Ministry of the Environment, Conservation and Parks

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Ministère de l'Environnement, de la Protection de la nature et des Parcs

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January 19, 2026

The Corporation of the Township of Ramara
2297 Highway 12, Post Office Box Delivery 130, Brechin, ON, L0K 1B0

Attention: Gayle Jackson, Chief Administrative Officer

Re: Brechin & Lagoon City Drinking Water System, DWS No. 210001273
2025/26 Inspection Report No. 1-1434011624

Enclosed is the report on the 2025/26 inspection of the Brechin & Lagoon City Drinking Water System and the corresponding Inspection Rating Report (IRR) and Risk Methodology document.

The primary focus of this inspection was to confirm compliance with Ministry of the Environment, Conservation and Parks legislation and control documents, as well as conformance with Ministry drinking water related policies for the inspection period. The Ministry is implementing a rigorous and comprehensive approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as water system management practices.

Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils" on the Drinking Water Ontario website at https://www.ontario.ca/environment-and-energy/taking-care-your-drinking-water-guide-members-municipal-councils.

The IRR is a summarized quantitative measure of the drinking water system's annual inspection and is published in the Ministry's Chief Drinking Water Inspector's Annual Report. The Risk Methodology document describes the risk rating methodology which has been applied to the findings of the Ministry's municipal residential drinking water system inspection results.

If you have any questions or concerns regarding the rating, please contact Sheri Broeckel, Water Compliance Supervisor, at 705-716-3712.

I would be pleased to answer any questions or provide additional clarification.

Sincerely,

Peter Vreugdenhil
Water Compliance Officer
Barrie District Office
Ministry of the Environment, Conservation and Parks
Tel: (705) 727-8769
Email: peter.vreugdenhil@ontario.ca

CC Karen Lorente, Regional Hub Manager, Ontario Clean Water Agency (Kawartha)
Natalie Lamiot, Process Compliance Technician, Ontario Clean Water Agency (Kawartha)
Medical Officer of Health, Simcoe Muskoka District Health Unit
Severn Sound Environmental Association
Barrie District Office File, Ministry of the Environment, Conservation and Parks

BRECHIN & LAGOON CITY DRINKING WATER SYSTEM
Physical Address: 2 POPLAR CRES, RAMARA, ON L0K 1B0

INSPECTION REPORT

System Number:	210001273
Entity:	CORPORATION OF THE TOWNSHIP OF RAMARA
Inspection Start Date:	November 26, 2025
Site Inspection Date:	November 26, 2025
Inspection End Date:	January 08, 2026
Inspected By:	Peter Vreugdenhil
Badge #:	924

_____
(signature)

INTRODUCTION

Purpose

This announced, focused inspection was conducted to confirm compliance with Ministry of the Environment, Conservation and Parks' (MECP) legislation and conformance with Ministry drinking water policies and guidelines.

Scope

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 and the operation of the system.

The inspection of the drinking water system included both the physical inspection of the component parts of the system listed in section 4 "Systems Components" of the report and the review of data and documents associated with the operation of the drinking water system during the review period.

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.

Facility Contacts and Dates

The drinking water system is owned by The Corporation Of The Township Of Ramara and operated by the Ontario Clean Water Agency (Kawartha).

The system serves an estimated population of 2,629 residents and is categorized as a Large Municipal Residential System. Information reviewed for this inspection covered the period of August 28, 2024, to November 26, 2025.

Systems/Components

All locations associated with primary disinfection were visited as part of this inspection. The following sites were visited as part of the inspection of the drinking water system:

Intake Structure/System

The raw water intake structure for the facility is located approximately 400 metres offshore to the east in Lake Simcoe. A raw water low lift pumping station situated at the facility draws water from the lake through a 300 millimetre diameter intake pipe. The low lift pumping station is equipped with two manually cleaned screens and three vertical turbine pumps, one of which is rated at a capacity of 2,435 cubic metres per day and the other two are rated at 2,029 cubic metres per day. There is a 100 mm diameter pipe for backflushing. A small pump operates on a continuous basis, providing raw water from the raw water wet well to continuous monitoring equipment measuring raw source water quality parameters turbidity, pH and temperature.
Prior to being directed to the treatment train, the raw water is dosed through a diffuser into the wet well by a paced to flow pre-chlorination system and by a paced to flow coagulation system that utilizes polyaluminum chloride. The water is then directed through a 200 millimetre pipe equipped with an ABB magnetic flowmeter, and injected with carbon dioxide for pH control prior to entering the filtration system. The carbon dioxide system consists of two 340 kg stainless steel refillable storage cylinders containing liquefied carbon dioxide gas. A wall-mounted metering panel is installed, equipped with an actuated control valve and bypass piping, gas feed flowmeter, filter, carbon dioxide gas pressure regulator and isolating manual ball valves. There is an indoor carbon dioxide detector installed.

