line area, as well as to capture each tenant in multi-unit residences with a single service line.

The mailout package contained information on how residents could determine if they had a lead water service connection coming into their home, the health risks associated with lead in drinking water, how they could test their drinking water for lead concentrations, and what steps to take if their test results were found to be above the current National Drinking Water Guidelines. All of this information has been made publicly available on the City of Brandon website at:

- City of Brandon - Lead Water Services Information

In addition to the informational campaigns, the City developed and rolled out a 2016 Water Filter Rebate Program, to provide eligible property owners/residents with a cash rebate of up to $250 to assist with the purchase of water filtration systems and/or filters which meet the NSF/ANSI-53 certification for the removal of lead. This program has continued annually since that time, including in 2024. This program will continue to run in 2025.

Lead service line replacement is the best method of lead leaching mitigation, though the financial commitment to do so can be the deciding factor for many homeowners. The City is reviewing the policy in place to make this option more viable to homeowners on both the public-side and private-side of the lead service line.

As an additional long-term solution, the City of Brandon is evaluating the use of orthophosphate dosing in the water treatment process to mitigate corrosion control and lead leaching in effected service connections through a corrosion control study. Planning for orthophosphate dosing implementation has begun.

4.6 Random Daytime Testing Lead Results

As per **Table 2,** the City is required to meet Provincial guidelines for lead concentration in the water distribution system of 0.005 mg/L. Previous testing and reporting was completed at commercial or institutional sample sites. Residential lead testing and reporting is now a requirement of the City's Operating Licence. With the new reporting requirements, the Province provided the City with guidance; however, specific addresses for sampling were not identified. The City chose a targeted approach to testing by identifying residences for samples that had the potential for lead service lines only and were therefore more prone to have elevated lead concentration in their drinking water. The City chose not to include sample sites confirmed to have newer service lines, or service lines known to be without any lead-based materials. Within the targeted area, residents were notified through social media, flyers and door-to-door campaigns.

Provincial guidelines for a system the size of the City of Brandon require 40 samples to be collected within the community, prioritizing areas of known or suspected lead service lines. Note that targeting the area of the City known to have lead service lines means that the results are not representative of water quality within the entire community.

The Random Daytime Test (RDT) method for reporting was also implemented as the best estimate of lead concentration in the home in accordance with Provincial guidelines. For comparison, the City provided additional testing for samples following a 5-minute flush of the tap, at the same locations. This method of sampling matched methodology provided by the City to residents in previous years, showing the effect of flushing the service line prior to consumption. **Table 6** shows the testing results of the residential lead samples collected for 2024.

Table 6. Residential Random Daytime Testing (RDT) for Lead

Sample Method	Minimum (mg/L)	Maximum (mg/L)	Average (mg/L)	Limit (mg/L)	% of samples above Guideline
RDT sample	0.00005	0.0586	0.00589	0.005	28%
5-min Flush sample	0.00005	0.0523	0.00396		14%

Note: Lead results are not representative of water quality throughout the entire distribution system. Testing was targeted to the area suspected of having lead services.

54 random residential locations within the suspected lead service line area were contacted to voluntarily provide water samples for testing and reporting. Of those contacted, 43 viable samples were collected with results reported herein. From the RDT sample results, 72% of the locations tested came back under the National Drinking Water Guideline of 0.005 mg/L. The 5-minute flush results showed a decrease in exposure to lead, as 86% of the samples collected were under the National Drinking Water Guideline of 0.005 mg/L.

The Province of Manitoba website provides additional details on lead guidelines:

- www.gov.mb.ca/sd/water/drinking-water/lead/index.html

4.7 Fluoride

Manitoba Health and Healthy Living monitors the fluoridation program. They recommend a fluoride range of 0.5-0.9 mg/L, with 0.7 mg/L as the optimal level in drinking water. The City has adjusted and monitors fluoride dosing in the drinking water to comply with this recommendation.

SYSTEM OPERATION

5.0 LICENCE TO IMPOUND WATER

In order to divert water from the Assiniboine River for treatment and consumption, the City of Brandon is required to operate under a provincial Licence in accordance the provisions of *The Water Rights Act*. The City's current Licence was renewed in April 2022. The term of this licence is for five years.

6.0 OPERATIONAL REQUIREMENTS

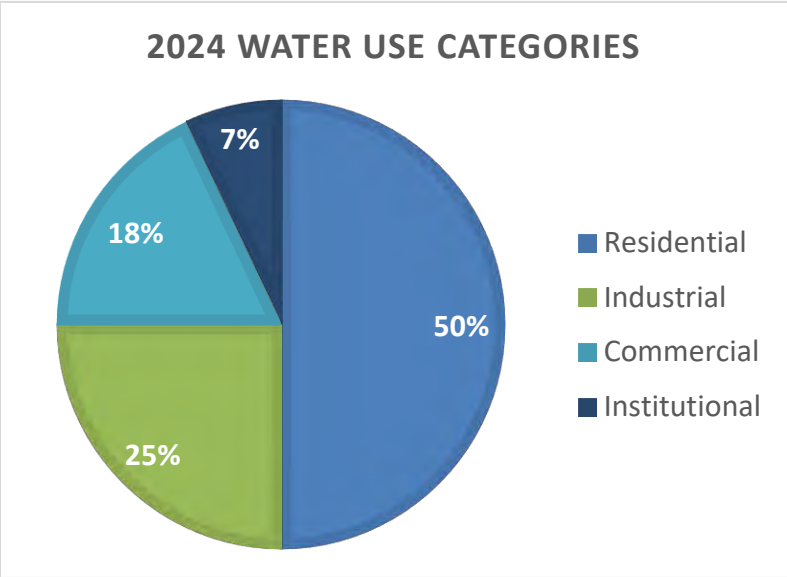
The City of Brandon Public Water Supply System has met its regulatory testing and monitoring requirements in 2024.

