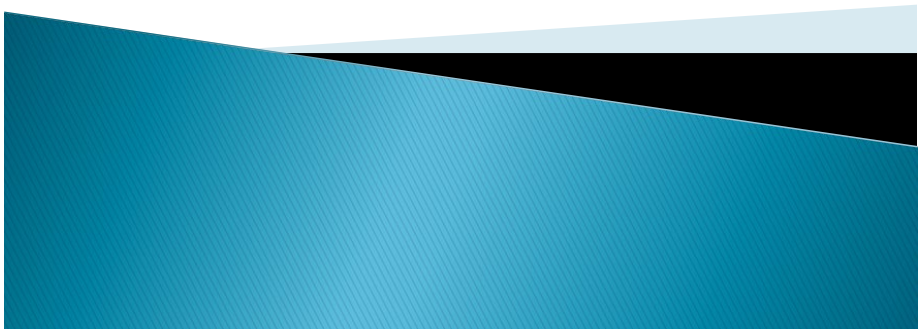
Public Water System
2021 Annual Report

City of Portage la Prairie
March 2022



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Introduction

The 2021 Annual Report for the City of Portage la Prairie (City) summarizes the information that demonstrates the Water Treatment Plant's ability to produce safe potable water and meet the requirements of all provincial regulations. Copies of this report will be available to the public at City Hall, and on the City website by March 31st, 2022.

Description of Water System

The City of Portage la Prairie's Public Water System (PWS) provides potable drinking water to a population of approximately 60,000 residents. The PWS also supplies water to three other Regional Water Systems – the Rural Municipality of Portage la Prairie, the Cartier Regional, and the Yellowhead Regional Water Systems. The Yellowhead Regional Water Co-op is the largest consumer after the City of Portage la Prairie, Roquette, McCain Foods, and Simplot Potato Processors.

The Water Treatment Plant obtains water for treatment from the Assiniboine River. The intake structure is located 0.5 km from the Plant. The Assiniboine River water is a collection of water from Alberta, central Saskatchewan, southern Saskatchewan, North Dakota, and southern and western Manitoba. Several large cities and processing companies are located along the Assiniboine River and Souris River systems and use the waterway as a source water supply.

All reports for sampling and the 2021 Year End Audit received from the Office of Drinking Water will be posted on the City of Portage la Prairie's web site at http://www.city-plap.com/main/water-treatment.

Date Prepared March 2022

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Jared Smith
Manager of Water Treatment Division
City of Portage la Prairie

CITY OF PORTAGE LA PRAIRIE
GENERAL DESIGN DATA AND OPERATIONAL INFORMATION

1.1 Background Data

A report was prepared in March 1974 by Wardrop and Associates Ltd for construction of the Water Treatment Plant at the present-day location. The plant construction was started in the fall of 1976 and completed in April of 1978. The plant replaced the previous Water Treatment Plant that was constructed in 1953. The new plant was one of the first in Canada to use Ozone in its treatment process.

In the late 1990's, the City, in partnership with the Manitoba Water Services Board, undertook studies to evaluate the capacity and ability of the existing plant to meet current and future demands. The plant had been challenged at times to maintain water quality due to poor river water quality and increasing demands on an aging plant. As a result, the City identified a schedule of upgrades that would increase capacity to meet short-term demands, and that would meet current and anticipated Canadian Drinking Water Guidelines.

Major improvements to the plant since 2001, including significant improvements in 2019-2022, include the addition of pre-clarification; improved rapid sand filtration; backwash process; replacement of Ozone generators for disinfection; expanded softening capabilities; granular activated carbon adsorption filters; increased treated water storage facility; chlorine contact time; pumping capacity increased to both raw water to the plant and out to the distribution system; residuals management via sludge drying beds; addition of a larger Lime storage facility, and replacement of the lime feed system. Most of the major components have also been designed to be easily expanded to meet future needs.

1.2 Design Capacity

The Water Treatment Plant (WTP) has a rated production capacity of 34 million litres/day. The City of Portage la Prairie currently has two water storage reservoirs. One is located on site at the WTP and has a capacity of 4.6 million litres. The utility also operates a reservoir on McKay Street that has a total 9.25 million litres.

1.3 General Plant Description

The City obtains its water from the Assiniboine River (River). There are three 125-hp motors-265 l/s pumps transfer the raw water from the river impoundment area upstream of the spillway structure to the water treatment plant. The first stage of treatment is a pre-clarification process.

Ballasted Flocculation Clarification is a unique process, where, in addition to various chemicals that are added to promote the coagulation and flocculation (sticking together in big clumps), very fine sand is added to the mix to make the floc (clumps) settle very quickly. This portion removes a large portion of turbidity, organics, and algae, reducing taste odour issues. Potassium permanganate is added as a pre-oxidant. The pre-clarified water is then passed through to the next process.

The softening clarifiers are large circular basins, where hydrated lime and polymers are added for further coagulation and flocculation. Lime raises the pH to a point where calcium and magnesium are settled out, thus removing substantial hardness from the water. Sodium Hydroxide is also added to the softening clarifiers to aid in the removal of non-carbonate hardness lowering the overall water hardness.

Re-carbonation is the next step, where carbon dioxide is bubbled through the water to form carbonic acid to lower the pH. Stabilizing the pH prevents corrosion or scaling throughout the City's water distribution system. The lowering of the pH also aids in the Ozone process.

Ozone is a strong oxidant that is effective at destroying parasitic organisms such as giardia lamblia and cryptosporidium cysts, and the breakdown of organics. It is also effective in the elimination of viruses and bacteria. This process involves the bubbling of Ozone gas that is produced on site into the water prior to filtration.

Calcium Thiosulphate is added after ozonation, for the removal of excess ozone gas.

Dual Media Filtration follows the Ozone disinfection process. The brake down of organics promote biologically active filtration which significantly improves further organics removal. The Filters contain Anthracite and Sand media in separate layers for longer filter life and filtering of the water. In 2008 a new stainless-steel under-drain system was installed in the sand filters to promote better filtration and the backwashing of the filters. Organics removal is crucial to the reduction of distribution by-products found in the drinking water supply after chlorination. The filtered water is then passed to a under floor reservoir where the water is then either pumped to the Granular Activated Carbon (GAC) Contactors, continued treatment process, or it is diverted for back washing the dual media filters or the GAC contactors. Using non-chlorinated water for backwashing respects the environment, as the backwash waste is ultimately returned to the River.

Granular Activated Carbon Contactors are utilized as a final polishing step for the ultimate reduction in organics, and for the final taste and odour elimination. The adsorption of organic matter by the activated carbon reduces the amount of chlorine required for final disinfection, which ultimately minimizes disinfection by-products in the drinking water system. New Granular Activated Carbon was installed in the fall of 2008 and the spent GAC was returned for regeneration and reuse instead of shipping to landfill sites.

Disinfection occurs in the on-site storage reservoir. Final treatment occurs by adding Chlorine and allowing contact time. Chlorine is added for final disinfection, and a residual is maintained in the distribution system to eliminate any re-growth of pathogenic organisms.

Fluoride addition is mandated by Manitoba Health and is added for dental health reasons. It is added to the drinking water helps make your tooth enamel stronger and teeth healthy and helps in reduce tooth decay. Fluoride naturally occurs in surface and groundwater in this area at concentrations of 0.3 to 0.4 mg/l. The plant Fluoride addition only increases the concentration to about 0.6 − 0.7 mg/l. Manitoba Health, Seniors, and Active Living provides funding and monitoring for the fluoridation program.

An Orthophosphate is added to reduce corrosion within the distribution system. It also aids in the prevention of lead leaching into the drinking water.

Sodium Hydroxide otherwise known as caustic is added to raise the pH and increase the alkalinity of the water prior to entering the distribution system.

The City of Portage la Prairie has two Reservoirs; the first is located at the Water Treatment Plant and the second in the Northwest section of the city. The reservoir located at the Water Treatment Plant has five 40 horsepower driven pumps to supply water to the McKay Reservoir and the distribution systems of the City of Portage la Prairie and Regional Water Systems. The Water Treatment Plant reservoir also has three 100 horsepower variable speed driven pumps to supply water to the Poplar Bluff Industrial Park and Regional Water Systems. The McKay Reservoir has eight 40 horsepower driven, 70 L/S pumps to supply water to the City of Portage la Prairie distribution system and other regional water systems. The Reservoir at the Water Treatment Plant has a capacity of 4.64 ML, and the McKay Reservoir has 9.25 ML capacity.

Residuals Solids Management is accomplished via sludge drying beds. The waste sludge, comprised of "unwanted" material removed from the raw water, as well as the chemicals and lime used through the treatment

process, is collected, and pumped to two 45,000 cubic meter ponds. In these ponds, the sludge settles to the bottom and clarified water is returned to the River.

Plant Specifications:
Plant Type: Conventional lime softening plant with Pre-clarification, biologically activated dual media filtration, ozone, carbon dioxide for pH adjustment and Granular Activated Carbon filters with chlorine disinfection for the distribution system. Design capacity of 34 million litres/day (net).

1.4 City Distribution System

Current population of approximately 13,000 persons have water serviced supplied by 115 km of pipe in the distribution system with five thousand metered users. There were no changes water rates in 2021.

1.5 Classification and Certification

Water treatment and water distribution facility, and operator classifications, fall under The Environment Act's Water and Wastewater Facility Operators Regulation.

The Portage la Prairie Water Treatment Plant is a Class 4 Facility

Division Manager, Jared Smith	Level 4 Water Treatment Certification
Water Treatment Operators	
Supervisor, Ben Olson	Level 4 Water Treatment Certification
Kaley Giffin	Level 4 Water Treatment Certification
Soyan Ibrahim	Level 4 Water Treatment Certification
Joel Trandafir	Level 3 Water Treatment Certification
Andre Wantonabe	Operator-in-Training
David Radu	Operator-in-Training

The City of Portage la Prairie has a Class 2 Water Distribution Facility

Superintendent, Brian Taylor	Class II Water Distribution Certification Class II Wastewater Collection Certification
Supervisor, Keith Barron	Class II Water Distribution Certification Class II Wastewater Collection Certification
Distribution System Operators	
Grant McDonald	Class II Water Distribution Certification Class II Wastewater Collection Certification
Jim Morrison	Class II Water Distribution Certification Class II Wastewater Collection Certification
Terry Nichols	Class II Water Distribution Certification Class II Wastewater Collection Certification
Virgil (Max) Chaske	Class II Wastewater Collection Certification

2.0 Disinfection System in use:

The final step in the treatment of safe drinking water is disinfection. Disinfection is the selective destruction or inactivation of potential disease-causing organisms in water. As per the Drinking Water Safety Act the Portage la Prairie PWS must ensure that a disinfection residual of at least:

- 0.5 mg of free chlorine per liter of water is detectable at the point where water enters the distribution system, after a minimum contact time of 20 minutes.
- 0.10 mg of free chlorine per liter of water is detectable at all times at any point in the distribution system.

2.1 Type of disinfection used:

The Portage la Prairie Water Treatment Plant disinfects by adding gas chlorine solution via an induction system direct from chlorine cylinders, into the influent for the onsite water reservoir.

There is a re-chlorination system at both reservoir's locations, the Water Treatment Plant Reservoir and McKay Reservoir with calcium hypochlorite chlorine solution, which is used if the free chlorine concentration falls below acceptable standards.

2.2 Equipment redundancy and monitoring requirements:

As required by the Drinking Water Safety Act the Portage la Prairie PWS ensures continuous disinfection is maintained at the plant by keeping in stock all spare parts required for the chlorine feed system. A complete spare chlorinator is also kept in the plant.

Disinfection residuals are monitored continuously at the plant. They are also manually tested three times per day for quality control. Testing is done weekly at several different locations throughout the distribution system to ensure water safety. The results are recorded on appropriate government forms and sent to the Office of Drinking Water at the end of each month.

2.3 Disinfection overall performance/results:

All water samples leaving the WTP in 2021 have met the minimum regulatory disinfection requirements. On only three occasions in 2021, the Portage la Prairie PWS did not meet the regulatory requirements with regards disinfection residuals in the distribution areas. The City has had **no** total coliform or E. coli positive distribution samples from its weekly monitoring program for the entire year of 2021.

3.0 2021 Compliance Report

The Corrective Action Report forms submitted in 2021 were considered in determining the PWS performance compliance percentages for each water quality parameter sampling and testing requirements.

Sampling and testing requirements are noted in Drinking Water Safety Regulation M.R. 40/2007 in the Public Water System Audit.

The Monitoring and Reporting requirements are specified in Table 1 and Table 2 of Operating License PWS-08-147, which is posted below and on the City website.

The City also conducted additional water distribution system testing to monitor the phosphate performance and corrosion in the system.

3.1 Water Quality Standards Compliance

The City of Portage la Prairie Water Treatment Plant had submitted water samples from the City of Portage la Prairie PWS for chemical and physical analyses during 2021. Letters providing assessment comments and recommendations on the test results were received by Mr. Michael Sandney, WTP Manager up to October

28th, 2021, and Mr. Jared Smith, WTP Manager after Oct 28th, 2021. The treated water met all the applicable Guidelines for Canadian Drinking Water Quality (GCDWQ) health-based maximum acceptable concentrations (MAC), of the Water Quality Standard."