Treated Water
The Brechin and Lagoon City water treatment plant is a surface water treatment facility with chemically assisted filtration.
Raw water from the wet well flows through an ABB magnetic flow meter with a 4-20 milliamp signal connected to the SCADA system for continuous monitoring and recording purposes. Raw water is directed to a filtration system which begins with four spiral flow flocculation tanks that each provide 12.7 cubic metres volume. Water then flows to two filters, each equipped with two surface agitators and three backwash wastewater collection troughs, and are comprised of 1,140 millimetres of granulated activated carbon over sand and gravel sitting on a 200 millimetre underdrain. The filters are designed to provide a total maximum day filtration treatment capacity of 4,000 m3. The vertical turbine backwash wastewater pump has a capacity of 7,514 cubic metres per day at 9.1 TDH, providing a potential backwash rate of 44 metres per hour. Water discharging from the filters is monitored separately by two continuous on-line turbidity analysers that have signal outputs connected to a datalogging device and an auto dialer for continuous monitoring and alarming purposes. During backwash cycles, filter to waste water is directed to an 80 cubic metre backwash holding tank, equipped with two manually controlled submersible pumps that discharge to the sanitary sewer at a controlled rate and an overflow weir that is directed to the same sanitary sewer. All flows from the backwash cycles are monitored by a flow meter located on the backwash holding tank discharge pipe.
After passing through the filters, the partially treated water is dosed with sodium hypochlorite in the combined filter discharge header. The primary sodium hypochlorite disinfection system consists of one approximately 300 litre chemical storage tank, two chemical metering pumps (one duty, one standby), each rated at 10.5 litres/hour, and an alarm with automatic switchover on duty pump failure.

Distribution
The Brechin and Lagoon City distribution system services approximately 1,279 service connections and an approximate population of 2,629 persons. Of these, approximately five are considered industrial, 40 are commercial and five are institutional users.
Lagoon City has approximately 11,800 m of PVC, ductile iron and asbestos cement watermains ranging in diameter from 150 mm to 300 mm. Brechin has approximately 6,100 m of PVC watermains ranging in diameter from 150 mm to 250 mm.
A treated water elevated reservoir is located within Brechin that provides a storage volume of 945 cubic meters and is equipped with a level sensor that controls high lift pump activation through telephone communication lines. In addition, the owner has installed an uninterruptible power supply at the tower to maintain communication capabilities in the event of power failure.

Permissions/Approvals

This drinking water system was subject to specific conditions contained within the following permissions and/or approvals (please note this list is not exhaustive) at the time of the inspection in addition to the requirements of the SDWA and its regulations:

Municipal Drinking Water Licence #147-101 Issue #5 (Licence) and Drinking Water Works Permit 147-201 Issue #5 (Permit) were issued to The Corporation Of The Township Of Ramara on February 4, 2022. The Licence expires February 3, 2027, and an application to renew the Licence must be made before August 4, 2026.

Water takings from Lake Simcoe are permitted in accordance with Permit to Take Water (PTTW) #0278-AQ4LYS issued August 30, 2017. The PTTW allows the owner to take a maximum of 3,993,287 Litres per day (L/d) at a rate not exceeding 2,773 Litres per minute (L/min). PTTW #0278-AQ4LYS expires on August 30, 2027.

Background and Compliance

The Brechin & Lagoon City Drinking Water System was last inspected by the Ministry on August 28, 2024. There was no non-compliance with legislative requirements or actions required identified during the August 28, 2024, inspection.

NON-COMPLIANCE

This should not be construed as a confirmation of full compliance with all potential applicable legal requirements. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

RECOMMENDATIONS

This should not be construed as a confirmation of full conformance with all potential applicable BMPs. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

INSPECTION DETAILS

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

Ministry Program: DRINKING WATER | **Regulated Activity:** DW Municipal Residential

Question ID	DWMR1012001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Did the owner have a harmful algal bloom monitoring plan in place that met the requirements of the Municipal Drinking Water Licence?

Compliance Response(s)/Corrective Action(s)/Observation(s):
The owner had a harmful algal bloom monitoring plan in place which met the requirements.

A harmful algal bloom (HAB) is defined as an overgrowth of algal bacteria in water that is producing or has the potential to produce toxins to the surrounding water. These toxins can be produced when the algal cell is damaged or dies, such as microcystins produced by blue-green algae, and can be harmful to people and animals. Drinking water systems on a surface water source may experience blue-green algae blooms in their source water during the warmer months of the year.
Condition 6 of Schedule C of Municipal Drinking Water Licence (MDWL) 147-101 Issue Number 5 outlines the requirements of the Harmful Algal Bloom monitoring, reporting and sampling plan required to be in place on or before August 5, 2022. The plan must be implemented annually during, but not limited to, the warm seasonal period between June 1 and October 31 each year, or as otherwise directed by the Ministry or local Medical Officer of Health.
The Harmful Algal Boom Plan prepared by the operating authority issued May 18, 2022, meets the requirements of the MDWL. Visual inspections of the intake for blue green algae and sampling of the raw and treated water for microcystin was completed weekly and all microcystin results were below the method detection limit.
The owner of the drinking water system has designed and implemented an algal monitoring plan that complies with the requirements of Section 6 of Schedule C of the Municipal Drinking Water Licence.

Question ID	DWMR1014001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Was flow monitoring performed as required by the Municipal Drinking Water Licence or Drinking Water Works Permit?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Flow monitoring was performed as required.

Condition 2.1 of Schedule C of Municipal Drinking Water Licence 147-101 Issue Number 5 requires that for each treatment subsystem, continuous flow measurement and recording shall be undertaken for the flow rate and daily volume of treated water that flows from the treatment subsystem to the distribution system, and the flow rate and daily volume of water that flows into the treatment subsystem.
There are four magnetic flow meters installed at the drinking water system. One flow meter measures the raw water flow, one measures the treated water flow entering the distribution system and there is a flow meter installed on each of the filter effluent lines. Each of the flow meters provides a 4-20 mA signal.
Instantaneous flow rates are measured by each flow measuring device and continuously trended and recorded on the Supervisory Control and Data Acquisition (SCADA) system associated with the drinking water system. Totalized daily flows are calculated based on the water meter readings.
The data from each of the flow meters was reviewed and results indicate that the required data is being collected.

