

Ministry of the Environment, Conservation and Parks / Ministère de l'Environnement, de la Protection de la nature et des Parcs

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December 14th, 2022

by Email

Francine Desormeau
Chief Administrative Officer/Treasurer
The Corporation of the Town of Mattawa
160 Water St.
Mattawa, ON P0H 1V0

**RE: 2022-23 Inspection Report for the Mattawa Drinking Water System
Drinking Water System No. 210001905
Inspection Report No. 1-107833737**

On November 29th, 2022, Water Inspector Erin Spires conducted the annual inspection of the Mattawa Drinking Water System. The inspection included a physical inspection of the water treatment plant, data review and interview with Josh DeWaal and Josh Gravelle for the inspection period of January 28th, 2022 to November 29th, 2022. The resulting inspection report is attached.

Two sections of the report, namely, "Actions Required" and "Recommended Actions" identify aspects of the drinking water system's operation with the potential for improvement.

Please note that "Actions Required" are linked to incidents of non-compliance with regulatory requirements contained within an Act, a Regulation, or site-specific approvals, orders or instructions. Such violations could result in the issuance of mandatory abatement instruments including orders, tickets, penalties, or referrals to the ministry's Investigations and Enforcement Branch.

"Recommended Actions" convey information that the owner or operating authority should strongly consider implementing in order to advance efforts already in place to address such issues as emergency preparedness and conformance with existing and emerging industry standards. Please note that items which appear as recommended actions do not, in themselves, constitute violations.

Electronic copies of this inspection report have been sent to the North Bay Parry Sound District Health Unit and the Ministry of Natural Resources and Forestry in accordance with the ministry's Municipal Inspection Protocol.

Please note that as of June 29, 2018 the Ministry of the Environment and Climate Change's name has changed to the Ministry of the Environment, Conservation and Parks. This name change will take some time to be reflected in ministry materials and systems.

Please note the IRR will be sent separately and prior to any public release (typically within 1-2 month of the completion of the inspection).

Thank you for your co-operation. If you have any questions or comments about this inspection, please contact me at (705) 358-1316 or by email at erin.spires@ontario.ca.

Sincerely,



Erin Spires
Provincial Officer #1540 and Water Inspector
Drinking Water and Environmental Compliance Division
Ministry of the Environment, Conservation and Parks
North Bay Area Office

Attachments

C:

R. A-Muhong, Manager - North Bay Parry Sound District Health Unit
D. Ellingwood, Supervisor, North Bay-Mattawa Conservation Authority
P. Dryda, Sr. Operations Manager – Ontario Clean Water Agency (OCWA)
J. DeWaal, Overall Responsible Operator – OCWA
J. Gravelle, Process and Compliance Technician - OCWA
Y. Rondeau, Safety, Process and Compliance Manager - OCWA
S. Ilersich, Supervisor – MECP – DWECD - Timmins/North Bay Office
M. Baldwin, District Manager – Ministry of Natural Resources and Forestry – North Bay Office



MATTAWA DRINKING WATER SYSTEM
400 BISSETT ST, MATTAWA, ON,
Inspection Report

System Number: 210001905
Entity: MATTAWA MUNICIPAL
CORPORATION
ONTARIO CLEAN WATER
AGENCY

Inspection Start Date: 11/30/2022
Inspection End Date: 12/14/2022
Inspected By: Erin Spires
Badge #: 1540



(signature)

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NON-COMPLIANCE/NON-CONFORMANCE ITEMS

The following item(s) have been identified as non-compliance/non-conformance, based on a "No" response captured for a legislative or best management practice (BMP) question (s), respectively.

Question Group: Treatment Processes

Question ID	MRDW1039000	Question Type	Legislative
Question: If primary disinfection equipment that does not use chlorination or chloramination is provided, has the owner and operating authority ensured that the equipment has a recording device that continuously records the performance of the disinfection equipment?			
Legislative Requirement SDWA O. Reg. 170/03 1-6 (3);			
Observation/Corrective Action(s) The owner and operating authority did not ensure that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment. Section 1-6(3) of Schedule 1 of O. Reg. 170/03 specifies that if primary disinfection equipment that does not use chlorination or chloramination is provided by a large municipal residential system, the owner and operating authority of the system must ensure that the disinfection equipment has a recording device that continuously records the performance of the disinfection equipment. Condition 1.6.2 of Schedule C of the Licence specifies that the Mattawa Water Treatment Plant's ultraviolet light disinfection equipment must test for calculated UV dose, flow rate, UV transmittance, and UV lamp status at a testing frequency of every five (5) minutes or less and record the test data at a recording frequency of every four (4) hours or less. Performance of the disinfection equipment is continuously monitored and recorded using a SCADA system and data logger. The SCADA system records and continuously monitors the calculated UV dose and flow rate (including UV lamp status). UV transmittance (UVT) is tested by Optiview, an online UVT analyzer, and it is recorded on SCADA and Wonderware. A review of the continuous monitoring trends for the inspection period indicates that UV dosage and flowrate/UV lamp status were monitored and recorded as required. The operating authority provided written notification of the Optiview UV transmittance analyzer failing to continuously monitor and record UVT on April 27th, 2022 from 12:52 pm to 3:40 pm while water was directed to users. Continuous monitoring of UVT was not			

completed as required, however, handheld UVT samples were taken at 12:59 pm at 99.7% and at 3:22 pm at 99.6%. The Optiview was repaired and continuous monitoring and recording of UVT was restore at 4:27 pm on April 27th, 2022.