Trihalomethane (THM'S) Precursor

Trihalomethane precursors are any materials that can be converted into a Trihalomethane during disinfection with chlorine or ozone. Typically, most of these precursors are constituents of natural organic matter, either suspended or dissolved in the source water. In addition, the bromide ion (Br-) is a precursor material.

Trihalomethane Standard (in milligram per litre, mg/L)

Standard of 0.1 mg/L or less annual average was met over the four testing periods in 2021. The annual average is 0.061 mg/l.

Haloacetic Acids (HAAs)

Haloacetic acids (HAAs) are a group of compounds that can form in the water distribution systems when chlorine used to disinfect drinking water reacts with naturally occurring organic matter in the source water. Haloacetic acids (HAAs) may form if humic acids are present and tend to decline over time within the distribution system.

HAA Standard (in milligram per litre, mg/l)

Standard of 0.08 mg/L or less annual average was met over the four testing periods in 2021. The annual average is 0.022 mg/l.

While better management of meltwater and rainwater runoff that is presently being allowed to freely enter the Assiniboine River system carrying significant concentrations of suspended and dissolved organic matter would improve the City's source water quality, the City is required to treat the source water, whatever its' quality, that the City receives at its' River intake. The Water Treatment Plant staff will continue to maximize the treatment process to lower organic compounds during treatment stages.

In 2012, the City initiated a Treated Water Quality Study to identify potential methods of reducing the Total Organic Carbon content through the treatment process prior to the disinfection step. Potential mitigative measures were identified and investigations into these began in 2013 and trials continued into 2017. The Treated Water Quality Study and the Water Treatment Functional Design Upgrades is being coordinated by AECOM Engineering and trials were conducted by the City of Portage la Prairie Water Treatment Plant staff.

With Phase one upgrades complete in 2017 water quality distribution pressure and chemical dosing has enhanced due to the upgrades which included the following:

Pre – Treatment jet flash mixing/enhance coagulation was added for removal of Total Organic Carbon and Dissolved Inorganic Carbons. By reducing the disinfection by-products in the raw water.

New Magnetic flowmeters replaced the existing insertion probe meters. Allowing for further accuracy for in chemical dosing into the softening clarifiers, reducing chemical usage. Sodium Hydroxide was added to the softening clarifiers for non-carbonate hardness removal, and to lower the overall hardness in the treated water.

Ozone quenching system installation is to address the ozone off gassing after the ozone chamber. Allow for a higher concentration of ozone gas to be applied in the contract chambers for pathogen removal. Chlorination modification included, relocating chlorine dosing injection point for disinfection and contact time in the treated reservoir. Allowing for even dispersal of the chlorine residual in the finished water before entering the distribution system. Since the relocation of the injection point the chlorine demand has decreased.

McKay Reservoir flow control upgrades. Two new motors and variable frequency drive were added with modification to the Supervisory Control and Data Acquisition Program. Allowing for better control on the overall water distribution system. Maintaining a constant pressure in the system and directional flow control of the system. Also reducing water main breaks within the distribution system.

Most of phase Two (A) of the Water Treatment Functional Design Upgrade was completed in 2019. However, certain upgrades were not completed in 2021 which include: Lime Batching Alterations and the Makeup water System for chemical batch tanks.

Phase Two (A) upgrades include the following: Raw Water Flow Control, Pre-treatment Screening System, Lime Batching Alteration, Ozone Contactor Upgrades, Makeup water System for Chemical Batch Tanks, City Distribution Pumps, PLC Upgrades, WTP & McKay Reservoir SCDA System Upgrade, Flow-paced Sodium Hydroxide Addition, Compound Loop Control for Chlorination, Dissolved ozone Probe with Transmitter, Online UVT Analyzer and GAC Flow Control.

Phase Two (B) upgrades include the following: New Backup Generator, Air -Scouring System for Pre-Treatment process and New Ozonation System.

Phase Two (B) was spilt into two contracts one for the backup generators and the other for installation of the ozonation system and air-scouring system.

Backup generator was tendered in January 2020 and was awarded to Trotter and Morton Industrial Contracting Inc. with completion date of March 31,2021.

Air – Scouring and Ozonation system installation was tendered November 2020 and was awarded to ABCO Supply & Service Ltd. with completion date of November 2021

Phase Three of the water plant upgrades included a 15 Million-Liters-Day Water Treatment Plant Expansion Functional Design. Stantec Consulting Ltd. completed the Functional Design Report in January 2021. Funding for this project has yet to be acquired.

The City will continue to work with the Province of Manitoba toward the development of a Watershed Management Strategy which will focus on maintaining or improving the water quality of the Assiniboine River.

Turbidity

Turbidity is an indicator of suspended particles that are present in water and is measured as NTU (nephelometric turbidity units). The presence of suspended particles in the water could be an indicator that there is a potential for pathogens present of Cryptosporidium Oocysts, Giardia Lamblia Cysts or Viruses.

The City of Portage la Prairie's water treatment plant has four dual media filters which are monitored 24 hrs/day by the computer SCADA system. The computer monitoring program takes samples every five minutes from each individual filter. The monitoring system is programmed to shut off the filter if the turbidity reading reaches 0.295 N.T.U., which is just below the 0.30 N.T.U. standard.

3.2 Water Quality Standards Compliance Table

Parameter	Quality Standard	Frequency	Performance
Total Coliform and E. coli	Zero E. coli and total coliform bacteria detectable per 100 ml in all treated and distribution water	Weekly	100% Compliance
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 min.	Daily	100% Compliance
	Report Submissions	Monthly	100% Compliance
Turbidity	Less than or equal to 0.3 NTU in 95% of the measurements in a month of the effluent from each operating particulate filter	Continuous	99.46% Compliance
	Not to exceed 0.3 NTU on dual media filter effluent	Continuous	99.46% Compliance
	Not to exceed 1.0 NTU on any continuous measurement	Continuous	99.99% Compliance
Total Trihalomethanes to include bromodichloromethane, bromoform, chloroform, dibromochloromethane.	Total Trihalomethanes less than or equal to 0.10 ug/L	Quarterly	Standard of 0.10 mg/l was met with an annual average of 0.061 mg/L
Monitoring Requirements			
Bacterial			100% Compliance
Disinfection			99.96% Compliance
Physical			100% Compliance
Chemistry			100% Compliance
Reporting Requirements			
Disinfection, Physical, Corrective Actions, Emergency	The Regulatory Requirements were met. **Please see Manitoba Conservation and Water Stewardship 2021 Annual Audit Report**		99.9% Compliance

The link to Health Canada's Guidelines for Canadian Drinking Water Quality website is:

http://www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/guide/index_e.html

4.0 Water System Incidents and Corrective Actions:

Due to water line replacement on Saskatchewan Avenue, some areas of the City experienced discolored water due to pipe corrosion and high localized flow rates, and lower chlorine residuals. Dead end water lines were flushed regularly to maintain water quality and free chlorine residual.

Non- Compliance Incidents:

Please refer to Appendix D: 2021 Annual compliance audit from ODW. Once in January, and once in March the WTP allowed a very small amount of water to pass through the sand filters over a turbidity of 1.0 NTU. Although it was a very small amount of water each time, the plant was considered non-compliant.

By May of each year every water system is to provide an up to date, copy of their Emergency Notification Plan to the ODW. In 2021 it was not submitted until December. Thus, the plant was considered late and non-compliant.

On three occasions in 2021 water in the distribution system was found to not meet the regulated 0.1 mg/L minimum free chlorine or the 0.5 mg/L minimum total chlorine regulation. In each case the system was non-compliant, and each time the area was flushed and the Chlorine dose at the plant increased. Each year WTP staff alone, complete over five hundred chlorine tests throughout the distribution system.

5.0 Additional Reports Required:

On Sept 16th, 2021, the City was notified by the Office of Drinking Water that new lead testing requirements will come into effect in 2022. City staff will be ensuring we meet these requirements in 2022. The letter from the ODW can be seen in Appendix G.

6.0 Drinking Water Safety Orders on the Portage la Prairie PWS and Actions Taken:

In 2021, **no** Drinking Water Safety Orders were issued for the Portage la Prairie Public Water System.

7.0 Boil Water Orders and Actions Taken in Response:

In 2021, **no** Boil Water Orders were issued for the Portage la Prairie Water System.

8.0 Warnings issued or Charges Laid on the System in Accordance with The Drinking Water Act:

On March 20th, 2021, the water system did not timely report the exceedance of the 1.0 NTU turbidity maximum limit. Any exceedance of a ODW regulation must be reported the ODW immediately. As such the ODW issued the water system a warning and it is included in Appendix E of this document.

9.0 Major Expenses Incurred in 2021

Chlorine vacuum regulator	$5,596.10
Lime Tank Mixer	$7,457.79
Kit/membrane cap/electrode	$6,950.00
Water Quality Study (UofM)	$11,500.00
McKay Reservoir Effluent control valve	$40,000.00
Valve/actuator/positioner	$4,746.89
Fisher positioner	$4,684.46
Sludge pump repair	$13,703.89
16" flowmeter	$18,025.65

SWAN turbidimeters	$34,345.00
Instrument Air Compressor	$10,298.22
Air-Cooled Water Chiller	$90,522.00
Butterfly W/ Actuator	$16,790.98
Plant Air Compressor	$8,400.04
Two chlorine analyzers	$14,380.00
Filter effluent valve	$6,186.74
Raw Water Pump	$84,968.70
Challenger Valve Actuator	$17,743.28
Sand Filter Air control valves	$11,256.40
Water System Phase 2B upgrades	$1,452,275.32

Manitoba
Sustainable Development
Office of Drinking Water
1007 Century Street, Winnipeg, Manitoba R3H 0W4

OPERATING LICENCE FOR A PUBLIC WATER SYSTEM

LICENCE NUMBER: PWS-08-147-02

THE DRINKING WATER SAFETY ACT CHAPTER D101, C.C.S.M.

WATER SYSTEM CODE:	**171.00**
OPERATION ID:	**28564**
EFFECTIVE DATE:	**DECEMBER 1, 2018**
EXPIRY DATE:	**NOVEMBER 30, 2023**

IN ACCORDANCE WITH *THE DRINKING WATER SAFETY ACT*, THIS OPERATING LICENCE IS ISSUED PURSUANT TO SUBSECTION 8(1) TO:

CITY OF PORTAGE LA PRAIRIE: "THE LICENSEE"

FOR THE OPERATION OF THE **PORTAGE LA PRAIRIE PUBLIC WATER SYSTEM**, WHICH INCLUDES INTAKE STRUCTURES, TREATMENT FACILITIES, WATER STORAGE RESERVOIRS, AND DISTRIBUTION LINES, SUBJECT TO THE ATTACHED TERMS AND CONDITIONS.

THIS LICENCE DOES NOT AFFECT THE LICENSEE'S OBLIGATIONS WITH RESPECT TO COMPLIANCE WITH ALL APPLICABLE MUNICIPAL, PROVINCIAL, AND FEDERAL LEGISLATION. THIS LICENCE SUPERSEDES ALL PREVIOUS LICENSES FOR THIS PUBLIC WATER SYSTEM.

DATE: January 25, 2019

Kim Philip, P.Eng.
Director

TERMS AND CONDITIONS

1. GENERAL

1.1. The Licensee shall operate the public water system in accordance with all applicable requirements of *The Drinking Water Safety Act* and its regulations, and the requirements of this Licence. In the event that specific terms and conditions of this Licence imposed under the authority of subsection 8(3) of the Act exceed the general requirements of the Act and regulations, the specific requirements of this Licence shall apply.

1.2. The Licensee shall obtain approval from the Office of Drinking Water prior to making any significant alterations to the water source, the water treatment process, the water storage facilities, or the water distribution system.

1.3. This Licence may be amended by the Director where, in the opinion of the Director, an amendment is necessary and the amendment will not negatively impact the safety of water obtained from the water system, or effective environmental management.

1.4. The Licensee may request an amendment to this licence by submitting an amendment application to the Office of Drinking Water.

1.5. This Licence may be suspended or cancelled by the Director for any of the reasons identified in Section 11 of *Manitoba Regulation 40/2007, Drinking Water Safety Regulation* or due to a failure to comply with any term or condition of this Licence.

1.6. The Licensee shall provide written notice to the Office of Drinking Water of any change in ownership of the water system within seven days of the transfer of ownership.

1.7. The Licensee shall provide written notice to the Office of Drinking Water of any changes in the operational status of the water system, such as a permanent cessation of service, or changing the length of service from year-round to seasonal or the opposite.

1.8. The Director of the Office of Drinking Water, Medical Officer of Health or Drinking Water Officer may enter any water system facility as necessary to carry out the provisions of *The Drinking Water Safety Act* and its regulations.

1.9. The Licensee shall post a copy of the first page of this Licence at the water treatment facility.

1.10. The Licensee shall keep a copy of this Licence in its entirety at a location established by the Drinking Water Officer and ensure all operators are familiar with its terms and conditions.

1.11. The Licensee shall apply for renewal of this Licence at least 60 days prior to its expiry.

2. OPERATION - GENERAL

2.1. The Licensee shall operate all water system facilities, control systems and equipment as efficiently as possible, inspect them on a regular basis, maintain them in good working order, and ensure that the water system is protected from the risks associated with cross-contamination.

2.2. The Licensee shall ensure that all chemicals and components that may come into contact with potable water are certified safe for potable water use through AWWA Standards, ANSI/NSF Standard 60 or 61, Health Canada, or other standards acceptable to the Director.