Question ID	DWMR1016001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Was the owner in compliance with the conditions associated with maximum flow rate or the rated/operational capacity in the Municipal Drinking Water Licence?

Compliance Response(s)/Corrective Action(s)/Observation(s):
The owner was in compliance with the conditions associated with maximum flow rate and/or the rated/operational capacity conditions.

Condition 1.1, Schedule C of the Licence stipulates that the maximum daily volume of treated water that flows from the treatment system to the distribution system shall not exceed 4000 cubic metres per day (m3/day).
During 2024, the maximum flow rate recorded occurred in August 2024, when a water flow rate of 1107 m3 was reported, equating to approximately 28% of the plant rated capacity, while the average day demand for 2024 was reported to be approximately 16% (657 m3) of the allowable amount. The maximum amount of water distributed in 2025 up to the date of inspection was September 14, 2025, at 1087 m3, or 27% of the allowable amount. There were no exceedances of the maximum flow rate and/or rated capacity. A review of records made during this inspection review period indicates that the Brechin & Lagoon City drinking water system was not operated to exceed the plant rated capacity set out in the Licence.

Question ID	DWMR1018001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Did the owner ensure that equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?

Compliance Response(s)/Corrective Action(s)/Observation(s):
The owner ensured that equipment was installed as required.

A review of the equipment installed within the Brechin & Lagoon City drinking water system was referenced to the equipment identified in Schedule A of Permit #147-201 (Issue #5). The equipment identified in the Permit appeared to be installed at the time of the physical inspection.

Question ID	DWMR1021001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Were Form 2 documents prepared as required?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Form 2 documents were prepared as required.

The operating authority prepared a Form 2 document on:
1. January 2025, for the replacement of high lift #4 pump, actuator and check valve with like-for-like equipment;
2. February 17, 2025, due to the replacement of the non-testable back flow prevention device in the filter scrubber supply line with a testable check-valve assembly;
3. March 6, 2025, for the addition of a level measuring device to the raw water chamber to monitor level and allow for pump lockout capabilities;
4. March 6, 2025, for the replacement of the raw water turbidity analyzer with new analyzer and controller;
5. November 17, 2025, for the replacement of the treated water flowmeter due to end of life.

Question ID	DWMR1025001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Were all parts of the drinking water system that came in contact with drinking water disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit?

Compliance Response(s)/Corrective Action(s)/Observation(s):
All parts of the drinking water system were disinfected as required.

Section 2.3 of Schedule B of Drinking Water Works Permit 147-201 (Issue #5) states 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 a procedure approved by the Director or in accordance with the applicable provisions of the following documents:
a) Until August 3, 2022, the ministry's Watermain Disinfection Procedure, dated November 2015. As of August 4, 2022, the ministry's Watermain Disinfection Procedure, dated August 1, 2020.
b) Subject to condition 2.3.2, any updated version of the ministry's Watermain Disinfection Procedure;
c) AWWA C652 – Standard for Disinfection of Water-Storage Facilities;
d) AWWA C653 – Standard for Disinfection of Water Treatment Plants; and
e) AWWA C654 – Standard for Disinfection of Wells.
The operating authority has developed a Standard Operating Procedure (SOP) for disinfection of drinking water system components. The SOP states that the required standards are to be followed as per the Drinking Water Works Permit.
In accordance with Condition 2.3, Schedule B of the Permit, the operating authority adheres to the American Water Works Association (AWWA) disinfection standards when watermains and other drinking water system appurtenances are installed, replaced or repaired.
Prior to any repaired watermain being placed back into service following disinfection, the operating authority has ensured microbiological sampling was conducted in accordance with the applicable AWWA standards.

Question ID	DWMR1023001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 1-2 | (2);

Question:
Did records indicate that the treatment equipment was operated in a manner that achieved the design capabilities prescribed by O. Reg. 170/03, Drinking Water Works Permit and/or Municipal Drinking Water Licence at all times that water was being supplied to consumers?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities prescribed.

Section 1-2(2) of Schedule 2 of Ontario Regulation 170/03 prescribes that the owner of a drinking water system and the operating authority for the system shall ensure the following:
1. The water treatment equipment is in operation whenever water is being supplied.
2. The water treatment equipment is operated in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario.
3. The water treatment equipment required by section 1-3 or 1-4 is operated in a manner that achieves the design capabilities it is required to have under that section.
Primary disinfection for Brechin and Lagoon City Drinking Water System is achieved by chemically assisted filtration and chlorination with the use of the chlorine contact/concentration time (CT) concept to ensure the provision of effective pathogen inactivation.
The facility's Operations and Maintenance Manual states that the Ministry's Procedure for Disinfection of Drinking Water in Ontario requires the treatment process to provide a 2-log