The City's Public Water Supply System Annual Report was reviewed, updated and submitted to the Office of Drinking Water prior to March 31st as required under the Operating Licence.

The City's Advisory Notification Plan was reviewed, updated and submitted to the Office of Drinking Water prior to May 1st. This submittal is due annually as per the Operating Licence.

7.0 WATER USE

Water usage is categorized annually, as the demand for water varies based on the use case.



In 2024, approximately 50 percent of the water distributed was used for domestic purposes such as washing, food preparation, lawn sprinklers, toilets, and bathing. In addition, industry consumed approximately 25 percent, commercial customers used approximately 18 percent, and the remaining 7 percent was used by institutions, including schools, government, and churches.

8.0 SAFETY ORDERS & WARNINGS

A safety order or warning may be issued by the City or by the Province if there is a risk to water quality or if an investigation is required within the public water system. They are typically temporary in nature.

8.1 Drinking Water Safety Orders and Actions Taken in Response

In 2024, the City of Brandon issued 77 Boil Water Maintenance Advisories to homes as a proactive measure while work was being completed on watermains in the effected area. Of those advisories 35 were for water main repairs, 17 for engineering renewal projects, 12 for valve replacement, 8 for hydrant repairs and 5 for service line repairs in the distribution system. Each Boil Water Maintenance Advisory impacted small, isolated areas of the distribution system.

8.2 Warnings Issued or Charges Laid on the Public Water Supply System

There were no Drinking Water Safety warnings issued or charges laid on the City of Brandon Public Water Supply System in 2024.

9.0 WATER SUPPLY SYSTEM UPGRADES IN 2024

These renewals and construction will improve service reliability in the surrounding areas.

9.1 Distribution System Upgrades

Distribution watermain replacements and new installations are summarized in **Table 7**:

Table 7. City of Brandon 2024 Distribution System Upgrades

Category	Watermain Location	Size & Length
Replacement	Intersection of 18th Street & Aberdeen Avenue • Replace DI with PVC	200mm – 25 meters 150mm – 6 meters
Replacement	18th Street, Park Avenue to College Avenue • Replace CI with PVC, upsize existing 150mm – 200mm • Replace Water Connection Pipes with copper & municipex	300mm – 34 meters 250mm – 2 meters 200mm – 167 meters 150mm – 15 meters 19mm, copper – 32 meters 50mm, municipex – 11 meters
Replacement	18th Street North, continued from 2023 • Replace CI with PVC • Replace Water Connection Pipes with copper	300mm – 114 meters 150mm – 77 meters 19mm, copper – 244 meters 25mm, copper – 61 meters
New	1901 1st Street • PVC installation	250mm – 639 meters 200mm – 7 meters
New	1307 18th Street North • PVC installation	150mm – 286 meters

New	353 16th Street North • PVC installation	150mm – 67 meters
New	360 Veteran's Way • PVC installation	150mm – 10 meters

9.2 Water Treatment Facility Expansion & Upgrades

In 2024, the preventative maintenance program at the Water Treatment Facility and Booster Stations met internal targets. The existing facilities also saw reinvestment as part of the regular facility maintenance program. This included an electrical audit of the existing facility which was completed in preparation of the future plant expansion, piping renewals, as well as pump and motor rebuilds and replacements.

The City of Brandon, through the services of their consulting engineer, is nearing completion on the design of the Water Treatment Facility expansion and upgrade. The overall expansion will consist of a new Membrane Treatment Facility, a new Chemical Building, and a new raw water Intake and Settling Pond, as well as upgrades to the existing Facility to prolong the useful life span.

Funding through the Investing in Canada Infrastructure Program was announced as a joint partnership between the Federal, Provincial and Local governments for the next phases of Brandon's Water Treatment Facility expansion. Work on site is expected to begin in 2025, following the completion of design and tenders. Construction will be underway for several years to complete the extensive project.

10.0 WATER DISTRIBUTION MAINTENANCE

The water distribution system at times requires both emergency and preventative maintenance. Watermain breaks are repaired by City staff as quickly as possible on an emergency basis. Preventative maintenance programs help to reduce emergencies, with the watermain flushing program being the most extensive.

The watermain flushing program is a technique used to clean water distribution pipes of sediments that build up over time. This is accomplished by strategic manipulation of fire hydrants and valves to force water at high velocities through the system from previously flushed sections, from source to extremities. The flushing program is conducted annually and also provides the following system benefits:

- Improved water quality
- Improved system hydraulic capacity
- Improved system operation by identifying weak or problem areas
- Improved/restored chlorine residual
- Increased life of system components including, valves, pumps, etc.

The City's watermain flushing program begins in the spring and runs into the late fall each year. The program goal is to have all zones in the City of Brandon flushed as a preventative maintenance activity. Last year 15% of the watermains were unidirectionally flushed. The total length of watermains that were flushed for 2024 was 56,554 meters (56.5kms).

11.0 CLOSING

The City recognizes the importance of informing all water users of the system's operation. For any questions related to this report or the water utility, please contact the City by phone at: 204-729-2190 or by email at: a.howe@brandon.ca.