2.3. No alternate water source shall be brought into service without the consent of the Drinking Water Officer and the maintenance of adequate cross connection control between the alternate source and the primary source.

2.4. The Licensee shall have re-assessments of the water system infrastructure and water supply sources completed by a qualified professional engineer, who is not an employee of the water system, in accordance with terms of reference for engineering assessments by March 1, 2024, and every five years thereafter.

2.5. The Licensee shall, upon request from the Office of Drinking Water, submit or re-submit a compliance plan, in a form satisfactory to the Director, to address any non-compliance issues identified at the time.

3. OPERATION – EMERGENCIES

3.1. The Licensee shall ensure that disinfection is undertaken following construction, repair or maintenance activities on the water system, in accordance with applicable AWWA standards, or Manitoba Water Services Board specifications, or any other standards approved by the Director. A copy of all associated test results must be kept available for review by the Office of Drinking Water for a minimum of 24 months.

3.2. The Licensee shall ensure that all equipment used for disinfection is maintained in effective working order and keep available for immediate use all spare parts and chemical supplies as may be necessary to ensure continuous disinfection, including a spare disinfection unit, if necessary.

3.3. The Licensee shall immediately notify the Office of Drinking Water of any condition that may affect the ability of the water system to produce or deliver safe drinking water including but not limited to treatment upsets or bypass conditions, contamination of the source water or treated water, a disinfection system failure, or a distribution system failure.

3.4. If a Medical Officer of Health, the Director of the Office of Drinking Water, or a Drinking Water Officer issues a water advisory on the water system, the Licensee shall provide notice of the advisory to all water users in accordance with the Advisory Notification Plan.

4. WATER QUALITY/TREATMENT STANDARDS

4.1. The Licensee shall operate the water system in a manner that achieves the water quality/treatment standards specified in Table 1, as determined through the monitoring requirements specified in Table 2:

Table 1: Water Quality/Treatment 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
Bromate	Less than or equal to 0.01 mg/L
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 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
Lead	Less than or equal to 0.01 mg/L in the water distribution system

4.2. If a bacteriological standard is not met, the Licensee shall immediately undertake the applicable corrective actions as listed in "Schedule A" of Manitoba Regulation 41/2007, *Drinking Water Quality Standards Regulation*.

4.3. If a microbial, chemical, radiological, or physical standard is not met, the Licensee shall immediately undertake the applicable corrective actions specified in "Schedule C" of Manitoba Regulation 41/2007, the *Drinking Water Quality Standards Regulation*.

4.4. The Licensee shall have in place and maintain in effective working order, filtration and disinfection equipment and controls designed to provide reduction or inactivation of 99.9% (3-log) of *Cryptosporidium* oocysts and 99.9% (3-log) of *Giardia lamblia* cysts.

4.5. The Licensee shall have in place and maintain in effective working order, filtration and/or disinfection equipment and controls designed to provide reduction or inactivation of 99.99% (4-log) of viruses.

4.6. The Licensee shall maintain in effective working order chlorination and treated water storage equipment and controls designed to achieve a minimum of 20 minutes of chlorine contact time prior to water entering the distribution system.

5. WATER QUALITY MONITORING

5.1. The Licensee shall ensure monitoring is completed as set out in Table 2.

Table 2: Monitoring Schedule

Parameter	Monitoring Requirement
Bacteriological (total coliform and *E. coli*)	Weekly sampling program with each set of samples consisting of one raw, one treated, and a minimum of 2 distribution samples Consecutive samples to be separated by at least 5 days
Free chlorine (treated water)	Continuous sampling of water entering the distribution system following at least 20 minutes of contact time A confirmatory sample to be taken daily at the online chlorine analyzer sampling or effluent point
Free chlorine (distribution system)	At the same time and location(s) as bacteriological distribution system sampling
Total chlorine (treated water)	One sample per day of water entering the distribution system following at least 20 minutes of contact time
Total chlorine (distribution system)	At the same times and location(s) as bacteriological distribution system sampling
Bromate	One treated water sample once every six months
Turbidity	One raw water sample per day Continuous sampling of the effluent from each operating particulate filter A confirmatory sample to be taken daily at the online turbidity analyzer sampling or effluent point
Turbidity (distribution system)	At the same times and location(s) as bacteriological distribution system sampling
General chemistry (parameter list provided by Office of Drinking Water)	One raw and one treated water sample every six months
Total trihalomethanes (THMs) (distribution system)	Four preserved distribution system samples taken on a quarterly basis during February, May, August, and November, each year at the furthest points in the distribution system
Total haloacetic acids (HAAs) (distribution system)	Four preserved distribution system samples taken on a quarterly basis during February, May, August, and November, each year at mid-points in the distribution system
Other Parameters	As per the instructions of the Drinking Water Officer
Lead	As per the instructions of the Drinking Water Officer

5.2. The Licensee shall ensure that an accredited laboratory, as specified in section 35 of Manitoba Regulation 40/2007 the *Drinking Water Safety Regulation*, undertake the following analysis required in Table 2:

a) bacteriological (total coliform and *E. coli*)
b) bromate
c) general chemistry
d) total trihalomethanes
e) total haloacetic acids
f) any other parameter required by the Drinking Water Officer

and that all samples are collected, handled, and submitted in a manner that is satisfactory to the accredited laboratory.

5.3. The Licensee shall ensure that parameters listed in Table 2 but not specified in clause 5.2 are measured utilizing certified water quality monitoring equipment and methods approved by the latest edition of Standard Methods for the Examination of Water and Wastewater published jointly by the American Public Health Association, the American Water Works Association and the Water Environment Federation.

5.4. The Licensee shall ensure that all water quality monitoring equipment is properly maintained and calibrated by a qualified person according to manufacturer recommendations and that records are maintained to that effect.

5.5. The Licensee shall operate equipment capable of continuously monitoring the free chlorine residual at no more than five-minute intervals in water entering the water distribution system following a minimum of 20 minutes of contact time.

5.6. The Licensee shall operate equipment capable of continuously monitoring the turbidity level at no more than five-minute intervals in the effluent from each particulate filter to ensure compliance with the turbidity standards and to satisfy the removal requirement specified in Clause 4.4.

5.7. In instances where continuous disinfectant residual and/or turbidity monitoring equipment is offline, the Licensee shall ensure that a minimum of four samples per day are tested at the online analyzer sampling or effluent point using an approved portable analysis unit and that the results are recorded in a form satisfactory to the Director.

5.8. The Licensee shall ensure that sampling within the distribution system takes place at varied locations acceptable to the Drinking Water Officer.

6. Record-Keeping and Reporting

6.1. The Licensee shall maintain in a secure location all construction drawings for the life of the water system components.

6.2. The Licensee shall retain in chronological order for a minimum of 24 months all information specified in subsection 34(2) of *Manitoba Regulation 40/2007, Drinking Water Safety Regulation.*

6.3. The Licensee shall ensure the information identified in clause 6.2 is available for inspection by any member of the public during normal business hours at the office of the water supplier or at a location convenient to the users of the system.

6.4. The Licensee shall record disinfectant residual measurements on the monthly disinfection report or other forms satisfactory to the Director.

6.5. The Licensee shall record turbidity measurements on the monthly report forms or other forms satisfactory to the Director.

6.6. The Licensee shall keep one copy of all monthly report forms required in this licence, and forward the original copy to the Drinking Water Officer within seven days after the end of each calendar month.

6.7. The Licensee shall record all distribution system measurements specified in *Table 2: Monitoring Schedule* on the chain of custody form (laboratory submission form) which accompanies the bacteriological sample bottles to the laboratory.

6.8. The Licensee shall ensure that water metering devices at the water treatment plant or storage reservoir are maintained in good working order and that flow meter readings are recorded on a daily basis and such records are made available for inspection by a Drinking Water Officer.

6.9. The Licensee shall submit an annual report to the Director by March 31st of each year on the operation of the water system in the immediately preceding calendar year. The report shall include the information as set out in subsection 32(2) of *Manitoba Regulation 40/2007, Drinking Water Safety Regulation*.

6.10. The Licensee shall inform the public, in a form satisfactory to the Director, when an annual report has been prepared and identify how a free copy can be obtained.

6.11. The Licensee shall make a copy of each annual report available to the public at no charge on an internet website within two weeks of the issuance of the report, unless otherwise approved by the Director. The annual report shall remain available to the public for at least one year.

6.12. The Licensee shall maintain and submit an Advisory Notification Plan to the Director by May 1st of each year. The plan must include a detailed description of communication tools and methods to be used to notify the public of a drinking water emergency, considering key contacts, fan-outs, critical customers, susceptible or difficult-to-reach sub-groups, and template notices where applicable.

Appendix B – Water Rights License

MG-14853 (English)

Spec. Ref.

Licence to Use Water for Municipal Purposes

Manitoba Conservation Water Branch
200 Saulteaux Cresc.
Winnipeg, Manitoba
R3J 3W3

Issued in accordance with the provisions of
The Water Rights Act and regulations made thereunder.

Licence No.: **2003-022**
(Replaces Licence No. 95-17)
U.T.M.: Zone 14 547862 E
5533632 N

Know all men by these presents that in consideration of and subject to the provisos, conditions and restrictions hereinafter contained, the Minister of Conservation for the Province of Manitoba does by these presents give full right and liberty, leave and licence to **The City of Portage la Prairie** in the Province of Manitoba (hereinafter called "the LICENSEE") to divert water from the **Assiniboine River** for **municipal** purposes by means of a pumping intake system attached to the Assiniboine-Portage Diversion control structure located on the Assiniboine River and a raw water conveyance pipeline extending from the pumping intake to a water treatment and water distribution plant, the raw water intake system and conveyance pipeline, (all hereinafter collectively called "the WORKS"), and generally shown on a copy of a location sketch hereto attached and marked Exhibit "A", the water treatment plant located on the following described lands:

All those portions of Parish Lots 22 and 23 of the Parish of Portage la Prairie, in Manitoba, as more particularly described in Deeds Nos. 71459 and 119851 and Certificate of Title No. 25027, all registered in the Portage la Prairie Land Titles Office.

This Licence is issued upon the express condition that it shall be subject to the provisions of The Water Rights Act and Regulation and all amendments thereto and, without limiting the generality of the aforesaid, to the following terms and conditions, namely:

1. The water shall be used solely for **municipal** purposes.
2. The WORKS shall be operated in accordance with the terms herein contained.
3. a) The maximum rate at which water may be diverted pursuant herefo shall not exceed **0.44 cubic metres per second (15.5 cubic feet per second)** .

   b) The total quantity of water diverted in any one year shall not exceed **8943.94 cubic decametres (7255.00 acre feet)** .
4. The LICENSEE does hereby remise, release and forever discharge Her Majesty the Queen in Right of the Province of Manitoba, of and from all manner of action, causes of action, claims and demands whatsoever which against Her Majesty the LICENSEE ever had, now has or may hereafter have, resulting from the use of water for **municipal** purposes.
5. In the event that the rights of others are infringed upon and/or damage to the property of others is sustained as a result of the operation or maintenance of the WORKS and the rights herein granted, the LICENSEE shall be solely responsible and shall save harmless and fully indemnify Her Majesty the Queen in Right of the Province of Manitoba, from and against any liability to which Her Majesty may become liable by virtue of the issue of this Licence and anything done pursuant hereto.
6. This Licence is not assignable or transferable by the LICENSEE and when no longer required by the LICENSEE this Licence shall be returned to the Director, Water Branch, for cancellation on behalf of the Minister.
7. Upon the execution of this Licence the LICENSEE hereby grants the Minister or the Minister's agents the right of ingress and egress to and from the lands on which the WORKS are located for the purpose of inspection of the WORKS and the LICENSEE shall at all times comply with such directions and/or orders that may be given by the Minister or the Minister's agents in writing from time to time with regard to the operation and maintenance of the WORKS.
8. If for any reason whatsoever the Minister deems it advisable to cancel this Licence, he may do so by letter addressed to the LICENSEE at **97 Saskatchewan Avenue East, Portage la Prairie, MB, R1N 0L8, Canada** and thereafter this Licence shall be determined to be at an end.
9. The term of this Licence shall be **twenty (20) years** and this Licence shall become effective only on the date of execution hereof by a person so authorized in the Department of Conservation. The LICENSEE may apply for renewal of this Licence not more than 365 days and not less than 90 days prior to the expiry date.
10. This Licence expires automatically upon the loss of the legal control of any of the lands on which the WORKS are located or on which water is used, unless the Licence is transferred or amended by the Minister upon application for Licence transfer or amendment.
11. The LICENSEE shall keep records of daily and annual water use and shall provide a copy of such records to the Director, Water Branch, not later than February 1st of the following year.
12. The LICENSEE shall install and maintain, on the pumping WORKS, a water measuring device acceptable to the Director, Water Branch, that will accurately measure the instantaneous water flow and the accumulated annual volume of water diverted from the water source.

13. The LICENSEE shall comply with all instructions and specifications that may be issued by Fisheries and Oceans Canada under the fish habitat protection provisions of Canada's Fisheries and Oceans Act concering the construction, maintenance, and operation of the WORKS.

14. The LICENSEE shall hold and maintain all other regulatory approvals that may be required and shall comply with all other regulatory requirements for the construction, operation, or maintenance of the WORKS or to divert or use water as provided by this Licence.