removal or inactivation of Crypto cysts, a 3-log removal or inactivation of Giardia cysts and a 4-log removal or inactivation of viruses. The Water Works must provide the necessary chlorine contact time to achieve a 1-log (90%) inactivation of Giardia cysts and a 3-log (99.9%) inactivation of viruses. The filter units provide removal of the Crypto cysts (2-log) and will assist in the removal of Giardia cysts (2-log) and viruses (1-log).
A CT value of 125 is needed to provide a 1-log inactivation of Giardia cysts at a pH of 8.5 and a water temperature of <0.5°C. Since enteric viruses are much easier to inactivate than Giardia cysts, the disinfection requirements are governed by Giardia cysts inactivation.
A water level of 3.89 m is maintained in the clear well to ensure that a chlorine contact volume of 964.5 m^3 is provided at all times. The high lift pumps are locked out if the water level lowers to 3.89 m. This volume provides a contact time of 105 minutes at the peak flow rate of 4,000 m^3/day.
To ensure that the CT value of 125 is achieved, a free chlorine residual at or above 1.2 mg/L leaving the clear well must be maintained.
If irregular operating conditions occur, such as a free chlorine residual less than 1.2 mg/L, or a daily flow rate in excess of 4,000 m^3/day, the actual CT value achieved must be calculated.
The required removals and inactivations are reportedly met through the treatment system comprised of coagulation, flocculation, clarification, multimedia and granular activated carbon (GAC) filtration followed by chlorination for primary and secondary disinfection purposes.
In efforts to ensure minimum level of treatment is provided at all times, a series of fail safes have been incorporated into the SCADA system. The fail safes include the low chlorine residual alarm set point being at a level which affords sufficient time for an operator to respond prior to the chlorine residual dropping below the level required for primary disinfection. The low chlorine alarm will lock out the high lift pumps. Operators perform CT calculations regularly. In the event that the filter turbidity is above 0.3 NTU, the treated water turbidity is above 1.0 NTU, or the clear well level is above or below the thresholds the on-call operator is notified. In order to determine if primary disinfection was achieved at the Brechin and Lagoon City Drinking Water System during the inspection review period, flow rates, free chlorine residuals, turbidity values, clear well levels, pH values, monthly sheets and the log sheets were reviewed. These records indicate that the treatment equipment was operated as required to achieve the disinfection requirements during the inspection review period, in accordance with the requirements of Section 1-2(2) of Schedule 2 of Ontario Regulation 170/03.

Question ID	DWMR1024001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 1-2 | (2);

Question:
Did records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required.

Section 1-2(2)(4) of Schedule 2 of Ontario Regulation 170/03 prescribes that the owner of a drinking water system and the operating authority for the system shall ensure the following:
If the drinking water system's water treatment equipment provides chlorination or chloramination for secondary disinfection, the equipment is operated so that, at all times and at all locations within the distribution system,
i. the free chlorine residual is never less than 0.05 milligrams per litre, if the drinking water system provides chlorination and does not provide chloramination, or
ii. the combined chlorine residual is never less than 0.25 milligrams per litre, if the drinking water system provides chloramination.
Following filtration, the filtered water is chlorinated through the addition of a sodium hypochlorite solution in the combined filter discharge header prior to entering the 1,091 m3 below-grade treated water clear well. A free available chlorine residual is maintained in the water conveyed from the treatment plant and into the distribution system for secondary disinfection purposes to reduce the potential for microbial regrowth within the distribution system, and in accordance with Section 1-5 of Schedule 1, Ontario Regulation 170/03.
According to the operations and maintenance manual, the treatment system is designed to target a minimum free chlorine residual of 1.20 mg/L at the point of entry into the distribution system to meet the minimum primary disinfection requirements providing that the filters are performing as designed. The 2001 Engineer's Report states that a minimum free chlorine residual of at least 1.00 mg/L is required at the point of entry into the distribution system, which should ensure a minimum free chlorine residual of 0.2 mg/L is maintained throughout the distribution system as is recommended in the Ministry's Procedure for Disinfection.
A continuous chlorine residual analyzer installed on the high lift pump discharge header is configured to trigger an alarm notification sequence should free available chlorine residual in the treated water being conveyed to the distribution system fall below 1.50 mg/L. There were no records which indicated free chlorine residuals less than 0.20 mg/L at any time during the inspection review period. During this inspection review period, the lowest recorded distribution system free chlorine residual concentration was 0.80 mg/L.

Question ID	DWMR1033001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 7-2 | (3); SDWA | O. Reg. 170/03 | 7-2 | (4);

Question:
Was secondary disinfectant residual tested as required for the large municipal residential distribution system?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Secondary disinfectant residual was tested as required.

Subsections 7-2(3) of Schedule 7, Ontario Regulation 170/03 prescribes that the owner of a large municipal residential system that provides secondary disinfection to ensure that at least seven distribution system samples are taken each week and tested immediately for free chlorine residual. Where secondary disinfection monitoring is not being done on a daily basis, subsection 7-2(4) of Schedule 7, Ontario Regulation 170/03 requires that at least four of the seven required tests be taken on one day of the week at least 48 hours after the last samples

were taken the week previous; while the remaining three tests are required to be collected within the same week and at least 48 hours after the initial four.
Records provided by the operating authority reviewed during the course of this inspection indicate that the operating authority complied with these requirements, testing free chlorine residual for secondary disinfection monitoring purposes daily. During this inspection review period, the lowest recorded distribution system free chlorine residual concentration was 0.80 mg/L.

Question ID	DWMR1030001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 7-2 | (1); SDWA | O. Reg. 170/03 | 7-2 | (2);

Question:
Was primary disinfection chlorine monitoring being conducted at a location approved by Municipal Drinking Water Licence and/or Drinking Water Works Permit or at/near a location where the intended CT had just been achieved?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Primary disinfection chlorine monitoring was conducted as required.

The primary disinfection monitoring point is located in the clearwell, which appears to be representative of the location where the intended CT has been achieved.

Question ID	DWMR1032001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 7-3 | (2);

Question:
If the drinking water system obtained water from a surface water source and provided filtration, was continuous monitoring of each filter effluent line performed for turbidity?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Continuous monitoring of each filter effluent line was performed for turbidity.