Failure to ensure that the disinfection equipment has a recording device that continuously monitors and records the performance of the disinfection equipment, specifically UV Transmittance, for a drinking water system that does not use chlorination or chloramination is a violation of Section 1-6(3) of Schedule 1 of O. Reg. 170/03.

Corrective Actions:

On April 27th, 2022 the operating authority repaired the UV Transmittance Analyzer and restored the continuous monitoring and recording of UVT.

No further action required.

INSPECTION DETAILS

This section includes all questions that were assessed during the inspection.

Ministry Program: DRINKING WATER | **Regulated Activity:**

Question ID	MRDW1001001	Question Type	Information
Question: What was the scope of this inspection?			
Legislative Requirement	Not Applicable		
Observation The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry drinking water policies and guidelines during the inspection period. The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as management practices. This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O. Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA. This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements. On November 29th, 2022, Ministry of the Environment, Conservation and Parks' Water Inspector Erin Spires was accompanied during the announced, focused inspection of the Mattawa Drinking Water System (DWS) by Josh DeWaal, Operator, and Josh Gravelle, Process and Compliance Technician, with the Ontario Clean Water Agency (OCWA). The Corporation of the Town of Mattawa is the owner of the Mattawa Drinking Water System. OCWA is the operating authority for the system. The drinking water system inspection included a physical inspection of the treatment plant and document review. Ministry records indicate that the last inspection occurred on January 19th, 2022. The inspection period is from January 19th, 2022 to November 29th, 2022. Specifically, this included a review and assessment of operating practices in relation to the following documents:			

- Drinking Water System Regulation O. Reg. 170/03
- Certification of Drinking Water Systems Operators Regulation O. Reg. 128/04
- Permit to Take Water (PTTW) No. 1546-9GHPLM dated February 27th, 2014
- Municipal Drinking Water Licence (Licence) No. 195-201 (Issue No. 4) dated December 3rd, 2021
- Drinking Water Works Permit (Permit) No. 195-201 (Issue No. 3) dated December 3rd, 2021
- Previous ministry inspection reports dated January 19th, 2022 and November 17th, 2020

Question ID	MRDW1000001	Question Type	Information
Question: Does this drinking water system provide primary disinfection?			
Legislative Requirement	Not Applicable		
Observation This Drinking Water System provides for both primary and secondary disinfection and distribution of water.			

Question ID	MRDW1018001	Question Type	Legislative
Question: Has the owner ensured that all equipment is installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?			
Legislative Requirement	SDWA 31 (1);		
Observation The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit. Note: UV#1 has been out of service since July 26th, 2021 as noted in the previous inspection. Previous efforts to repair the unit were unsuccessful and it was determined that both UV units and SCADA system require an upgrade. The operating authority indicated that the SCADA system, PLC, and both UV units will be replaced by February 2023.			

Question ID	MRDW1025001	Question Type	Legislative
Question: Were all parts of the drinking water system that came in contact with drinking water (added, modified, replaced or extended) disinfected in accordance with a procedure listed in			

Schedule B of the Drinking Water Works Permit?	
Legislative Requirement	SDWA 31 (1);
Observation	
All parts of the drinking water system were disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit. Condition 2.3(a) of the Permit requires that all parts of the drinking water system in contact with drinking water that are added, modified, replaced, extended shall be disinfected in accordance with the ministry's Watermain Disinfection Procedure (August 1st, 2020). A review of the Distribution Repair and Maintenance Forms indicates that eleven (11) Category 1 Watermain Breaks and one (1) Category 2 Watermain Break occurred during the inspection period.	

Question ID	MRDW1024001	Question Type	Legislative
Question: Do records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated as required?			
Legislative Requirement	SDWA O. Reg. 170/03 1-2 (2);		
Observation Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated so that at all times and all locations in the distribution system the chlorine residual was never less than 0.05 mg/l free or 0.25 mg/l combined. A review of the Mattawa Distribution System Chlorine Monitoring sheets for the inspection period indicate that the lowest free chlorine residual measured was 0.2 mg/L on August 16th, 2022 and September 13th, 2022.			

Question ID	MRDW1035001	Question Type	Legislative
Question: Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?			
Legislative Requirement	SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10;		
Observation			

Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.