15. This Licence is issued subject to the valid existing authorization of the Minister responsible for The Water Resources Administration Act, being Chapter W60 of the Continuing Consolidation of the Statutes of Manitoba issued pursuant to Subsection (4) of Section 14 of that Act, and upon the termination, or withdrawal or cancellation of this authorization as outlined in Clause 18, this Licence shall be void and at an end. This authorization is given under the express condition that it may be terminated by the Minister responsible for The Water Resources Administration Act by the mutual consent of the parties or by the termination or cancellation or withdrawal of this Water rights Licence No. 2003-022.

16. Subject to the conditions herein set out, in reference to the authorization noted in Clause 17, the LICENSEE may, construct and operate and maintain raw water intake pipelines and pumping works located on the upstream side of the dam constructed across the Assiniboine River immediately upstream of the City of Portage la Prairie water treatment plant and referred to as the Assiniboine-Portage diversion control dam.

In witness whereof I the undersigned hereby agree to accept the aforesaid Licence on the terms and conditions set forth therein and hereby set my hand and seal this 14th day of July A.D. 2003.

SIGNED, SEALED AND DELIVERED
in the presence of

Margaret Loewen } _____ (Seal)
Witness MANAGER OF ADMINISTRATION Licensee

Canada, PROVINCE OF MANITOBA To Wit:

I, _____ of the _____

of _____ in the Province of Manitoba, MAKE OATH AND SAY:

1. That I was personally present and did see _____, the within named party, execute the within Instrument.

2. That I know the said _____ and am satisfied that he/she is of the full age of eighteen years.

3. That the said Instrument was executed at _____ aforesaid and that I am subscribing witness thereto.

SWORN BEFORE me at the _____

in the Province of Manitoba this _____ day of _____ A.D. 20 ____.

_____ } _____
A COMMISSIONER FOR OATHS Witness
in and for the Province of Manitoba

My Commission expires _____

Issued at the City of Winnipeg, in the Province of Manitoba, this 23 day of July A.D. 2003.

_____
The Honourable the Minister of Conservation

City of Portage la Prairie
Appendix C – Bacteriological Sample Result

Date	Sample Identification	TC	EC	CL2 Free	CL2 Total	NTU	HPC
5-Jan-21	RAW	95	0				
	W.T.P.	0	0	0.86	1.32	0.10	
	W.P.C.F.	0	0	0.45	0.87	0.15	
	Co-op			0.75	1.31	0.13	
	P.D.G.H.	0	0	0.57	1.02	0.26	
	City Hall			0.45	0.92	0.63	
	Firehall	0	0	0.13	0.57	0.71	
	Husky			0.67	1.08	0.29	
	Nutri-Pea	0	0	0.53	0.84	0.38	
	M.D.C.			0.26	0.88	0.82	
	Island Park	0	0	0.63	1.05	0.23	
	McKay Res.	0	0	0.50	1.01	0.13	
	City Garage			0.46	0.95	0.36	
	Tim Hortons			0.65	0.98	0.16	
12-Jan-21	RAW	78	4				
	W.T.P.	0	0	0.62	1.07	0.09	
	W.P.C.F.			0.85	1.25	0.10	
	AMHS	0	0	0.61	1.02	0.52	
	P.D.G.H.			0.48	0.85	0.58	
	City Hall			0.45	0.83	1.73	
	Firehall			0.12	0.27	1.20	
	Husky	0	0	0.41	0.74	0.47	
	Nutri-Pea	0	0	0.41	0.84	1.52	
	M.D.C.			0.27	0.45	1.95	
	Island Park	0	0	0.71	1.12	0.81	
	McKay Res.			0.58	1.06	0.11	
	City Garage	0	0	0.20	0.58	0.77	
	Tim Hortons	0	0	0.44	0.80	0.64	
19-Jan-21	RAW	>200	2				
	W.T.P.	0	0	1.76	2.41	0.06	
	W.P.C.F.	0	0	1.20	1.68	0.06	
	AMHS / Co-op			0.98	1.40	0.11	
	P.D.G.H.	0	0	1.36	1.84	0.71	
	City Hall			0.70	1.28	0.90	
	Firehall	0	0	0.24	0.58	0.54	
	L.P.M. / Husky			0.67	1.18	0.19	
	Nutri-Pea	0	0	0.49	0.97	0.19	
	M.D.C.			0.28	0.49	0.90	
	Island Park	0	0	0.76	1.25	0.30	
	McKay Res.	0	0	1.05	1.51	0.10	
	City Garage			0.41	0.82	0.90	
	Tim Hortons			1.03	1.50	0.70	

26-Jan-21	RAW	74	2				
	W.T.P.	0	0	1.44	1.96	0.09	
	W.P.C.F.			1.27	1.62	0.44	
	CO-OP	0	0	0.68	1.24	1.83	
	P.D.G.H.			1.25	1.77	1.00	
	City Hall	0	0	1.25	1.68	0.83	
	Firehall			0.11	0.27	1.18	
	HUSKY			0.93	1.36	0.33	
	Nutri-Pea	0	0	0.81	1.29	0.32	
	M.D.C.	0	0	0.50	1.04	0.37	
	Island Park	0	0	0.61	0.90	0.45	
	McKay Res.			0.81	1.32	0.21	
	City Garage			0.65	1.10	0.22	
	Tim Hortons			0.44	0.86	0.74	
02-Feb-21	RAW	>200	5				
	W.T.P.	0	0	1.31	1.86	0.29	
	W.P.C.F.			1.22	1.51	0.22	
	Co-op	0	0	1.35	1.94	0.31	
	P.D.G.H.			1.22	1.76	0.22	
	City Hall			0.98	1.52	0.17	
	Firehall			0.10	0.34	0.12	
	L.P.M. / Husky	0	0	1.26	1.82	0.63	
	Nutri-Pea	0	0	0.85	1.45	0.02	
	M.D.C.			0.49	0.94	0.40	
	Island Park	0	0	0.48	0.82	0.11	
	McKay Res.			1.36	1.81	0.41	
	City Garage	0	0	0.68	1.14	0.54	
	Tim Hortons	0	0	0.83	1.48	0.75	
09-Feb-21	RAW	89	0				
	W.T.P.	0	0	1.89	2.60	0.11	
	W.P.C.F.	0	0	0.94	1.40	0.14	
	AMHS			1.61	2.20	0.02	
	P.D.G.H.	0	0	1.47	1.75	0.16	
	City Hall			0.64	0.88	1.27	
	Firehall	0	0	0.26	0.65	0.97	
	L.P.M. / Husky			0.78	1.21	0.15	
	Nutri-Pea	0	0	0.81	1.17	0.10	
	M.D.C.			0.53	0.90	0.53	
	Island Park	0	0	0.79	1.13	0.76	
	McKay Res.	0	0	1.08	1.41	0.21	
	City Garage			0.69	1.13	0.74	
	Tim Hortons			0.49	0.92	0.74	
16-Feb-21	RAW	>200	0				

	W.T.P.	**0**	**0**	**1.57**	**2.07**	**0.08**	
	W.P.C.F.	**0**	**0**	**0.83**	**1.34**	**0.05**	
	AMHS / Co-op			**0.00**	**0.00**	**0.00**	
	P.D.G.H.	**0**	**0**	**0.95**	**1.46**	**0.62**	
	City Hall			**0.00**	**0.00**	**0.00**	
	Firehall	**0**	**0**	**0.15**	**0.56**	**0.78**	
	L.P.M. / Husky			**0.00**	**0.00**	**0.00**	
	Nutri-Pea	**0**	**0**	**0.75**	**1.26**	**0.08**	
	M.D.C.			**0.00**	**0.00**	**0.00**	
	Island Park	**0**	**0**	**0.78**	**1.36**	**0.35**	
	McKay Res.	**0**	**0**	**0.83**	**1.46**	**0.13**	
	City Garage			**0.00**	**0.00**	**0.00**	
	Tim Hortons			**0.00**	**0.00**	**0.00**	
23-Feb-21	**RAW**	**50**	**3**				
	W.T.P.	**0**	**0**	**1.40**	**1.91**	**0.80**	
	W.P.C.F.			**0.75**	**1.32**	**0.09**	
	AMHS / Co-op	**0**	**0**	**1.12**	**1.66**	**0.28**	
	P.D.G.H.			**1.20**	**1.70**	**0.15**	
	City Hall	**0**	**0**	**0.80**	**1.48**	**0.09**	
	Firehall			**0.26**	**0.57**	**0.80**	
	L.P.M. / Husky			**1.10**	**1.56**	**0.30**	
	Nutri-Pea	**0**	**0**	**0.88**	**1.45**	**0.06**	
	M.D.C.	**0**	**0**	**0.85**	**1.15**	**0.40**	
	Island Park	**0**	**0**	**0.86**	**1.38**	**0.13**	
	McKay Res.			**1.11**	**1.62**	**0.10**	
	City Garage			**0.56**	**0.99**	**0.36**	
	Tim Hortons			**0.59**	**1.12**	**0.48**	
02-Mar-21	**RAW**	**62**	**1**				
	W.T.P.	**0**	**0**	**1.71**	**2.30**	**0.12**	
	W.P.C.F.			**1.61**	**2.12**	**0.07**	
	AMHS / Co-op	**0**	**0**	**`1.64**	**2.15**	**0.09**	
	P.D.G.H.			**1.47**	**1.92**	**0.37**	
	City Hall			**0.91**	**1.35**	**0.49**	
	Firehall			**0.46**	**0.97**	**1.60**	
	Husky	**0**	**0**	**1.40**	**1.86**	**0.08**	
	Nutri-Pea	**0**	**0**	**1.24**	**1.72**	**0.24**	
	M.D.C.			**1.09**	**1.53**	**0.28**	
	Island Park	**0**	**0**	**1.31**	**1.79**	**0.77**	
	McKay Res.			**1.24**	**1.58**	**0.35**	
	City Garage	**0**	**0**	**0.91**	**1.43**	**0.30**	
	Tim Hortons	**0**	**0**	**0.91**	**1.37**	**0.68**	
09-Mar-21	**RAW**	**62**	**1**				
	W.T.P.	**0**	**0**	**1.98**	**2.40**	**0.11**	

	W.P.C.F.			1.99	2.30	0.16	
	AMHS / Co-op	0	0	1.70	2.20	0.32	
	P.D.G.H.			1.77	2.20	0.41	
	City Hall			1.35	1.73	0.46	
	Firehall			0.30	0.79	0.84	
	L.P.M. / Husky	0	0	1.76	2.20	0.21	
	Nutri-Pea	0	0	1.49	2.13	0.01	
	M.D.C.			n/a	n/a	n/a	
	Island Park	0	0	1.76	2.20	0.13	
	McKay Res.	0	0	1.63	2.15	0.05	
	City Garage	0	0	1.49	2.03	0.27	
	Tim Hortons	0	0	1.88	2.20	0.19	
16-Mar-21	RAW	0	0				
	W.T.P.	0	0	1.63	2.04	0.11	
	W.P.C.F.			0.90	1.48	0.11	
	CO-OP	0	0	1.37	1.80	0.29	
	P.D.G.H.			1.33	1.78	0.40	
	City Hall	0	0	0.59	1.10	0.48	
	Firehall			0.21	0.74	0.89	
	L.P.M. / Husky			1.10	1.48	0.15	
	Nutri-Pea	0	0	0.80	1.33	0.26	
	M.D.C.	0	0	0.82	1.32	0.27	
	Island Park	0	0	1.13	1.60	0.62	
	McKay Res.			0.90	1.39	0.14	
	City Garage			0.83	1.20	0.31	
	Tim Hortons			0.84	1.39	0.39	
23-Mar-21	RAW	15	0				
	W.T.P.	0	0	1.97	2.12	0.19	
	W.P.C.F.			1.44	1.86	0.10	
	AMHS	0	0	1.56	1.95	0.22	
	P.D.G.H.			1.44	1.80	0.77	
	City Hall			0.74	0.90	0.53	
	Firehall			0.10	0.34	1.20	
	L.P.M. / Husky	0	0	1.28	1.87	0.22	
	Nutri-Pea	0	0	0.92	1.20	0.24	
	M.D.C.			0.78	1.00	0.41	
	Island Park	0	0	1.20	1.69	0.25	
	McKay Res.			1.08	1.41	0.16	
	City Garage	0	0	0.16	0.47	0.89	
	Tim Hortons	0	0	0.69	1.01	1.02	
30-Mar-21	RAW	43	2				
	W.T.P.	0	0	1.90	2.50	0.18	
	W.P.C.F.	0	0	1.68	2.00	0.15	