The operating authority is required to monitor for turbidity using continuous monitoring equipment on each filter effluent line in accordance with Section 7-3(2)(b) of Schedule 7 of Ontario Regulation 170/03. The operating authority monitors turbidity on each filter effluent line at the water treatment plant as well as the finished drinking water conveyed to the distribution system. The turbidity alarm set points on the two filter trains is at 0.30 NTU. Should an alarm condition occur the low lift pumps are configured to shut down ceasing the production of water. There is also a raw water turbidimeter used to monitor incoming water quality for operational and process monitoring.
For this inspection period, the data indicates that the turbidimeters were operating at all times that water was being processed. Numerous instances were noted wherein filtrate turbidity exceeded 0.30 NTU; however each of these occurrences were very short in duration and coincided with analyzer testing/maintenance or the filter to waste portion of the filter

backwash cycle. The water during backwashing is directed to a sediment settling tank and then the sanitary sewer and not further into the treatment train.

Question ID	DWMR1035001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-5 | (1)1-4;

Question:
Were operators examining continuous monitoring test results and did they examine the results within 72 hours of the test?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Operators were examining continuous monitoring test results as required.

Subsection 6-5(1)(3) of Schedule 6 of Ontario Regulation 170/03 requires that test results recorded under paragraph 1 or 2 must be examined by a certified operator within 72 hours after the tests are conducted.
During the inspection review period records indicate that trending data was reviewed within 72 hours of the test being conducted. Operators are able to log on remotely to view the continuous analyzer data. The operating authority has developed a Standard Operating Procedure for how operators are to complete the review of continuous monitoring data.

Question ID	DWMR1038001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-5 | (1)1-4;

Question:
Was continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency and recording data with the prescribed format?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was performing tests for the parameters with at least the minimum frequency and recording data with the prescribed format.

Schedule 6 requires that free chlorine residual at the treatment plant be recorded with a frequency of every 5 minutes and that turbidity be recorded with a minimum frequency of every 15 minutes. The Supervisory Control and Data Acquisition (SCADA) system at the Brechin & Lagoon City water treatment plant records the continuous monitoring data with a frequency of 20 second intervals complete with date, time, sampling location, and result. The chlorine residual is being recorded in milligrams per litre (mg/L) and turbidity is being recorded in Nephelometric Turbidity Units (NTU) in order to comply with the requirements of Schedule 6 of Ontario Regulation 170/03.

Question ID	DWMR1037001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-5 | (1)5-10; SDWA | O. Reg. 170/03 | 6-5 | (1.1);

Question:
Were all continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or Municipal Drinking Water Licence or Drinking Water Works Permit or order, equipped with alarms or shut-off mechanisms that satisfied the standards described in Schedule 6?

Compliance Response(s)/Corrective Action(s)/Observation(s):
All required continuous monitoring equipment utilized for sampling and testing were equipped with alarms or shut-off mechanisms that satisfied the standards

Subsection 6-5(1.1) of Schedule 6 of Ontario Regulation 170/03 requires that the continuous monitoring equipment must cause an alarm to sound immediately at the following locations if the equipment malfunctions or loses power or a test result for a parameter is above the maximum alarm standard or below the minimum alarm standard specified in the Table to this section for the parameter:
i. The location where the equipment conducts tests.
ii. ii. A location where a person is present, if a person is not always present at the location where the equipment conducts tests.
iii. Every designated facility served by the drinking water system, unless the system is a large municipal residential system or a small municipal residential system.
In the event that the continuous chlorine or turbidity analysers record a value below or above the set points an alarm is sent to an operator. The setpoints exceed the requirements of the Table in Schedule 6 of Ontario Regulation 170/03. The low chlorine alarm setpoint is at a level high enough to try and afford an operator enough time to respond before primary disinfection is compromised. Operators regularly test the chlorine and turbidity alarms to ensure they are functioning properly.
The filtered water turbidity analyzers are required to alarm and shut down the operations in the event of an exceedance. The alarm limit is currently set at 0.30 NTU, which if exceeded for more than 15 minutes, the unit will alarm out to the on-call operator and an alarm will display on the SCADA computer in the office at the treatment facility.
The Brechin & Lagoon City water treatment plant is also equipped with continuous monitoring for chlorine residual in the treated water entering the distribution system. The low chlorine residual alarm set point is at 1.50 mg/L.

Question ID	DWMR1040001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-5 | (1)1-4; SDWA | O. Reg. 170/03 | 6-5 | (1)5-10;

Question:
Were all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?

Compliance Response(s)/Corrective Action(s)/Observation(s):
All continuous analysers were calibrated, maintained, and operated as required.

Subsection 6-5(1)(8) of Schedule 6 of Ontario Regulation 170/03 states that the continuous monitoring equipment must be checked and calibrated in accordance with the manufacturer's instructions. Subsection 6-5(1)(10) states that if the manufacturer's instructions do not indicate how often to check and calibrate the continuous monitoring equipment and paragraph 9 does not apply, the equipment must be checked and calibrated as often as necessary to ensure that test results are within the following margins of error: i. In the case of free chlorine residual, 0.05 milligrams per litre, if the concentrations usually measured by the equipment are less than or equal to 1.0 milligrams per litre, and proportionally higher if the concentrations usually measured are greater than 1.0 milligrams per litre, ii. In the case of free chlorine residual and total chlorine residual measured for the purpose of determining combined chlorine residual, 0.05 milligrams per litre, if the concentrations usually measured by the equipment are less than or equal to 1.0 milligrams per litre, and proportionally higher if the concentrations usually measured are greater than 1.0 milligrams per litre, iii. 0.1 Nephelometric Turbidity Units (NTU), in the case of turbidity.
The operating authority ensured that the continuous monitoring equipment was checked and calibrated on a regular basis, in accordance with the requirements of section 6-5 of Schedule 6 of Ontario Regulation 170/03.