Question ID	MRDW1033001	Question Type	Legislative
Question: Is the secondary disinfectant residual measured as required for the large municipal residential distribution system?			
Legislative Requirement	SDWA O. Reg. 170/03 7-2 (3); SDWA O. Reg. 170/03 7-2 (4);		
Observation The secondary disinfectant residual was measured as required for the large municipal residential distribution system.			

Question ID	MRDW1099001	Question Type	Information
Question: Do records show that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O. Reg. 169/03)?			
Legislative Requirement		Not Applicable	
Observation Records showed that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O. Reg. 169/03).			

Question ID	MRDW1081001	Question Type	Legislative
Question: For LMR systems, are all microbiological water quality monitoring requirements for distribution samples being met?			
Legislative Requirement	SDWA O. Reg. 170/03 10-2 (1); SDWA O. Reg. 170/03 10-2 (2); SDWA O. Reg. 170/03 10-2 (3);		
Observation All microbiological water quality monitoring requirements prescribed by legislation for distribution samples in a large municipal residential system were being met. Section 10-2 of Schedule 10 of O. Reg. 170/03 requires that the owner and operating			

authority for the drinking water system must ensure that at least ten distribution samples are taken every month, with at least one of the samples being taken each week. The owner and operating authority must ensure that each of the samples are tested for E.coli, total coliforms, and that at least 25% of the samples are tested for general bacteria population expressed as colony counts on a heterotrophic plate count (HPC).

A review of the certificates of analysis for the inspection period indicates that at least ten distribution samples were taken each month and at least 25% of the samples are tested for HPC.

Question ID	MRDW1096001	Question Type	Legislative
Question: Do records confirm that chlorine residual tests are being conducted at the same time and at the same location that microbiological samples are obtained?			
Legislative Requirement	SDWA O. Reg. 170/03 6-3 (1);		
Observation Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.			

Question ID	MRDW1086001	Question Type	Legislative
Question: Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?			
Legislative Requirement	SDWA O. Reg. 170/03 13-6.1 (1); SDWA O. Reg. 170/03 13-6.1 (2); SDWA O. Reg. 170/03 13-6.1 (3); SDWA O. Reg. 170/03 13-6.1 (4); SDWA O. Reg. 170/03 13-6.1 (5); SDWA O. Reg. 170/03 13-6.1 (6);		
Observation All haloacetic acid water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location. Section 13-6.1 of Schedule 13 of O. Reg. 170/03 requires that the owner of a drinking water system that provides chlorination and the operating authority for the system must ensure that at least one distribution sample is taken in each calendar quarter, from a point in the drinking water systems distribution system, or plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of haloacetic acids and tested for haloacetic acids (HAA).			

On January 1, 2020, Ontario Drinking Water Quality Standards Regulation, O. Reg. 169/03 standard for HAA (80 µg/L) came into effect and is expressed as a RAA, where RAA is defined as "the running annual average of quarterly results" for HAA for a drinking water system.

A review of the certificates of analysis for the inspection period indicates that HAAs were tested on January 31st, 2022 (< 2 µg/L), April 27th, 2022 (65.4 µg/L), July 20th, 2022 (< 2 µg/L), and October 11th, 2022 (< 2 µg/L).

The current RAA for HAAs is 17.85 µg/L.

Question ID	MRDW1087001	Question Type	Legislative
Question: Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?			
Legislative Requirement	SDWA O. Reg. 170/03 13-6 (1); SDWA O. Reg. 170/03 13-6 (2); SDWA O. Reg. 170/03 13-6 (3); SDWA O. Reg. 170/03 13-6 (4); SDWA O. Reg. 170/03 13-6 (5); SDWA O. Reg. 170/03 13-6 (6);		
Observation All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location. Section 13-6 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority of drinking water system that provides chlorination must ensure that at least one distribution sample is taken in each calendar quarter from a point in the distribution system that is likely to have an elevated potential for the formation of trihalomethanes and tested for trihalomethanes (THMs). O. Reg. 169/03 sets the standard for THMS as 0.1 mg/L (100 ug/L) expressed as a RAA. RAA is defined as "the running annual average of quarterly results". O. Reg. 170/03 defines the "calendar quarter" as the three-month period that begins on January 1, April 1, July 1, or October1. A review of the certificates of analysis for the inspection period indicates that THMs were tested on January 25th, 2022 (2 µg/L), April 27th, 2022 (2 µg/L), July 20th, 2022 (3.4 µg/L), and October 11th, 2022 (4.8 µg/L). The current RAA for THMs is 3.04 µg/L.			