	Co-op			1.01	1.18	0.08	
	P.D.G.H.	0	0	1.56	2.09	0.29	
	City Hall			0.91	1.22	0.38	
	Firehall	0	0	0.10	0.16	1.40	
	L.P.M. / Husky			1.39	1.82	0.48	
	Nutri-Pea	0	0	0.95	1.33	0.01	
	M.D.C.			0.82	1.22	0.31	
	Island Park	0	0	1.44	1.77	0.09	
	McKay Res.	0	0	1.29	1.47	0.10	
	City Garage			0.89	1.17	0.40	
	Tim Hortons			1.03	1.39	0.15	
06-Apr-21	RAW	200	109				
	W.T.P.	0	0	1.94	2.40	0.23	
	W.P.C.F.			1.57	2.09	0.32	
	AMHS / Co-op	0	0	1.71	2.14	0.40	
	P.D.G.H.			1.61	2.09	0.67	
	City Hall	0	0	1.15	1.57	0.98	
	Firehall			0.10	0.45	1.12	
	L.P.M. / Husky			1.52	2.03	0.25	
	Nutri-Pea	0	0	1.41	1.91	0.43	
	M.D.C.	0	0	1.20	1.61	0.65	
	Island Park	0	0	1.64	2.13	0.21	
	McKay Res.			1.17	1.58	7.94	
	City Garage			1.16	1.49	0.39	
	Tim Hortons			0.94	1.35	0.41	
13-Apr-21	RAW	200	56				
	W.T.P.	0	0	2.20	2.50	0.11	
	W.P.C.F.			1.02	1.32	0.31	
	AMHS / Co-op	0	0	1.87	2.20	0.50	
	P.D.G.H.			1.64	2.00	0.22	
	City Hall			1.22	1.38	0.34	
	Firehall			0.10	0.31	0.19	
	L.P.M. / Husky	0	0	0.78	1.29	0.11	
	Nutri-Pea	0	0	1.15	1.50	0.06	
	M.D.C.			0.80	1.17	0.51	
	Island Park	0	0	1.52	1.81	0.23	
	McKay Res.			1.29	1.55	0.26	
	City Garage	0	0	0.47	0.85	0.64	
	Tim Hortons	0	0	1.11	1.37	0.07	
20-Apr-21	RAW	165	130				
	W.T.P.	0	0	2.50	3.00	0.12	
	W.P.C.F.	0	0	1.63	2.07	0.00	
	AMHS / Co-op			1.03	1.45	0.18	

	P.D.G.H.	0	0	1.94	2.18	0.09	
	City Hall			0.43	0.61	0.20	
	Firehall	0	0	0.30	0.70	0.49	
	L.P.M. / Husky			1.53	2.04	0.31	
	Nutri-Pea	0	0	1.17	1.55	0.06	
	M.D.C.			0.63	1.26	0.19	
	Island Park	0	0	1.33	1.96	0.08	
	McKay Res.	0	0	1.33	1.75	0.06	
	City Garage			1.01	1.47	0.33	
	Tim Hortons			1.21	1.63	0.28	
27-Apr-21	RAW	45	3				
	W.T.P.	0	0	2.13	2.90	0.08	
	W.P.C.F.			1.87	2.20	0.15	
	AMHS / Co-op	0	0	2.05	2.35	0.09	
	P.D.G.H.			1.83	2.20	0.06	
	City Hall	0	0	1.11	1.30	0.63	
	Firehall			0.48	0.59	0.50	
	L.P.M. / Husky			1.81	2.01	0.08	
	Nutri-Pea	0	0	1.22	1.43	0.01	
	M.D.C.	0	0	1.02	1.36	0.18	
	Island Park	0	0	1.64	1.98	0.18	
	McKay Res.			1.39	1.75	0.23	
	City Garage			1.10	1.51	0.21	
	Tim Hortons			1.00	1.37	0.02	
04-May-21	RAW	50	16				
	W.T.P.	0	0	1.22	1.63	0.06	
	W.P.C.F.			1.20	1.69	0.03	
	AMHS / Co-op	0	0	1.10	1.48	0.03	
	P.D.G.H.			0.90	1.41	0.90	
	City Hall			0.31	0.80	0.94	
	Firehall			0.12	0.40	0.82	
	L.P.M. / Husky	0	0	0.85	1.25	0.05	
	Nutri-Pea	0	0	0.72	1.29	0.04	
	M.D.C.			0.60	1.09	0.23	
	Island Park	0	0	0.98	1.50	0.12	
	McKay Res.			0.81	1.24	0.11	
	City Garage	0	0	0.58	1.10	0.33	
	Tim Hortons	0	0	0.76	1.20	0.29	
11-May-21	RAW	78	19				
	W.T.P.	0	0	1.03	1.39	0.05	
	W.P.C.F.	0	0	0.99	1.38	0.08	
	Co-Op			0.92	1.19	0.04	
	P.D.G.H.	0	0	0.94	1.29	0.04	

	City Hall			0.80	1.07	0.10	
	Firehall	0	0	0.24	0.50	0.28	
	Husky			0.90	1.17	0.02	
	Nutri-Pea	0	0	0.71	1.15	0.08	
	M.D.C.			0.49	0.90	0.02	
	Island Park	0	0	0.93	1.33	0.58	
	McKay Res.	0	0	0.66	0.98	0.05	
	City Garage			0.28	0.55	0.76	
	Tim Hortons			0.74	1.18	0.06	
18-May-21	RAW	130	25				
	W.T.P.	0	0	1.34	1.69	0.07	
	W.P.C.F.			1.01	1.36	0.07	
	Co-op	0	0	1.06	1.50	0.13	
	P.D.G.H.			0.97	1.30	0.04	
	City Hall	0	0	0.69	0.98	0.19	
	Firehall			0.10	0.16	1.79	
	Husky			0.86	1.20	0.11	
	Nutri-Pea	0	0	0.73	1.11	0.08	
	M.D.C.	0	0	0.51	0.89	0.36	
	Island Park	0	0	0.89	1.18	0.10	
	McKay Res.			0.78	1.06	0.12	
	City Garage			0.33	0.73	1.11	
	Tim Hortons			0.87	1.42	0.02	
25-May-21	RAW	Present	Present				
	W.T.P.	0	0	1.55	1.81	0.06	
	W.P.C.F.			1.37	1.66	0.09	
	AMHS	0	0	1.30	1.65	0.16	
	P.D.G.H.			1.31	1.70	0.03	
	City Hall			0.98	1.28	0.19	
	Firehall			0.37	0.55	0.76	
	L.P.M. / Husky	0	0	1.19	1.49	0.08	
	Nutri-Pea	0	0	0.77	1.13	0.16	
	M.D.C.			0.91	1.12	0.23	
	Island Park	0	0	1.21	1.54	0.10	
	McKay Res.			1.09	1.39	0.13	
	City Garage	0	0	0.79	1.02	0.49	
	Tim Hortons	0	0	1.11	1.46	0.03	
01-Jun-21	RAW	53	6	0.00	0.00	18.20	
	W.T.P.	0	0	1.48	1.83	0.07	
	W.P.C.F.	0	0	1.05	1.48	0.04	
	AMHS / Co-op			1.21	1.67	0.04	
	P.D.G.H.	0	0	1.15	1.35	0.05	
	City Hall			0.70	1.06	0.30	

	Firehall	**0**	**0**	**0.54**	**0.87**	**0.25**	
	L.P.M. / Husky			**0.96**	**1.33**	**0.05**	
	Nutri-Pea	**0**	**0**	**0.79**	**1.16**	**0.20**	
	M.D.C.			**0.78**	**1.10**	**0.20**	
	Island Park	**0**	**0**	**1.15**	**1.52**	**0.14**	
	McKay Res.	**0**	**0**	**0.85**	**1.22**	**0.15**	
	City Garage			**0.47**	**0.86**	**0.43**	
	Tim Hortons			**0.94**	**1.37**	**0.06**	
08-Jun-21	**RAW**	**>200**	**11**				
	W.T.P.	**0**	**0**	**1.75**	**2.18**	**0.07**	
	W.P.C.F.			**1.26**	**1.61**	**0.05**	
	AMHS / Co-op	**0**	**0**	**1.26**	**1.74**	**0.06**	
	P.D.G.H.			**0.98**	**1.40**	**0.08**	
	City Hall	**0**	**0**	**0.71**	**1.05**	**0.12**	
	Firehall			**0.10**	**0.22**	**0.65**	
	L.P.M. / Husky			**0.93**	**1.28**	**0.12**	
	Nutri-Pea	**0**	**0**	**0.60**	**0.94**	**0.04**	
	M.D.C.	**0**	**0**	**0.23**	**0.56**	**0.49**	
	Island Park	**0**	**0**	**1.21**	**1.69**	**0.05**	
	McKay Res.			**0.82**	**1.33**	**0.08**	
	City Garage			**0.23**	**0.51**	**0.45**	
	Tim Hortons			**0.76**	**1.12**	**0.10**	
15-Jun-21	**RAW**	**>200**	**6**				
	W.T.P.	**0**	**0**	**1.94**	**2.14**	**0.08**	
	W.P.C.F.			**1.21**	**1.64**	**0.18**	
	AMHS / Co-op	**0**	**0**	**1.50**	**1.80**	**0.08**	
	P.D.G.H.			**0.90**	**1.56**	**0.16**	
	City Hall			**0.37**	**0.62**	**0.27**	
	Firehall			**0.36**	**0.45**	**0.18**	
	L.P.M. / Husky	**0**	**0**	**0.42**	**1.26**	**0.05**	
	Nutri-Pea	**0**	**0**	**0.65**	**1.00**	**0.24**	
	M.D.C.			**0.40**	**0.73**	**0.33**	
	Island Park	**0**	**0**	**1.03**	**1.40**	**0.16**	
	McKay Res.			**0.73**	**0.97**	**0.19**	
	City Garage	**0**	**0**	**0.56**	**0.95**	**0.17**	
	Tim Hortons	**0**	**0**	**0.72**	**1.13**	**0.07**	
22-Jun-21	**RAW**	**>200**	**12**				
	W.T.P.	**0**	**0**	**1.60**	**2.11**	**0.09**	
	W.P.C.F.	**0**	**0**	**0.79**	**1.29**	**0.09**	
	AMHS / Co-op			**1.12**	**1.61**	**0.07**	
	P.D.G.H.	**0**	**0**	**0.78**	**1.19**	**0.15**	
	City Hall			**0.21**	**0.79**	**0.24**	
	Firehall	**0**	**0**	**0.11**	**0.38**	**0.69**	

	L.P.M. / Husky			0.92	1.48	0.11	
	Nutri-Pea	0	0	0.70	1.04	0.32	
	M.D.C.			0.63	1.12	0.29	
	Island Park	0	0	0.63	1.19	0.09	
	McKay Res.	0	0	0.71	1.28	0.09	
	City Garage			0.74	1.32	0.07	
	Tim Hortons			0.40	0.91	0.08	
29-Jun-21	RAW	Present	Present				
	W.T.P.	Absent	Absent	1.66	2.10	0.09	
	W.P.C.F.			1.05	1.41	0.13	
	AMHS / Co-op	Absent	Absent	1.24	1.72	0.09	
	P.D.G.H.			0.96	1.44	0.21	
	City Hall	Absent	Absent	0.27	0.62	0.26	
	Firehall			0.10	0.37	0.31	
	L.P.M. / Husky			0.80	1.40	0.19	
	Nutri-Pea	0	0	0.54	0.84	0.11	
	M.D.C.	0	0	0.14	0.51	0.36	
	Island Park	0	0	0.63	1.08	0.10	
	McKay Res.			0.73	1.67	0.13	
	City Garage			0.36	0.68	0.25	
	Tim Hortons			0.66	1.09	0.17	
06-Jul-21	RAW	>200	4				
	W.T.P.	0	0	1.52	1.79	0.07	
	W.P.C.F.			0.82	1.27	0.02	
	AMHS / Co-op	0	0	1.33	1.72	0.23	
	P.D.G.H.			0.36	0.75	0.78	
	City Hall			0.14	0.40	1.23	
	Firehall			0.10	0.21	2.88	
	L.P.M. / Husky	0	0	0.86	1.24	0.04	
	Nutri-Pea	0	0	0.39	0.80	0.16	
	M.D.C.			0.10	0.35	0.45	
	Island Park	0	0	0.73	1.35	0.38	
	McKay Res.			0.51	0.80	0.11	
	City Garage	0	0	0.14	0.45	0.43	
	Tim Hortons	0	0	0.33	0.72	0.05	
13-Jul-21	RAW	>200	3				
	W.T.P.	0	0	1.85	2.70	0.07	
	W.P.C.F.	0	0	0.90	1.36	0.02	
	AMHS / Co-op			1.43	1.89	0.19	
	P.D.G.H.	0	0	0.95	1.43	0.64	
	City Hall			0.23	0.74	0.90	
	Firehall	0	0	0.11	0.27	1.80	
	L.P.M. / Husky			0.82	1.37	0.12	