Question ID	DWMR1108001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-5 | (1)5-10; SDWA | O. Reg. 170/03 | 6-5 | (1.1);

Question:
Where continuous monitoring equipment used for the monitoring of free chlorine residual, total chlorine residual, combined chlorine residual or turbidity, required by O. Reg. 170/03, Municipal Drinking Water Licence, Drinking Water Works Permit, or order triggered an alarm or an automatic shut-off, did a qualified person respond as required and take appropriate actions?

Compliance Response(s)/Corrective Action(s)/Observation(s):
A qualified person responded as required and took appropriate actions.

In the event of a low chlorine alarm the on-call Operator is notified and the high lift pumps lock out. If the filter effluent continuous chlorine analysers have a reading above 0.3 NTU the on-call operator is notified immediately. In the event that the final turbidity is above 1.0 NTU or the clearwell level is high or low the on-call operator is notified. In the event of a low clearwell level alarm the high lift pumps lockout. In the event that the Brechin tower level is low the on-call operator is notified. Operators are able to log-on remotely to see the SCADA system and determine if a response is needed. Operators responded appropriately in a timely manner for alarm conditions during the inspection review period.

Question ID	DWMR1099001	Question Type	Information

Legislative Requirement(s):
Not Applicable

Question:
Do records show that water provided by the drinking water system met the Ontario Drinking Water Quality Standards?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Records showed that all water sample results met the Ontario Drinking Water Quality Standards.

The standards for drinking water quality in Ontario are prescribed in Ontario Regulation 169/03 "Ontario Drinking Water Quality Standards" (ODWQS). Background and supporting information for each of the standards can be found in the Ministry's 'Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".
Results of sampling conducted during this inspection review period met the microbiological and chemical requirements of the ODWQS.
It should be noted that samples collected from the Brechin & Lagoon City drinking water system have historically indicated elevated levels of sodium in the treated water. Where the concentration of sodium exceeds 20 mg/L in a drinking water sample the owner is required to make a report in accordance with subsection 16-3(1) of Schedule 16 of Ontario Regulation 170/03, if such a report had not been made in the previous 60 months. The owner last made the required notifications in August of 2025, when a sample collected August 5, 2025, rendered a sodium result of 39.3 mg/L. Resampling confirmed the elevated sodium concentration with a result of 40.0 mg/L. In accordance with the Schedule 17, Ontario Regulation 170/03 requirements, the results were reported to the local office of the Medical Officer of Health so that the information may be passed onto physicians in the area. The aesthetic objective for sodium in drinking water is 200 mg/L at which it can be detected by a salty taste. Consumption of sodium in excess of 10 grams per day by normal adults does not result in any apparent adverse health effects. In addition, the average intake of sodium from water is only a small fraction of that consumed in a normal diet. A maximum acceptable concentration for sodium in drinking water has, therefore, not been specified. Persons suffering from hypertension or congestive heart disease may require a sodium- restricted diet, in which case, the intake of sodium from drinking water could become significant. The local Medical Officer of Health is required to be notified when the sodium concentration exceeds 20 mg/L, so that this information may be passed on to local physicians.

Question ID	DWMR1083001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 10-3;

Question:
Were treated microbiological sampling requirements prescribed by Schedule 10-3 of O. Reg. 170/03 for large municipal residential systems met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Treated microbiological sampling requirements were met.

Section 10-3 of Schedule 10, Ontario Regulation 170/03 requires the owner to ensure samples are collected at least once every week from the system's treated water at the point of entry into the distribution system. The owner of the drinking water system and the operating authority for the system shall ensure that each of the samples taken is tested for Escherichia coli, total coliforms, and for general bacteria population expressed as colony counts on heterotrophic plate count (HPC).
Records provided for review period indicate that the owner and operating authority are collecting one treated water sample each week in order to comply with the regulatory requirement. Each of those samples were tested for E. Coli., total coliforms, and HPC.

Question ID	DWMR1081001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 10-2 | (1); SDWA | O. Reg. 170/03 | 10-2 | (2); SDWA | O. Reg. 170/03 | 10-2 | (3);

Question:
Were distribution microbiological sampling requirements prescribed by Schedule 10-2 of O. Reg. 170/03 for large municipal residential systems met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Distribution microbiological sampling requirements were met.

Subsection 10-2 of Schedule 10 of Ontario Regulation 170/03 requires that the owner of a drinking water system and the operating authority for the system shall ensure that if the system serves 100,000 people or less, at least eight distribution samples, plus one additional distribution sample for every 1,000 people served by the system, are taken every month, with at least one of the samples taken in each week. The owner of the drinking water system and the operating authority for the system shall ensure that each of the samples taken is tested for Escherichia coli and total coliforms and at least 25 per cent of the samples required to be taken are to be tested for general bacteria population expressed as colony counts on heterotrophic plate count (HPC).
The Brechin & Lagoon City drinking water system serves an estimated population of 2629 people. Therefore, 10 samples are required to be obtained monthly as a minimum requirement from within the distribution system.
Records provided for review period indicate that the owner and operating authority are collecting three distribution samples each week in order to comply with the regulatory requirement. Each of those samples were tested for E. Coli., total coliforms, and HPC.

Question ID	DWMR1096001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-3 | (1);

Question:
Did records confirm that chlorine residual tests were conducted at the same time and location as microbiological samples?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Records confirmed that chlorine residual tests were conducted as required.