Question ID	MRDW1101001	Question Type	Legislative
Question: For LMR Systems, have corrective actions (as per Schedule 17 of O. Reg. 170/03) been taken to address adverse conditions, including any other steps as directed by the Medical Officer of Health?			
Legislative Requirement	SDWA O. Reg. 170/03 17-1; SDWA O. Reg. 170/03 17-10 (1); SDWA O. Reg. 170/03 17-11; SDWA O. Reg. 170/03 17-12; SDWA O. Reg. 170/03 17-13; SDWA O. Reg. 170/03 17-14; SDWA O. Reg. 170/03 17-2; SDWA O. Reg. 170/03 17-3; SDWA O. Reg. 170/03 17-4; SDWA O. Reg. 170/03 17-5; SDWA O. Reg. 170/03 17-6; SDWA O. Reg. 170/03 17-9;		
Observation Corrective actions (as per Schedule 17), including any other steps that were directed by the Medical Officer of Health, had been taken to address adverse conditions. AWQI No. 157997 On March 15th, 2022 the operating authority reported a Category 2 Watermain Break with suspected infiltration affecting thirty (30) residences and two (2) businesses. A boil water advisory was issued by the North Bay Parry Sound District Health Unit. The watermain was repaired on March 15th, 2022 at 7:30 pm. Corrective actions taken included flushing the watermain and taking two sets of microbiological samples, 24 to 48 hours apart. The boil water advisory was lifted on March 18th, 2022.			

Question ID	MRDW1104000	Question Type	Legislative
Question: Were all required verbal notifications of adverse water quality incidents immediately provided as per O. Reg. 170/03 16-6?			
Legislative Requirement	SDWA O. Reg. 170/03 16-6 (1); SDWA O. Reg. 170/03 16-6 (2); SDWA O. Reg. 170/03 16-6 (3); SDWA O. Reg. 170/03 16-6 (3.1); SDWA O. Reg. 170/03 16-6 (3.2); SDWA O. Reg. 170/03 16-6 (4); SDWA O. Reg. 170/03 16-6 (5); SDWA O. Reg. 170/03 16-6 (6);		
Observation All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.			

Question ID	MRDW1059000	Question Type	Legislative
Question: Do the operations and maintenance manuals contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system?			
Legislative Requirement	SDWA O. Reg. 128/04 28;		
Observation The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.			

Question ID	MRDW1060000	Question Type	Legislative
Question: Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?			
Legislative Requirement	SDWA 31 (1);		
Observation The operations and maintenance manuals met the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.			

Question ID	MRDW1061001	Question Type	Legislative
Question: Are logbooks properly maintained and contain the required information?			
Legislative Requirement	SDWA O. Reg. 128/04 27 (1); SDWA O. Reg. 128/04 27 (2); SDWA O. Reg. 128/04 27 (3); SDWA O. Reg. 128/04 27 (4); SDWA O. Reg. 128/04 27 (5); SDWA O. Reg. 128/04 27 (6); SDWA O. Reg. 128/04 27 (7);		
Observation Logbooks were properly maintained and contained the required information. A review of the elogbooks for the inspection period indicates that on eight occasions logbook entries for the shift were made on later dates. It is recommended as a best management practice that the operators ensure that records are made as soon as possible after every shift to ensure that the information required by Section 26 and 27 of O. Reg. 128/04 is recorded as required.			

Question ID	MRDW1062001	Question Type	Legislative
Question: Do records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment is being done by a certified operator, water quality analyst, or person who meets the requirements of O. Reg. 170/03 7-5?			
Legislative Requirement	SDWA O. Reg. 170/03 7-5;		
Observation Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.			

Question ID	MRDW1071000	Question Type	BMP
Question: Has the owner provided security measures to protect components of the drinking water system?			
Legislative Requirement	Not Applicable		
Observation The owner had provided security measures to protect components of the drinking water system. The Mattawa Water Treatment Plant is fenced with barbed wire along the top and the gates are padlocked. There is an intruder alarm and the door is kept locked except when operators are onsite. For cyber security there is multifaceted authorization and access to the network is restricted to OCWA computers.			

Question ID	MRDW1073001	Question Type	Legislative
Question: Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?			
Legislative Requirement	SDWA O. Reg. 128/04 23 (1);		
Observation The overall responsible operator had been designated for each subsystem. The Overall Responsible Operator (ORO) Standard Operating Procedure for the Mattawa DWS (dated November 3rd, 2022) identifies Josh DeWaal and Curtis Green as OROs,			

alternating on a weekly basis. Backup OROs are identified as Don Michaud, Darren Aljoe, and Tim Fraser.

Question ID	MRDW1074001	Question Type	Legislative
Question: Have operators-in-charge been designated for all subsystems for which comprise the drinking water system?			
Legislative Requirement	SDWA O. Reg. 128/04 25 (1);		
Observation Operators-in-charge had been designated for all subsystems which comprise the drinking water system.			

Question ID	MRDW1075001	Question Type	Legislative
Question: Do all operators possess the required certification?			
Legislative Requirement	SDWA O. Reg. 128/04 22;		
Observation All operators possessed the required certification.			

Question ID	MRDW1076001	Question Type	Legislative
Question: Do only certified operators make adjustments to the treatment equipment?			
Legislative Requirement	SDWA O. Reg. 170/03 1-2 (2);		
Observation Only certified operators made adjustments to the treatment equipment.			