	Nutri-Pea	0	0	0.63	1.12	0.41	
	M.D.C.			0.38	0.78	0.48	
	Island Park	0	0	1.03	1.51	0.41	
	McKay Res.	0	0	0.85	1.30	0.05	
	City Garage			0.31	0.63	0.38	
	Tim Hortons			0.62	1.10	0.04	
20-Jul-21	RAW	>200	3				
	W.T.P.	0	0	1.54	2.01	0.07	
	W.P.C.F.			1.12	1.68	0.12	
	CO-OP	0	0	1.00	1.51	0.17	
	P.D.G.H.			0.86	1.32	0.70	
	City Hall	0	0	0.28	0.54	0.33	
	Firehall			0.11	0.34	1.43	
	L.P.M. / Husky			0.45	0.90	0.24	
	Nutri-Pea	0	0	0.90	1.43	0.22	
	M.D.C.	0	0	0.26	0.69	0.51	
	Island Park	0	0	0.90	1.48	0.03	
	McKay Res.			0.72	1.10	0.06	
	City Garage			0.66	1.10	0.30	
	Tim Hortons			0.31	0.82	0.08	
27-Jul-21	RAW	Present	Present				
	W.T.P.	Absent	Absent	2.21	2.78	0.08	
	W.P.C.F.			1.77	2.20	0.03	
	AMHS / Co-op	Absent	Absent	1.50	2.01	0.15	
	P.D.G.H.			1.65	2.08	0.61	
	City Hall			0.47	0.92	0.94	
	Firehall			0.11	0.28	0.99	
	L.P.M. / Husky	Absent	Absent	1.29	1.78	0.07	
	Nutri-Pea	Absent	Absent	0.94	1.51	0.21	
	M.D.C.			0.21	0.60	0.48	
	Island Park	Absent	Absent	1.14	1.62	0.04	
	McKay Res.			0.84	1.41	0.06	
	City Garage			0.25	0.71	0.36	
	Tim Hortons	Absent	Absent	0.92	1.49	0.06	
30-Jul-21	RAW	Present	Present				
	W.T.P.	Absent	Absent	0.00	0.00	0.00	
	W.P.C.F.			0.00	0.00	0.00	
	AMHS / Co-op	Absent	Absent	0.00	0.00	0.00	
	P.D.G.H.			0.00	0.00	0.00	
	City Hall			0.00	0.00	0.00	
	Firehall			0.00	0.00	0.00	
	L.P.M. / Husky	Absent	Absent	0.00	0.00	0.00	
	Nutri-Pea	Absent	Absent	0.00	0.00	0.00	

	M.D.C.			0.00	0.00	0.00	
	Island Park	Absent	Absent	0.00	0.00	0.00	
	McKay Res.			0.00	0.00	0.00	
	City Garage			0.00	0.00	0.00	
	Tim Hortons	Absent	Absent	0.00	0.00	0.00	
03-Aug-21	RAW	>200	4				
	W.T.P.	0	0	2.30	2.91	0.08	
	W.P.C.F.	0	0	0.92	1.48	0.23	
	AMHS / Co-op			1.98	2.20	0.21	
	P.D.G.H.	0	0	1.61	1.98	0.31	
	City Hall			0.75	1.56	0.76	
	Firehall	0	0	0.10	0.29	0.76	
	L.P.M. / Husky			0.32	0.89	0.11	
	Nutri-Pea	0	0	0.48	1.01	0.03	
	M.D.C.			0.51	1.02	0.54	
	Island Park	0	0	1.25	1.69	0.30	
	McKay Res.	0	0	2.15	2.20	0.20	
	City Garage			0.10	0.41	0.54	
	Tim Hortons			0.87	1.32	0.10	
10-Aug-21	RAW	>200	11				
	W.T.P.	0	0	2.30	2.60	0.09	
	W.P.C.F.			0.85	1.30	0.11	
	CO-OP	0	0	2.06	2.32	0.11	
	P.D.G.H.			1.71	2.05	0.66	
	City Hall			0.96	1.28	0.43	
	Firehall			0.15	0.30	2.02	
	Husky			1.72	2.06	0.74	
	Nutri-Pea	0	0	0.66	1.05	0.90	
	M.D.C.			0.10	0.34	1.18	
	Island Park	0	0	1.19	1.49	0.03	
	McKay Res.			1.29	1.69	0.45	
	City Garage	0	0	0.10	0.31	0.83	
	Tim Hortons	0	0	1.08	1.34	0.01	
17-Aug-21	RAW	>200	2				
	W.T.P.	0	0	1.96	2.40	0.08	
	W.P.C.F.			1.02	1.48	0.04	
	AMHS / Co-op	0	0	1.46	1.85	0.06	
	P.D.G.H.			1.08	1.48	0.08	
	City Hall	0	0	0.37	0.71	0.43	
	Firehall			0.10	0.37	0.95	
	Husky	0	0	0.81	1.12	0.04	
	Nutri-Pea	0	0	0.52	0.92	1.95	
	MDC	0	0	0.81	1.12	0.04	

	Golf Course	0	0	0.82	1.27	0.21	
	McKay Res.			0.84	1.10	0.25	
	City Garage			0.24	0.46	0.39	
	Tim Hortons	0	0	0.38	0.68	0.08	
24-Aug-21	RAW	>200	8				
	W.T.P.	0	0	2.17	2.70	0.06	
	W.P.C.F.	0	0	1.65	1.97	0.03	
	Co-op			1.89	2.25	0.32	
	P.D.G.H.	0	0	1.76	2.30	0.35	
	City Hall			0.53	0.70	0.13	
	RCMP	0	0	0.11	0.16	0.27	
	Husky			1.48	1.92	0.15	
	Nutri-Pea	0	0	0.87	1.15	0.14	
	M.D.C.			0.51	0.84	0.17	
	Island Park	0	0	0.37	0.73	0.05	
	McKay Res.	0	0	1.23	1.71	0.05	
	City Garage			1.24	1.50	0.02	
	Tim Hortons			0.55	0.91	0.06	
31-Aug-21	RAW	>200	43				
	W.T.P.	0	0	1.67	1.95	0.06	
	W.P.C.F.			0.93	1.22	0.07	
	CO-OP	0	0	1.08	1.43	0.06	
	P.D.G.H.			1.29	1.45	0.03	
	City Hall	0	0	0.45	0.88	0.06	
	Firehall	0	0	0.46	0.77	0.38	
	Husky			0.73	1.07	0.10	
	Nutri-Pea	0	0	0.90	1.07	0.12	
	M.D.C.	0	0	0.73	0.91	0.59	
	Island Park	0	0	0.68	0.74	0.09	
	McKay Res.			1.09	1.35	0.19	
	City Garage			0.31	0.72	0.43	
	Tim Hortons			0.99	1.31	0.19	
07-Sep-21	RAW	>200	70				
	W.T.P.	0	0	1.71	2.05	0.06	
	W.P.C.F.			1.02	1.46	0.10	
	Co-op	0	0	1.12	1.47	0.03	
	P.D.G.H.			1.09	1.35	0.03	
	City Hall			0.32	0.59	0.01	
	Firehall	0	0	0.12	0.24	0.99	
	L.P.M. / Husky	0	0	0.82	0.97	0.06	
	Nutri-Pea	0	0	0.57	0.82	0.20	
	M.D.C.			0.38	0.68	0.21	
	Island Park	0	0	0.41	0.66	0.08	

	McKay Res.			0.80	1.10	0.15	
	City Garage	0	0	0.11	0.37	0.55	
	Tim Hortons	0	0	0.42	0.71	0.04	
14-Sep-21	RAW	>200	145				
	W.T.P.	0	0	1.45	1.78	0.06	
	W.P.C.F.	0	0	0.58	0.95	0.04	
	AMHS / Co-op			1.00	1.56	0.11	
	P.D.G.H.	0	0	0.88	1.32	0.05	
	City Hall	0	0	0.13	0.45	0.13	
	Firehall			0.12	0.33	0.22	
	L.P.M. / Husky			0.48	0.80	0.20	
	Nutri-Pea	0	0	0.32	0.62	0.05	
	M.D.C.			n/a	n/a	n/a	
	Island Park	0	0	0.34	0.46	0.11	
	McKay Res.	0	0	0.59	1.00	0.06	
	City Garage			0.10	0.31	0.31	
	Tim Hortons			0.24	0.65	0.19	
21-Sep-21	RAW	>200	34				
	W.T.P.	0	0	1.69	1.95	0.06	
	W.P.C.F.			0.81	1.12	0.04	
	AMHS / Co-op	0	0	1.41	1.87	0.03	
	P.D.G.H.			1.28	1.69	0.09	
	City Hall	0	0	0.67	1.21	0.02	
	RCMP	0	0	0.28	0.54	0.09	
	L.P.M. / Husky			0.40	0.89	0.08	
	Nutri-Pea	0	0	0.56	1.09	0.08	
	M.D.C.	0	0	0.55	1.06	0.38	
	Island Park	0	0	0.37	0.82	0.10	
	McKay Res.			0.88	1.17	0.11	
	City Garage			0.27	0.57	0.61	
	Tim Hortons			0.46	0.99	0.09	
28-Sep-21	RAW	>200	36				
	W.T.P.	0	0	2.10	2.40	0.06	
	W.P.C.F.			0.78	1.15	0.19	
	AMHS / Co-op	0	0	1.60	1.86	0.11	
	P.D.G.H.			1.20	1.58	0.21	
	City Hall			0.31	0.57	0.20	
	Firehall	0	0	0.11	0.37	0.32	
	L.P.M. / Husky	0	0	0.40	0.65	0.60	
	Nutri-Pea	0	0	0.55	0.82	0.13	
	M.D.C.			0.38	0.64	0.18	
	Island Park	0	0	0.46	0.73	0.08	
	McKay Res.			0.78	1.05	0.09	

	City Garage			0.70	0.95	0.05	
	Tim Hortons	0	0	0.41	0.69	0.06	
05-Oct-21	RAW	89	0				
	W.T.P.	0	0	2.11	2.40	0.06	
	W.P.C.F.	0	0	1.45	1.90	0.05	
	AMHS / Co-op			1.71	2.07	0.03	
	P.D.G.H.	0	0	1.27	1.80	0.15	
	City Hall			0.73	1.24	0.12	
	Firehall / RCMP	0	0	0.51	0.99	0.04	
	L.P.M. / Husky			0.77	1.63	0.21	
	Nutri-Pea	0	0	0.94	1.22	0.03	
	M.D.C.			0.96	1.31	0.09	
	Island Park	0	0	1.53	1.97	0.02	
	McKay Res.	0	0	1.35	1.63	0.01	
	City Garage			0.27	0.71	0.23	
	Tim Hortons			0.50	0.76	0.01	
12-Oct-21	RAW	>200	101				
	W.T.P.	0	0	1.68	1.97	0.05	
	W.P.C.F.			1.41	1.67	0.08	
	AMHS / Co-op	0	0	0.45	0.82	0.02	
	P.D.G.H.	0	0	1.12	1.51	0.07	
	City Hall	0	0	1.07	1.32	0.15	
	Firehall	0	0	0.58	0.89	0.26	
	L.P.M. / Husky			0.19	1.00	0.25	
	Nutri-Pea	0	0	0.90	1.18	0.01	
	M.D.C.	0	0	0.84	1.10	0.06	
	Island Park			0.74	0.98	0.02	
	McKay Res.	0	0	1.03	1.53	0.04	
	City Garage			0.05	0.30	0.83	
	Tim Hortons			0.65	0.88	0.02	
19-Oct-21	RAW	>200	83				
	W.T.P.	0	0	1.59	1.92	0.08	
	W.P.C.F.			1.22	1.47	0.03	
	AMHS / Co-op	0	0	1.47	1.81	0.01	
	P.D.G.H.			1.33	1.63	0.13	
	City Hall			0.86	1.06	0.01	
	RCMP	0	0	0.59	0.90	0.26	
	L.P.M. / Husky	0	0	0.73	1.12	0.34	
	Nutri-Pea	0	0	1.02	1.36	0.16	
	M.D.C.			0.97	1.29	0.09	
	Island Park	0	0	0.98	1.30	0.15	
	McKay Res.			1.36	1.59	0.19	
	City Garage	0	0	0.77	1.01	0.31	

	Tim Hortons	0	0	0.81	1.14	0.04	
26-Oct-21	RAW	14	0				
	W.T.P.	0	0	1.53	1.94	0.06	
	W.P.C.F.	0	0	1.05	1.63	0.05	
	AMHS / Co-op			1.17	1.67	0.21	
	P.D.G.H.	0	0	1.01	1.49	0.31	
	City Hall			0.60	0.97	0.19	
	Firehall	0	0	0.27	0.62	0.56	
	L.P.M. / Husky			0.70	1.06	0.32	
	Nutri-Pea	0	0	0.71	1.01	0.25	
	M.D.C.			n/a	n/a	n/a	
	Island Park	0	0	0.76	1.04	0.49	
	McKay Res.	0		0.84	1.41	0.10	
	City Garage	0	0	0.84	1.23	0.21	
	Tim Hortons			0.49	0.88	0.36	
02-Nov-21	RAW	>200	9				
	W.T.P.	0	0	1.63	1.95	0.06	
	W.P.C.F.			0.89	1.36	0.02	
	AMHS / Co-op	0	0	1.25	1.64	0.17	
	P.D.G.H.			1.05	1.44	0.19	
	City Hall	0	0	0.64	1.14	0.24	
	Firehall	0	0	0.55	0.79	0.16	
	L.P.M. / Husky			0.86	1.20	0.17	
	Nutri-Pea	0	0	0.73	1.06	0.15	
	M.D.C.	0	0	0.61	0.85	0.46	
	Island Park	0	0	1.01	1.50	0.14	
	McKay Res.			0.00	0.00	0.00	
	City Garage			0.54	0.88	0.69	
	Tim Hortons			0.59	0.92	0.21	
09-Nov-21	RAW	>200	6				
	W.T.P.	0	0	1.41	1.78	0.05	
	W.P.C.F.			0.91	1.28	0.07	
	AMHS / Co-op	0	0	1.22	1.55	0.10	
	P.D.G.H.			1.15	1.36	0.15	
	City Hall			0.64	1.10	0.23	
	Firehall	0	0	0.50	0.80	0.49	
	L.P.M. / Husky	0	0	0.85	1.13	0.18	
	Nutri-Pea	0	0	0.90	1.12	0.17	
	M.D.C.			0.78	0.93	0.35	
	Island Park	0	0	1.08	1.28	0.14	
	McKay Res.			0.00	0.00	0.00	
	City Garage	0	0	0.54	0.90	0.41	
	Tim Hortons	0	0	0.75	0.97	0.38	