Subsection 6-3(1) of Schedule 6 of Ontario Regulation 170/03 prescribes that if a microbiological sample required by the regulation is taken, that another sample must be taken at the same time from the same location and tested immediately for free chlorine residual. Records provided by the owner and reviewed during the course of this inspection indicate that the owner ensured that a free chlorine residual was taken at the time of all microbiological samples.
Operational staff recorded the free available chlorine residual tests directly on the Laboratory Sample Submission /Chain of Custody form at the same time that microbiological samples were obtained. The chlorine residuals associated with microbiological sample were then included by the laboratory on the analytical report associated with results of the microbiological test.

Question ID	DWMR1084001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 13-2;

Question:
Were inorganic parameter sampling requirements prescribed by Schedule 13-2 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Inorganic parameter sampling requirements were met.

Subsection 13-2(1) of Schedule 13 of Ontario Regulation 170/03 requires that the owner of a large municipal residential system and the operating authority for the system shall ensure that, at least one water sample is taken every 12 months and tested for every parameter set out in Schedule 23, if the system obtains water from a raw water supply that is surface water. Subsection 6-1.1(5) of Schedule 6 of Ontario Regulation 170/03 states that if this Regulation requires at least one water sample to be taken every 12 months and tested for a parameter, the owner of the drinking water system and the operating authority for the system shall ensure that at least one sample that is taken during a 12-month period for the purpose of being tested for that parameter is taken not more than 30 days before or after the first anniversary of the day a sample was taken for that purpose in the previous 12-month period. The most recent treated water samples tested for every Schedule 23 parameter were collected on August 5, 2025. Prior to that, samples were collected and tested for all parameters listed in Schedule 23 on August 6, 2024.

Question ID	DWMR1085001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 13-4 | (1); SDWA | O. Reg. 170/03 | 13-4 | (2); SDWA | O. Reg. 170/03 | 13-4 | (3);

Question:
Were organic parameter sampling requirements prescribed by Schedule 13-4 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Organic parameter sampling requirements were met.

Section 13-4 of Schedule 13 of Ontario Regulation 170/03 requires that the owner of a large municipal residential system and the operating authority for the system shall ensure that, at least one water sample is taken every 12 months and tested for every parameter set out in Schedule 24, if the system obtains water from a raw water supply that is surface water. Subsection 6-1.1(5) of Schedule 6 of Ontario Regulation 170/03 states that if this Regulation requires at least one water sample to be taken every 12 months and tested for a parameter, the owner of the drinking water system and the operating authority for the system shall ensure that at least one sample that is taken during a 12-month period for the purpose of being tested for that parameter is taken not more than 30 days before or after the first anniversary of the day a sample was taken for that purpose in the previous 12-month period. The most recent treated water samples tested for every Schedule 24 parameter were collected on August 5, 2025. Prior to that, samples were collected and tested for all parameters listed in Schedule 24 on August 6, 2024.

Question ID	DWMR1086001	Question Type	Legislative

Legislative Requirement(s):
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);

Question:
Were haloacetic acid sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Haloacetic acid sampling requirements were met.

Section 13-6.1 of Schedule 13 of Ontario Regulation 170/03 requires the owner and the operating authority to ensure that at least one distribution sample is taken every 3 months from a point in the drinking water system's distribution system, or in plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of haloacetic acids (HAA), and tested for haloacetic acids. Section 6-1.1 of Schedule 6, Ontario Regulation 170/03 requires that these samples be taken at least 60 days, and not more than 120 days: after a sample was taken for that purpose in the previous three-month period. Haloacetic acid sampling is typically conducted from the sampling stations

installed at locations of minimal distance from the treatment facility likely to have an elevated potential for the formation of haloacetic acids. The standard of 0.80 mg/L for HAA as a reportable limit came into effect on January 1, 2020.
Haloacetic acid sample results from the inspection review period ranged from 11.3 ug/L to 37.0 ug/L, and the running annual average for the most recent five samples was 24.3 ug/L.

Question ID	DWMR1087001	**Question Type**	Legislative

Legislative Requirement(s):
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);

Question:
Were trihalomethane sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Trihalomethane sampling requirements were met.

Section 13-6 of Schedule 13 of Ontario Regulation 170/03 requires the owner and the operating authority to ensure that at least one distribution sample is taken every 3 months from a point in the drinking water system's distribution system, or in plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of Trihalomethanes (THMs), and tested for THMs. Section 6-1.1 of Schedule 6 of Ontario Regulation 170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three-month period.
Trihalomethane testing is being completed in the Brechin & Lagoon City distribution system as required on a quarterly basis. A review of the results indicate that there are no exceedances of the running annual average. The sample locations are indicative of a long retention time in the distribution system. THM results ranged from 27 to 89 micrograms per Litre (ug/L). The running annual average of the four most recent quarterly samples collected is below the Ontario Drinking Water Quality Standard of 100 ug/L.

Question ID	DWMR1088001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 13-7;

Question:
Were nitrate/nitrite sampling requirements prescribed by Schedule 13-7 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Nitrate/nitrite sampling requirements were met.

Section 13-7 of Schedule 13 of Ontario Regulation 170/03 requires the owner and the operating authority to ensure that at least one water sample is taken every three months and

tested for nitrates and nitrites.
Section 6-1.1 of Schedule 6 of Ontario Regulation 170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three-month period.
Nitrate/nitrite testing is being completed in the Brechin & Lagoon City system as required on a quarterly basis. A review of the results indicates that there are no exceedances.

Question ID	DWMR1089001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 13-8;

Question:
Were sodium sampling requirements prescribed by Schedule 13-8 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Sodium sampling requirements were met.