Question ID	MRDW1007001	Question Type	Legislative
Question: Is the owner maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials?			
Legislative Requirement		SDWA O. Reg. 170/03 1-2 (1);	

Observation
The owner was maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials. Wells No. 1 and 2 are located within the Mattawa Water Treatment Building.

Question ID	MRDW1009001	Question Type	Legislative
Question: Are measures in place to protect the groundwater and/or GUDI source in accordance with any MDWL and DWWP issued under Part V of the SDWA?			
Legislative Requirement	SDWA 31 (1);		
Observation			
Measures were in place to protect the groundwater and/or GUDI source in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA. Section 16.2.8 through 16.2.10 of Schedule B of the Licence requires that the operations and maintenance manual shall include, at a minimum, an inspection schedule for all wells associated with the drinking water system, well inspection and maintenance procedures, and remedial action plans for situations of non-compliance and/or risk to the raw water quality. Inspections on the above ground components of Wells No. 1 and 2 are conducted by OCWA annually with the most recent inspection completed on July 13th, 2022. The wells below ground components are scheduled every 10 years and were last completed in 2017 for Well No. 1 and in 2018 for Well No. 2. The next 10 year well inspections is scheduled for 2027. There are two Standard Operating Procedures for the Above Grade and Below Grade Well Inspection of Well Components of the Mattawa DWS Wells (dated July 23rd, 2019) in the Operations and Maintenance Manuals.			

Question ID	MRDW1014001	Question Type	Legislative
Question: Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?			
Legislative Requirement	SDWA 31 (1);		
Observation			

There was sufficient monitoring of flow as required by the Municipal Drinking Water Licence or Drinking Water Works Permit issued under Part V of the SDWA.

Schedule A of the Permit describes the flowmeters located on Well No. 2's discharge header and on the treated water discharge from the well house to the distribution system.

Wells No. 2 and treated flowmeters were calibrated on April 29th, 2022.

Question ID	MRDW1016001	Question Type	Legislative
Question: Is the owner in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the MDWL issued under Part V of the SDWA?			
Legislative Requirement	SDWA 31 (1);		
Observation The owner was in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Municipal Drinking Water Licence issued under Part V of the SDWA. Condition 1.1 of Schedule C of the Licence specifies the rated capacity as 6 540 m3/day of treated water that flows from the treatment subsystem to the distribution system. A review of the WISKI flow summary for the inspection period indicates that the maximum treated flow was 2 130.68 m3/day in March 2022.			

Question ID	MRDW1023001	Question Type	Legislative
Question:			
Do records indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a DWWP and/or MDWL issued under Part V of the SDWA at all times that water was being supplied to consumers?			
Legislative Requirement	SDWA O. Reg. 170/03 1-2 (2);		
Observation			
Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under O. Reg. 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers.			
Section 1-3 of Schedule 1 of O. Reg. 170/03 requires that the owner of a drinking water			

system that uses water from a raw water supply that is ground water must ensure that the water treatment equipment provided is designed to be capable of achieving, at all times, primary disinfection in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario, including at least 99 percent (2 log) inactivation of viruses by the time water enters the distribution system.

Ultraviolet Disinfection provides 2 log inactivation credits for *Cryptosporidium* oocysts, 3 log inactivation credits for *Giardia* cysts, and 2 log inactivation credits for viruses when a dosage of 40 mJ/cm² is achieved and the uv units are operated and maintained in accordance with Schedule E of the Licence.

A review of the continuous monitoring trends for flow, UV dosage, UVT, and off-specification reports indicates that primary disinfection was achieved for the inspection period.

Question ID	MRDW1026001	Question Type	Legislative
Question: If primary disinfection equipment that does not use chlorination or chloramination is provided, is the equipment equipped with alarms or shut-off mechanisms that satisfy the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03?			
Legislative Requirement	SDWA O. Reg. 170/03 1-6 (1);		
Observation The primary disinfection equipment was equipped with alarms or shut-off mechanisms that satisfied the standards described in Section 1-6 (1) of Schedule 1 of O. Reg. 170/03.			

Question ID	MRDW1039000	Question Type	Legislative
Question: If primary disinfection equipment that does not use chlorination or chloramination is provided, has the owner and operating authority ensured that the equipment has a recording device that continuously records the performance of the disinfection equipment?			
Legislative Requirement	SDWA O. Reg. 170/03 1-6 (3);		
Observation The owner and operating authority did not ensure that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment. Section 1-6(3) of Schedule 1 of O. Reg. 170/03 specifies that if primary disinfection equipment that does not use chlorination or chloramination is provided by a large municipal			

residential system, the owner and operating authority of the system must ensure that the disinfection equipment has a recording device that continuously records the performance of the disinfection equipment.

Condition 1.6.2 of Schedule C of the Licence specifies that the Mattawa Water Treatment Plant's ultraviolet light disinfection equipment must test for calculated UV dose, flow rate, UV transmittance, and UV lamp status at a testing frequency of every five (5) minutes or less and record the test data at a recording frequency of every four (4) hours or less.