16-Nov-21	RAW	>200	21				
	W.T.P.	0	0	1.21	1.69	0.07	
	W.P.C.F.	0	0	0.58	0.91	0.13	
	AMHS / Co-op			0.85	1.28	0.26	
	P.D.G.H.	0	0	0.82	1.26	0.47	
	City Hall			0.30	0.66	0.33	
	RCMP	0	0	0.30	0.66	0.62	
	L.P.M. / Husky			0.58	1.02	0.36	
	Nutri-Pea	0	0	0.34	0.58	0.45	
	M.D.C.			0.28	0.58	0.26	
	Island Park	0	0	0.36	0.92	0.18	
	McKay Res.	0	0	0.66	0.98	0.34	
	City Garage			0.51	0.66	0.56	
	Tim Hortons			0.23	0.64	0.09	
23-Nov-21	RAW	>200	9				
	W.T.P.	0	0	1.33	1.70	0.07	
	W.P.C.F.	0	0	0.78	1.25	0.08	
	AMHS / Co-op			1.14	1.55	0.18	
	P.D.G.H.	0	0	1.02	1.27	0.61	
	City Hall			0.00	0.00	0.00	
	Firehall			0.75	0.92	1.11	
	L.P.M. / Husky			1.25	1.60	0.17	
	Craig Dunn			1.31	1.76	0.03	
	M.D.C.	0	0	0.58	1.03	0.29	
	Island Park	0	0	0.84	1.33	0.08	
	McKay Res.			0.00	0.00	0.00	
	City Garage			0.71	0.93	0.67	
	Tim Hortons	0	0	0.55	0.86	0.11	
30-Nov-21	RAW	>200	4				
	W.T.P.	0	0	1.65	1.97	0.06	
	W.P.C.F.			0.50	0.76	0.21	
	AMHS / Co-op	0	0	1.16	1.67	0.29	
	P.D.G.H.			1.06	1.43	0.50	
	Craig Dunn	0	0	0.00	0.00	0.00	
	Firehall	0	0	0.33	0.80	0.50	
	L.P.M. / Husky	0	0	0.74	1.23	0.26	
	Nutri-Pea			0.74	1.12	0.52	
	Craig Dunn			1.12	1.71	0.11	
	Island Park			1.02	1.42	0.51	
	McKay Res.			0.00	0.00	0.00	
	City Garage	0	0	0.29	0.58	1.26	
	Tim Hortons			0.47	0.86	0.62	
07-Dec-21	RAW	>200	4				

	W.T.P.	0	0	1.44	1.83	0.08	
	W.P.C.F.	0	0	1.34	1.93	0.14	
	AMHS / Co-op			0.92	1.42	0.26	
	P.D.G.H.	0	0	1.06	1.64	0.30	
	City Hall			0.00	0.00	0.00	
	Firehall			0.82	1.25	0.41	
	L.P.M. / Husky			0.52	0.97	0.28	
	Nutri-Pea	0	0	0.91	1.39	0.43	
	Craig Dunn			1.16	1.57	0.41	
	Island Park	0	0	1.06	1.67	0.33	
	McKay Res.			1.10	1.53	0.18	
	City Garage			0.67	1.03	0.32	
	Tim Hortons	0	0	0.49	0.85	0.42	
14-Dec-21	RAW	>200	2				
	W.T.P.	0	0	1.25	1.59	0.03	
	W.P.C.F.			0.86	1.10	0.05	
	AMHS / Co-op	0	0	1.04	1.75	0.05	
	P.D.G.H.			0.98	1.45	0.45	
	City Hall			0.00	0.00	0.00	
	Firehall	0	0	0.22	0.50	0.55	
	L.P.M. / Husky	0	0	0.77	1.14	0.22	
	Nutri-Pea			0.73	0.83	0.25	
	Craig Dunn	0	0	0.49	0.90	0.28	
	Island Park			0.73	1.12	0.08	
	McKay Res.			0.00	0.00	0.00	
	City Garage	0	0	0.55	0.99	0.94	
	Tim Hortons			0.42	0.83	0.10	
21-Dec-21	RAW	200	2				
	W.T.P.	0	0	1.19	1.54	0.06	
	W.P.C.F.	0	0	0.16	0.54	0.11	
	AMHS / Co-op			0.73	1.34	0.22	
	P.D.G.H.	0	0	0.80	1.25	0.23	
	City Hall			0.00	0.00	0.00	
	Firehall			0.14	0.58	0.67	
	L.P.M. / Husky			0.74	1.03	0.21	
	Nutri-Pea	0	0	0.33	0.77	0.47	
	Craig Dunn			1.66	2.20	0.15	
	Island Park	0	0	0.73	1.13	0.36	
	McKay Res.			0.00	0.00	0.00	
	City Garage			0.30	0.72	0.78	
	Tim Hortons	0	0	0.22	0.60	0.17	
29-Dec-21	RAW	0	0				
	W.T.P.	0	0	1.48	2.04	12.50	

	W.P.C.F.	**0**	**0**	**0.80**	**1.29**	**0.10**	
	AMHS / Co-op			**0.59**	**0.66**	**0.10**	
	P.D.G.H.	**0**	**0**	**0.94**	**1.37**	**0.29**	
	City Hall			**n/a**	**n/a**	**n/a**	
	Firehall	**0**	**0**	**0.12**	**0.30**	**1.08**	
	L.P.M. / Husky			**0.84**	**1.45**	**0.15**	
	Nutri-Pea	**0**	**0**	**0.08**	**0.40**	**0.98**	
	Craig Dunn			**1.19**	**1.70**	**0.11**	
	Island Park	**0**	**0**	**0.80**	**1.23**	**0.14**	
	McKay Res.	**0**	**0**	**0.00**	**0.00**	**0.00**	
	City Garage			**0.10**	**0.40**	**1.20**	
	Tim Hortons			**0.75**	**1.04**	**0.19**	
05-Jan-22	**RAW**	**95**	**2**			**12.00**	
Retest due to	**W.T.P.**						
two 29-Dec-21	**W.P.C.F.**						
frozen samples	**AMHS / Co-op**	**0**	**0**	**0.56**	**1.00**	**0.15**	
	P.D.G.H.						
	City Hall						
	Firehall						
	L.P.M. / Husky						
	Nutri-Pea						
	Craig Dunn						
	Island Park						
	McKay Res.						
	City Garage						
	Tim Hortons						

Trihalomethane Results (max 0.1 mg/l)

WATER SYSTEM NAME	FEB	MAY	AUG	NOV	AVG THM (mg/L)
MB Hydro	0.0556	0.0555	0.0521	0.0227	0.0465
Fire Hall	0.0937	0.0716	0.1170	0.0295	0.0780
Craig Dunn	0.0646	0.0574	0.0518	0.0145	0.0471
City Garage	0.0784	0.0716	0.1050	0.0287	0.0709

Haloacetic Acids Results (max 0.8mg/l)

WATER SYSTEM NAME	FEB	MAY	AUG	NOV	AVG HAA (mg/L)
Portage Hospital	0.0244	0.0254	0.0108	0.0061	0.0167
Tim Hortons - Downtown	0.0448	0.0224	0.0259	0.0146	0.0269
Fire Hall	0.0376	0.0329	0.0136	0.0098	0.0235
City Hall	0.0353	0.0250	0.0178	0.0097	0.0220

Inorganic and Organic Testing

May-21

Physical Tests (Water)

			ALS Labs ID	ZS9380	ZS9379
			Sampled Date	May 5, 2021	May 5, 2021
			Sampled Time	7:55	7:50
			Sample ID	Portage la Prairie 1 - Raw	Portage la Prairie 2 - Treated
Analyte	**Unit**	**Guide Limit #1**	**Guide Limit #2**		
Color, True	CU	15	-	7.2	,5.0
Conductivity	umhos/cm	-	-	1280	1000
Hardness (as CaCO3)	mg/L	-	-		
Langelier Index (4 C)	No Unit	-	-	N/A	N/A
Langelier Index (60 C)	No Unit	-	-	N/A	N/A
pH	pH units	7.00-10.5	-	8.50	7.81
Total Dissolved Solids	mg/L	500	-	795	590
Transmittance, UV (254 nm)	% T	-	-	70.1	91.2
Turbidity	NTU	-	-	23.3	0.10

Anions and Nutrients (Water)

			ALS Labs ID	ZS9380	ZS9379
			Sampled Date	May 5, 2021	May 5, 2021
			Sampled Time	7:55	7:50
			Sample ID	Portage la Prairie 1 - Raw	Portage la Prairie 2 - Treated
Analyte	**Unit**	**Guide Limit #1**	**Guide Limit #2**		
Alkalinity, Total (as CaCO3)	mg/L	-	-	240	81
Ammonia, Total (as N)	mg/L	-	-		
Bicarbonate (HCO3)	mg/L	-	-	280	99
Bromate	mg/L	-	0.01		
Bromide (Br)	mg/L	-	-		
Carbonate (CO3)	mg/L	-	-	7.2	<1.0
Chloride (Cl)	mg/L	250	-		
Fluoride (F)	mg/L	-	1.5		

Hydroxide (OH)	mg/L	-	-
Nitrate (as N)	mg/L	-	10
Nitrite (as N)	mg/L	-	1
Sulfate (SO4)	mg/L	500	-

Total Metals (Water)

			ALS Labs ID	ZS9380	ZS9379
			Sampled Date	May 5, 2021	May 5, 2021
			Sampled Time	7:55	7:50
			Sample ID	Portage la Prairie 1 - Raw	Portage la Prairie 2 - Treated
Analyte	**Unit**	**Guide Limit #1**	**Guide Limit #2**		
Aluminum (Al)-Total	mg/L	0.1	-	254	7.1
Antimony (Sb)-Total	mg/L	-	0.006	<0.50	<0.50
Arsenic (As)-Total	mg/L	-	0.01	3.56	0.61
Barium (Ba)-Total	mg/L	-	1	79.8	48.0
Beryllium (Be)-Total	mg/L	-	-	<0.10	<0.10
Bismuth (B)-Total	mg/L	-	-	<1.0	<1.0
Boron (B)-Total	mg/L	-	5	93	58
Cadmium (Cd)-Total	mg/L	-	0.005	0.018	<0.010
Calcium (Ca)-Total	mg/L	-	-	76.6	53.4
Cesium (Cs)-Total	mg/L	-	-		
Chromium (Cr)-Total	mg/L	-	0.05	<1.0	<1.0
Cobalt (Co)-Total	mg/L	-	-	0.52	<0.20
Copper (Cu)-Total	mg/L	1	2	1.91	12.9
Iron (Fe)-Total	mg/L	0.3	-	487	<10
Lead (Pb)-Total	mg/L	-	0.005	0.42	<0.20
Lithium (Li)-Total	mg/L	-	-	52.6	51.4
Magnesium (Mg)-Total	mg/L	-	-	38.2	11.0
Manganese (Mn)-Total	mg/L	0.02	0.12	264	<1.0
Molybdenum (Mo)-Total	mg/L	-	-	3.3	3.4
Nickel (Ni)-Total	mg/L	-	-	3.8	<1.0
Phosphorus (P)-Total	mg/L	-	-	0.055	0.43 (1)
Potassium (K)-Total	mg/L	-	-	11.3	11.7
Rubidium ((Rb)-Total	mg/L	-	-		
Selenium (Se)-Total	mg/L	-	0.05	0.38	0.27
Silicon (Si)-Total	mg/L	-	-	5600	2280
Silver (Ag)-Total	mg/L	-	-	<0.020	<0.020
Sodium (Na)-Total	mg/L	200	-	43.6	48.8
Strontium (Sr)-Total	mg/L	-	-	340	198
Sulfur (S)-Total	mg/L	-	-	60.9	61.5
Tellurium (Te)-Total	mg/L	-	-		

Thallium (Tl)-Total	mg/L	-	-	0.017	<0.010
Thorium (Th)-Total	mg/L	-	-		
Tin (Sn)-Total	mg/L	-	-	<5.0	<5.0
Titanium (Ti)-Total	mg/L	-	-	11.3	<5.0
Tungsten (W)-Total	mg/L	-	-		
Uranium (U)-Total	mg/L	-	0.02	3.60	<0.10
Vanadium (V)-Total	mg/L	-	-	<5.0	<5.0
Zinc (Zn)-Total	mg/L	5	-	<5.0	<5.0
Zirconium (Zr)-Total	mg/L	-	-	0.42	<0.10

Physical Tests (Water)

			ALS ID		
			Sampled Date	12/2/2021	
			Sampled Time		
			Sample ID	Portage la Prairie 1 - Raw	Portage la Prairie 2 - Treated
Analyte	**Unit**	**Guide Limit #1**	**Guide Limit #2**		
Color, True	CU	15	-	7.2	,5.0
Conductivity	umhos/cm	-	-	1280	1000
Hardness (as CaCO3)	mg/L	-	-		
Langelier Index (4 C)	No Unit	-	-	N/A	N/A
Langelier Index (60 C)	No Unit	-	-	N/A	N/A
pH	pH units	7.00-10.5	-	8.50	7.81
Total Dissolved Solids	mg/L	500	-	795	590
Transmittance, UV (254 nm)	% T	-	-	70.1	91.2
Turbidity	NTU	-	-	23.3	0.10