Performance of the disinfection equipment is continuously monitored and recorded using a SCADA system and data logger. The SCADA system records and continuously monitors the calculated UV dose and flow rate (including UV lamp status). UV transmittance (UVT) is tested by Optiview, an online UVT analyzer, and it is recorded on SCADA and Wonderware.

A review of the continuous monitoring trends for the inspection period indicates that UV dosage and flowrate/UV lamp status were monitored and recorded as required.

The operating authority provided written notification of the Optiview UV transmittance analyzer failing to continuously monitor and record UVT on April 27th, 2022 from 12:52 pm to 3:40 pm while water was directed to users. Continuous monitoring of UVT was not completed as required, however, handheld UVT samples were taken at 12:59 pm at 99.7% and at 3:22 pm at 99.6%. The Optiview was repaired and continuous monitoring and recording of UVT was restored at 4:27 pm on April 27th, 2022.

Failure to ensure that the disinfection equipment has a recording device that continuously monitors and records the performance of the disinfection equipment, specifically UV Transmittance, for a drinking water system that does not use chlorination or chloramination is a violation of Section 1-6(3) of Schedule 1 of O. Reg. 170/03.

Corrective Actions:

On April 27th, 2022 the operating authority repaired the UV Transmittance Analyzer and restored the continuous monitoring and recording of UVT.

No further action required.

Question ID	MRDW1109001	Question Type	Legislative
Question: If the system uses equipment for primary disinfection other than chlorination or chloramination and the equipment has malfunctioned, lost power or ceased to provide the appropriate level of disinfection, causing an alarm or an automatic shut-off, did a qualified person respond in a timely manner and take appropriate actions?			

Legislative Requirement	SDWA O. Reg. 170/03 1-6 (1);
Observation	
When failure(s) of primary disinfection equipment, other than that used for chlorination or chloramination, caused an alarm to sound or an automatic shut-off to occur, a certified operator responded in a timely manner and took appropriate actions.	

Question ID	MRDW1042001	Question Type	Legislative
Question: If UV disinfection is used were duty sensors and reference UV sensors checked and calibrated as per the requirements of Schedule E of the MDWL or at a frequency as otherwise recommended by the UV equipment manufacturer?			
Legislative Requirement	SDWA 31 (1);		
Observation			
All UV sensors were checked and calibrated as required.			
Schedule E of the Licence requires the Duty UV Sensor to be checked at least monthly against a reference UV sensor or as recommended by the manufacturer, and;			
- The calibration ratio shall be less than or equal to 1.2;			
- If the calibration ratio is greater than 1.2, the duty UV sensor shall be replaced with a calibrated UV sensor or correction factor shall be applied while the problem is being resolved;			
- Reference UV sensors shall be checked against a Master Reference Assembly at a minimum frequency of once every three years or on a more frequent basis depending upon the recommendations of the equipment manufacturer.			
A review of the UV Reference Check Readings for the inspection period indicate that the UV#2 was checked against a reference UV sensor monthly as required.			
The operating authority indicated that the Reference UV sensor was purchased in January 2022 and will be checked against a Master Reference Assembly in 2023.			

Question ID	MRDW1083001	Question Type	Legislative
Question:			
For LMR systems, are all microbiological water quality monitoring requirements for treated samples being met?			

Legislative Requirement	SDWA O. Reg. 170/03 10-3;
Observation	
All microbiological water quality monitoring requirements prescribed by legislation for treated samples were being met. Section 10-3 of Schedule 10 of O. Reg. 170/03 requires the owner and operating authority of the drinking water system must ensure that a treated water sample is taken at least once every week and tested for E.coli, total coliforms, and HPC. A review of the certificates of analysis for the inspection period indicates that weekly treated water samples were taken and tested for E.coli, total coliforms, and HPC.	

Question ID	MRDW1084001	Question Type	Legislative
Question: Are all inorganic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Legislative Requirement	SDWA O. Reg. 170/03 13-2;		
Observation All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-2 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority for the drinking water system must ensure that at least one treated water sample is taken every 36 months from a ground water source and tested for every parameter in Schedule 23 (Inorganics). The previous inspection report indicates that the most recent Schedule 23 Inorganics samples were taken on September 8th, 2021. The next sample is required by September 8th, 2024 (+/- 60 days).			

Question ID	MRDW1088000	Question Type	Legislative
Question: Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted within the required frequency for the DWS?			
Legislative Requirement	SDWA O. Reg. 170/03 13-7;		
Observation			
All nitrate/nitrite water quality monitoring requirements prescribed by legislation were			

conducted within the required frequency for the DWS.

Section 13-7 of Schedule 13 of O. Reg. 170/03 requires that the owner and operating authority for the drinking water system must ensure that at least one water sample is taken every three months and tested for nitrate and nitrite.

A review of the certificates of analysis for the inspection period indicates that treated water samples were taken and tested for nitrate and nitrite on January 25th, 2022, April 27th, 2022, July 20th, 2022, and October 11th, 2022.

Question ID	MRDW1089000	Question Type	Legislative
Question: Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Legislative Requirement	SDWA O. Reg. 170/03 13-8;		
Observation All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-8 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority for the drinking water system must ensure that at least one treated water samples is taken every 60 months and tested for sodium. The most recent sodium samples was collected on January 16th, 2018. The next samples is required by January 16th, 2023 (+/- 90 days).			

Question ID	MRDW1090000	Question Type	Legislative
Question: Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Legislative Requirement	SDWA O. Reg. 170/03 13-9;		
Observation All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-9 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority for the drinking water system must ensure that at least one treated water samples is taken every 60 months and tested for fluoride.			

The most recent fluoride sample was collected on January 16th, 2018. The next sample is required by January 16th, 2023 (+/- 90 days).

Question ID	MRDW1085001	Question Type	Legislative
Question: Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Legislative Requirement	SDWA O. Reg. 170/03 13-4 (1); SDWA O. Reg. 170/03 13-4 (2); SDWA O. Reg. 170/03 13-4 (3);		
Observation All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-4 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority for the drinking water system must ensure that at least one treated water sample is taken every 36 months from a ground water source and tested for every parameter in Schedule 24 (Organics). The previous inspection report indicates that the most recent Schedule 24 Organics samples were taken on September 8th, 2021. The next sample is required by September 8th, 2024 (+/- 60 days).			

DWS Component Information Report for 210001905

as of 06-DEC-2022

Drinking Water System Profile Information

DWS # 210001905
MOE Assigned Name Mattawa Drinking Water System
Category LMRS
Regulation O.REG 170/03
DWS Type Well Supply
Source Type Ground Water
Address 400 Bissett Street, Mattawa, Ontario, P0H 1V0, Canada
Region Northern Region
District North Bay Area Office
Municipality Mattawa
Public Health Unit North Bay Parry Sound District Health Unit

LWIS Component Name	LWIS Component Type	LWIS Component Sub-Type	Component Address	Comments
Reservoir	Other	Reservoir		The in-ground reservoir has an operating capacity of 795 cubic metres and is located 700 metres to the northwest of the well house. The normal high operating water level in the reservoir is approximately 70 metres of elevation above the well house. The reservoir is located within a fenced compound and is equipped with two access hatches, two vent pipes and an overflow pipe. Monitoring of the reservoir level is used to control the operation of the well pumps at the pumphouse.
Pumphouse	Treated Water Poe	Pumphouse	400 Bissett, Unit: Street,	The pumphouse is located at 400 Bissett Street. Raw water flows from the wells into a common 200 mm discharge header within the pump house. Primary disinfection is achieved using two ultraviolet reactors. Each unit is capable of providing a minimum ultraviolet dosage of 40 mJ/cm² at a peak flow rate of 75.7 L/s and raw water ultraviolet transmittance of 95%. Secondary disinfection with 12% sodium hypochlorite is completed in the common discharge header prior to entry to the distribution system. The hypochlorite system consists of one 200 L storage tank, with spill containment, and two chemical metering pumps (one duty and one standby) with discharge lines into the common discharge header. The chemical metering pumps are equipped with an automatic switch-over device and controls which provide for flow proportional dosing. If both dosing pumps fail an alarm to the pager is initiated and the raw water pumps automatically shut down. A sample line is installed on the 150 mm discharge header so that continuous on-line monitoring for free chlorine residual can be achieved. There is a pipe that leads treated water from the point of entry to the distribution system that is used for cooling of the diesel generator and the UV reactors during their warm up cycle and for water lubrication of the pump for Well # 1. A supervisory control and data acquisition (SCADA) system was put in place in 2011 to enhance the automated control of the water production and treatment components and to produce the required performance and monitoring reports. Backup power is supplied by a 300 kW diesel generator equipped with an automatic transfer switch and a 2,200 L capacity above ground fuel