Anions and Nutrients (Water)

			ALS ID		
			Sampled Date	12/2/2021	
			Sampled Time		
			Sample ID	Portage la Prairie 1 - Raw	Portage la Prairie 2 - Treated
Analyte	**Unit**	**Guide Limit #1**	**Guide Limit #2**		
Alkalinity, Total (as CaCO3)	mg/L	-	-	319	77.6
Ammonia, Total (as N)	mg/L	-	-	<0.010	0.015

Bicarbonate (HCO3)	mg/L	-	-	366	94.7
Bromate	mg/L	-	10	0.129	0.01
Bromide (Br)	mg/L	-	-	11.6	<0.60
Carbonate (CO3)	mg/L	-	-	46.80	52.7
Chloride (Cl)	mg/L	250	-	46.8	52.7
Fluoride (F)	mg/L	-	1.5	0.17	0.677
Hydroxide (OH)	mg/L	-	-	<0.34	<0.34
Nitrate (as N)	mg/L	-	10	<0.0050	0.0226
Nitrite (as N)	mg/L	-	1	<0.0010	<0.0010
Sulfate (SO4)	mg/L	500	-	319	325

Organic / Inorganic Carbon (Water)

			ALS ID		
			Sampled Date	11/24/2021	
			Sampled Time		
			Sample ID	Portage la Prairie 1 - Raw	Portage la Prairie 2 - Treated
Analyte	**Unit**	**Guide Limit #1**	**Guide Limit #2**		
Dissolved Organic Carbon	mg/L	-	-		
Total Organic Carbon	mg/L	-	-	8.6	5.39

Total Metals (Water)

			ALS ID		
			Sampled Date	11/24/2021	
			Sampled Time		
			Sample ID	Portage la Prairie 1 - Raw	Portage la Prairie 2 - Treated
Analyte	**Unit**	**Guide Limit #1**	**Guide Limit #2**		
Aluminum (Al)-Total	mg/L	0.1	-	0.437	0.0044
Antimony (Sb)-Total	mg/L	-	0.006	0.00017	0.00014
Arsenic (As)-Total	mg/L	-	0.01	0.00394	0.00067
Barium (Ba)-Total	mg/L	-	1	0.121	0.0235
Beryllium (Be)-Total	mg/L	-	-	<0.00010	<0.00010
Bismuth (B)-Total	mg/L	-	-	<0.000050	<0.000050
Boron (B)-Total	mg/L	-	5	0.124	0.066
Cadmium (Cd)-Total	mg/L	-	0.005	0.0000375	<0.0000050

Calcium (Ca)-Total	mg/L	-	-	93.1	62.3
Cesium (Cs)-Total	mg/L	-	-	0.000087	0.000021
Chromium (Cr)-Total	mg/L	-	0.05	0.00126	0.00105
Cobalt (Co)-Total	mg/L	-	-	0.00068	<0.00010
Copper (Cu)-Total	mg/L	1	2	0.00324	0.0169
Iron (Fe)-Total	mg/L	0.3	-	1.06	<0.010
Lead (Pb)-Total	mg/L	-	0.005	0.000536	<0.000050
Lithium (Li)-Total	mg/L	-	-	0.0668	0.0681
Magnesium (Mg)-Total	mg/L	-	-	54.7	16.8
Manganese (Mn)-Total	mg/L	0.02	0.12	0.125	<0.00010
Molybdenum (Mo)-Total	mg/L	-	-	0.00331	0.00339
Nickel (Ni)-Total	mg/L	-	-	0.00402	0.00083
Phosphorus (P)-Total	mg/L	-	-	0.069	0.407
Potassium (K)-Total	mg/L	-	-	10.6	11
Rubidium ((Rb)-Total	mg/L	-	-	0.00269	0.00267
Selenium (Se)-Total	mg/L	-	0.05	0.000388	0.000219
Silicon (Si)-Total	mg/L	-	-	8.64	3.53
Silver (Ag)-Total	mg/L	-	-	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	200	-	71	77.3
Strontium (Sr)-Total	mg/L	-	7	0.369	0.209
Sulfur (S)-Total	mg/L	-	-	95.7	93.7
Tellurium (Te)-Total	mg/L	-	-	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	-	-	0.000019	<0.000010
Thorium (Th)-Total	mg/L	-	-	0.00011	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010	<0.00010
Titanium (Ti)-Total	mg/L	-	-	0.0127	<0.00030
Tungsten (W)-Total	mg/L	-	-	<0.00010	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.00315	0.000053
Vanadium (V)-Total	mg/L	-	-	0.00282	0.00125
Zinc (Zn)-Total	mg/L	5	-	0.0099	<0.0030
Zirconium (Zr)-Total	mg/L	-	-	0.00061	<0.00020

Appendix F – Public Water System Audit Report

Conservation and Climate **January 17, 2022**

2021 Annual Compliance Audit

Water System: PORTAGE LA PRAIRIE - PWS	**Code:** 171.00
Water System Owner: City of Portage La Prairie	**Address:** 97 Saskatchewan Ave. E., Portage la Prairie, MB R1N0L8
Operating Licence: PWS-08-147-02	**Expiry Date:** November 30, 2023
Water System Assessment Due Date: March 1, 2024	
Public Water System Annual Report Due Date: March 31, 2022	**Advisory Notification Plan Due Date:** May 1, 2022

1) This report documents compliance of the Portage La Prairie Public Water System for the period from January 1 to December 31, 2021.

2) This report provides specific information on the non-compliance incidents identified in the summary below.

3) Other than the information provided in this report, the water supplier has complied with The Drinking Water Safety Act, its supporting regulations, and the terms and conditions of the water system's current operating licence.

4) This report is based on information submitted by the water supplier, agents of the water supplier, and / or the Province of Manitoba.

5) Where non-compliance items are identified, the issues do not necessarily translate into increased public health risk. The Office of Drinking Water uses processes, including boil water advisories, to notify water users of a public health risk.

Non-compliance with Treatment Standards:

Water system was compliant in the audited time period.

Non-compliance Incidents:

Date	Incident	Outcome
January	Failure to maintain below 1.0 NTU at all times	Non-compliant
January	Failure to maintain a free chlorine residual of at least 0.5 mg/L at the treated water sampling location established by the Drinking Water Officer	Non-compliant
2021-03-20	Failure to report an emergency	Warning Issued
March	Failure to maintain below 1.0 NTU at all times	Warning Issued
2021	Failure to submit an Advisory Notification Plan	Non-compliant
October	Failure to maintain a free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution system	Non-compliant
December	Failure to maintain a free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution system	Non-compliant

Manitoba
Conservation and Climate
Office of Drinking Water
1007 Century Street, Winnipeg MB R3H 0W4
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www.manitoba.ca

September 16, 2021
Code: 171.00

Nathan Peto, City Manager
City of Portage La Prairie
Portage La Prairie MB R1N 0L8

npeto@city-plap.com

Re: Lead in Drinking Water – Resuming Residential Tap Water Quality Testing

As you are aware, Health Canada updated the national guideline for lead in drinking water in 2019, and the provincial standard was updated in 2020. Unfortunately, the phase in of the residential tap water quality lead testing requirements had to be put on hold in April 2020 due to the uncertainties surrounding the global COVID-19 pandemic.

Over the last year, we have learned a lot about precautions needed to prevent spread of the virus. At this time, we are asking that you prepare to begin your residential tap water quality testing in the summer of 2022. As noted previously, testing should be conducted in accordance with operational guideline ODW-OG-17, Monitoring Lead at the Tap (www.gov.mb.ca/sd/pubs/water/drinking_water/odw_og_17). Your testing program must consider the safety of your staff and residents, and include adequate precautions to protect them.

The Office of Drinking Water is working closely with Public Health on the roll-out of the 2022 residential sampling programs. We request that communication materials be provided for review in advance of sharing with the public to assure appropriate COVID 19 precautions as well as to provide support for communicating lead risks.

If you have any questions or would like to arrange a meeting to discuss further, please contact Kale Black, your regional Drinking Water Officer, at 204-795-6908.

Yours sincerely,

Siobhan Burland Ross, P.Eng.
Acting Director, Office of Drinking Water

c: Dr. N. Casaclang, Southern Regional Health Authority
Dr. A. Johnston, Southern Regional Health Authority
Dr. S. Roberecki, Public Health and Seniors Care
K. Black, Regional Drinking Water Officer

Manitoba
Conservation and Climate
Kale Black

T 204-795-6908 **F** 204-239-3215 http://www.manitoba.ca/drinkingwater

Sent via electronic mail: no hard copy to follow

April 14, 2021

Code 171.00 Nathan Peto, City Manager

City of Portage La Prairie

97 Saskatchewan Avenue East

Portage La Prairie, MB. R1N 0L8

City of Portage La Prairie Public Water System
Warning Letter

Dear Nathan Peto:

The purpose of this letter is to address a recurring non-compliance issue associated with the City of Portage La Prairie public water system. The water system's Operating Licence (PWS-08147-02) requires the following:

- Section 4.1: *Table 1* – Turbidity - Filter effluent turbidity is not to exceed 1.0 NTU for any measurement.
- Section 3.3 - The Licensee shall immediately notify the Office of Drinking Water of any condition that may affect the ability of the water system to produce or deliver safe drinking water including but not limited to treatment upsets or bypass conditions, contamination of the source water or treated water, a disinfection system failure, or a distribution system failure.

On March 20, 2021, a clarifier malfunction at the City's water treatment plant resulted in filtered water turbidity being in excess of 1.0 NTU entering the treated water reservoir. This incident should have been reported to the Office of Drinking Water under Section 3.3 of the operating licence.

The attached warning is being issued to the City of Portage la Prairie for failing to report an emergency.

Specific to the turbidity exceedance on March 20, 2021, the following information was requested:

- A copy of turbidity trending from each filter from SCADA from March 20, indicating turbidity values and valve positions
- Filter effluent turbidity and operating alarm set points from each filter
- Standard Operating Procedures (SOPs) for filter operation during clarifier upsets and high turbidity events
- SOPs for the cleaning and maintenance of filter effluent turbidity analyzers
- Confirmatory turbidity results from other filters operating during this time
- A response indicating why the Office of Drinking Water was not contacted during this event

Following a review of this information, the Office of Drinking Water is directing the City of Portage La Prairie public water system to:

- Have the SCADA system re-programmed so that in all cases where a filter is offline (turbidity spike, backwash or otherwise), the turbidity analyzer is not recording turbidity data to the monthly turbidity report submitted to the Office of Drinking Water;

- Remove the filter from service if the filter effluent instrument requires maintenance or cleaning. This will ensure that all errant or irrelevant turbidity spikes are not recorded on the monthly turbidity reports submitted to the Office of Drinking Water;

- Develop Standard Operating Procedures (SOPs) for the cleaning and maintenance of filter effluent turbidity analyzers. Once the SOP has been completed, it must be submitted to the Office of Drinking Water;

- Develop SOPs for filter operation under clarifier upset conditions. The SOP should include normal operating turbidity, and locations for emergency handheld testing and when to contact the Office of Drinking Water. Once the SOP has been completed, it must be submitted to the Office of Drinking Water;

- Notify the Office of Drinking Water immediately, of any potential that exists for contamination of the drinking water supply, including turbidity exceedances above the Operating Licence requirement (never to exceed 1.0 NTU for any measurement). To avoid non-compliance with the Not-to-Exceed standards, the SCADA system should be programmed to automatically direct filter effluent to waste, and/or place the filter into backwash mode prior to the turbidity exceeding 1.0 NTU, and if clear well conditions allow

- The City of Portage la Prairie's water treatment plant is currently operating at the maximum of its normal turbidity operating standard of not to exceed 0.30 NTU for more than 12 consecutive

hours of filter operation. While this meets the terms and conditions of your operating licence, the City should make every effort to maintain lower, consistent turbidity levels from all filters. Health Canada's Drinking Water Guideline for Turbidity states that filters should be optimized to decrease turbidity levels to as low as reasonably achievable and strive to achieve a treated water target from individual filters of less that 0.1 NTU. Alarm settings should be reviewed to ensure operators are notified before the filtered turbidity level exceeds 0.30 NTU so that they can conduct a thorough assessment of the filter and filter effluent before the water enters the clear well.

Be aware that penalties for failure to meet the above requirements carry a set fine amount of $2,542.00 for each offence. Continued failure to meet the requirements identified in the system's operating licence will result in enforcement action being initiated against the City of Portage La Prairie public water system.

Should you have any questions, please contact me at 204-795-6908.

Sincerely,

Kale Black

Senior Regional Drinking Water Officer

cc

Natalie Casaclang, Medical Officer of Health, Manitoba Health, Seniors and Active Living

Anna Johnston, Medical Officer of Health, Manitoba Health, Seniors and Active Living

Sarah Lesperance, Medical Officer of Health, Manitoba Health, Seniors and Active Living

Melanie Betsill, Field Operations Manager, Office of Drinking Water

Cara Betker, Compliance and Enforcement Coordinator, Office of Drinking Water

Stephen Hancock, Public Health Inspector, Manitoba Health

Joel Martin, Public Health Inspector, Manitoba Health

Karly Friesen, Director of Utility, City of Portage La Prairie

Mike Sandney, Manager, City of Portage La Prairie water treatment plant

Ben Olson, Supervisor, City of Portage La Prairie water treatment plant