DWS Component Information Report for 210001905

as of 06-DEC-2022

LWIS Component Name	LWIS Component Type	LWIS Component Sub-Type	Component Address	Comments
				tank. This system can run the entire pumphouse, as well as a nearby sewage lift station. Other meters and appurtenances are contained within the pumphouse in accordance with the requirements of system's recently issued Municipal Drinking Water Licence and Drinking Water Works Permit.
Distribution	Other	Other		The population of Mattawa is approximately 2,150. The distribution system is fed from the well house when the pumps are operating, with excess water being directed to the elevated in ground reservoir. When the well pumps are off the distribution is gravity fed from the reservoir. The system has approximately 1,050 service connections to residential and commercial consumers. There is approximately 20,000 metres of various sized cast iron, ductile iron and polyvinyl chloride piping. There are 107 fire hydrants and 239 valves in the distribution system.
Well 1 Raw	Source	Ground	400 Bissett, Unit: Street,	Well # 1 was constructed in 1958 per well record 4300581. It is the larger of the two wells located within the well house at 400 Bissett Street. It is a gravel wall type of construction and had a total depth of 26.5 m. A 660 mm diameter steel outer casing extends from grade to a depth of 19.1 m. A 400 mm diameter inner casing extends from grade to 22.1 m and a 400 mm diameter stainless steel screen extends from 22.1 m to 26.7 m. Well #1 is equipped with a 100 Hp vertical turbine pump and is rated at 53 L/s at a 105.8 m TDH. The pump is set at approximately 21.9 m below grade. The well head is approximately 30 cm above the pumphouse floor. Well # 1 is generally operated as the duty well from 6 a.m. to midnight to meet higher water demand period. The switchover of well pumps is controlled by a timer within the system's programmable logic controller.
Well 2 Raw	Source	Ground	400 Bissett, Unit: Street,	Well # 2 was constructed in 1949 per well record 4300579. It is the smaller of the two wells located within the well house at 400 Bissett Street. It is a gravel wall type well construction and has a total depth of 23.8 m. A 560 mm diameter steel outer casing extends from grade to a depth of 18.6 m. A 300 mm diameter inner casing extends from grade to 20.6 m and a 300 mm diameter #6 stainless steel screen extends from 20.6 m to 23.6 m. Well # 2 is equipped with a 40 Hp vertical turbine pump and is rated at 22.7 L/s at a 91.5 m TDH. The pump is set at approximately 17.3 m below grade. The well head is approximately 15 cm above the pumphouse floor. Well # 2 is generally operated as the duty well from midnight to 6 a.m. for energy conservation purposes.

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

Many useful materials are available to help you operate your drinking water system. Below is a list of key materials owners and operators of municipal residential drinking water systems frequently use.

To access these materials online click on their titles in the table below or use your web browser to search for their titles. Contact the Ministry if you need assistance or have questions at 1-866-793-2588 or waterforms@ontario.ca.

For more information on Ontario's drinking water visit www.ontario.ca/drinkingwater



PUBLICATION TITLE	PUBLICATION NUMBER
FORMS: Drinking Water System Profile Information Laboratory Services Notification Adverse Test Result Notification	012-2149E 012-2148E 012-4444E
Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils	Website
Procedure for Disinfection of Drinking Water in Ontario	Website
Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids	Website
Filtration Processes Technical Bulletin	Website
Ultraviolet Disinfection Technical Bulletin	Website
Guide for Applying for Drinking Water Works Permit Amendments, & License Amendments	Website
Certification Guide for Operators and Water Quality Analysts	Website
Guide to Drinking Water Operator Training Requirements	9802E
Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption	Website
Drinking Water System Contact List	7128E01
Ontario's Drinking Water Quality Management Standard - Pocket Guide	Website
Watermain Disinfection Procedure	Website
List of Licensed Laboratories	Website

Principaux guides et documents de référence sur les réseaux résidentiels municipaux d'eau potable

De nombreux documents utiles peuvent vous aider à exploiter votre réseau d'eau potable. Vous trouverez ci-après une liste de documents que les propriétaires et exploitants de réseaux résidentiels municipaux d'eau potable utilisent fréquemment. Pour accéder à ces documents en ligne, cliquez sur leur titre dans le tableau ci-dessous ou faites une recherche à l'aide de votre navigateur Web. Communiquez avec le ministère au 1-866-793-2588, ou encore à waterforms@ontario.ca si vous avez des questions ou besoin d'aide.



Pour plus de renseignements sur l'eau potable en Ontario, consultez le site www.ontario.ca/eaupotable

TITRE DE LA PUBLICATION	NUMÉRO DE PUBLICATION
Renseignements sur le profil du réseau d'eau potable	012-2149F
Avis de demande de services de laboratoire	012-2148F
Avis de résultats d'analyse insatisfaisants et de règlement des problèmes	012-4444F
Prendre soin de votre eau potable - Un guide destiné aux membres des conseils municipaux	Site Web
Marche à suivre pour désinfecter l'eau potable en Ontario	Site Web
Stratégies pour minimiser les trihalométhanes et les acides haloacétiques de sous-produits de désinfection	Site Web
Filtration Processes Technical Bulletin (en anglais seulement)	Site Web
Ultraviolet Disinfection Technical Bulletin (en anglais seulement)	Site Web
Guide de présentation d'une demande de modification du permis d'aménagement de station de production d'eau potable	Site Web
Guide sur l'accréditation des exploitants de réseaux d'eau potable et des analystes de la qualité de l'eau de réseaux d'eau potable	Site Web
Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable	9802F
Échantillonnage et analyse du plomb dans les collectivités : échantillonnage normalisé ou réduit et admissibilité à l'exemption	Site Web
Liste des personnes-ressources du réseau d'eau potable	Site Web
L'eau potable en Ontario - Norme de gestion de la qualité - Guide de poche	Site Web
Procédure de désinfection des conduites principales	Site Web
Laboratoires autorisés	Site Web