Section 13-8 of Schedule 13 of Ontario Regulation 170/03 requires that the owner of a municipal residential drinking water system ensure that a treated water sample is taken every 60 months and is tested for sodium.
Section 6-1.1(7) of Schedule 6 of Ontario Regulation 170/03 states that if this Regulation requires at least one water sample to be taken every 60 months and tested for a parameter, the owner of the drinking water system and the operating authority for the system shall ensure that at least one sample that is taken during a 60-month period and for the purpose of being tested for that parameter is taken not more than 90 days before or after the fifth anniversary of the day a sample was taken for that purpose in the previous 60-month period.
The most recent treated water sample tested for sodium was collected on August 5, 2025, from the Brechin and Lagoon City Drinking Water System with a result of 39.3 mg/L. A resample was collected and tested for sodium on August 11, 2025, with a result of 40.0 mg/L. Sodium results greater than 20 mg/L are an ongoing occurrence for the Brechin and Lagoon City Drinking Water System.

Question ID	DWMR1090001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 13-9;

Question:
Where fluoridation is not practiced, were fluoride sampling requirements prescribed by Schedule 13-9 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Fluoride sampling requirements were met.

Section 13-9 of Schedule 13 of Ontario Regulation 170/03 requires the owner and the operating authority to ensure that at least one water sample is taken every 60 months and tested for fluoride.

The last fluoride sample was taken on August 3, 2022, with a value of 0.06 mg/L.

Question ID	DWMR1104001	Question Type	Legislative

Legislative Requirement(s):
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);

Question:
Were immediate verbal notification requirements for adverse water quality incidents met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Immediate verbal notification requirements for adverse water quality incidents were met.

The operating authority ensured that the reportable events which occurred during the inspection review period were reported as required. Specifically, the operating authority reported that the monthly average for filter effluent turbidity exceeded the permittable range in April of 2025, a Category 2 watermain break in May of 2025, and a sodium sample exceedance in August of 2025. The operating authority ensured that all required notifications were made, in accordance with the requirements of Schedule 16 of Ontario Regulation 170/03.

Question ID	DWMR1101001	Question Type	Legislative

Legislative Requirement(s):
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;

Question:
For large municipal residential systems, were corrective actions, including any steps directed by the Medical Officer of Health, taken to address adverse conditions?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Corrective actions were taken to address adverse conditions.

The operating authority ensured that the reportable events which occurred during the inspection review period were reported as required. Specifically, the operating authority reported that the monthly average for filter effluent turbidity exceeded the permittable range in April of 2025, a Category 2 watermain break in May of 2025, and a sodium sample exceedance in August of 2025. The operating authority ensured that all required corrective actions were taken, in accordance with the requirements of Schedule 17 of Ontario Regulation 170/03.

Question ID	DWMR1060001	Question Type	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Did the operations and maintenance manual(s) meet the requirements of the Municipal Drinking Water Licence?

Compliance Response(s)/Corrective Action(s)/Observation(s):
The operations and maintenance manual(s) met the requirements of the Municipal Drinking Water Licence.

Condition 16, Schedule B of the Licence prescribes that an up-to-date operations and maintenance manual or manuals shall be maintained and applicable parts of the manual or manuals shall be made available for reference to all persons responsible for all or part of the operation or maintenance of the drinking water system. Furthermore, the operations and maintenance manual(s) shall include at a minimum:
16.2.1 The requirements of this licence and associated procedures;
16.2.2 The requirements of the drinking water works permit for the drinking water system;
16.2.3 A description of the processes used to achieve primary and secondary disinfection within the drinking water system including where applicable:
a) A copy of the CT calculations that were used as the basis for primary disinfection under worst case operating conditions and other operating conditions, if applicable; and
b) The validated operating conditions for UV disinfection equipment, including a copy of the validation certificate;
16.2.4 Procedures for monitoring and recording the in-process parameters necessary for the control of any treatment subsystem and for assessing the performance of the drinking water system;
16.2.5 Procedures for the operation and maintenance of monitoring equipment;
16.2.6 Contingency plans and procedures for the provision of adequate equipment and material to deal with emergencies, upset conditions and equipment breakdown;
16.2.7 Procedures for dealing with complaints related to the drinking water system, including the recording of the nature of the complaint and any investigation and corrective action taken in respect of the complaint.
Procedures necessary for the operation and maintenance of any alterations to the drinking water system must also be incorporated into the operations and maintenance manual prior to the alterations coming into operation. All of the procedures included or referenced within the operations and maintenance manual must be implemented.
The operations and maintenance manual and the separate set of contingency plans for the drinking water system appear to address all of these topics sufficiently, providing the utility operators enough information to effectively operate the drinking water system. The operations and maintenance manuals, as well as the Contingency and Emergency Plan meet the requirements of the Licence and Permit for the facility. The manuals are kept up to date and revised as changes occur.

Question ID	DWMR1062001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 7-5;

Question:
Did records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment was done by a certified operator, water quality analyst, or person who met the requirements of Schedule 7-5 of O. Reg. 170/03?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was done by a certified operator, water quality analyst, or person who met the requirements of Schedule 7-5 of O. Reg. 170/03.

The logbooks of the drinking water system identify that only the certified utility operators are the individuals that are performing the operational tests throughout the system.

Question ID	DWMR1071001	Question Type	BMP

Legislative Requirement(s):
Not Applicable

Question:
Did the owner provide security measures to protect components of the drinking water system?

Compliance Response(s)/Corrective Action(s)/Observation(s):
The owner provided security measures to protect components of the drinking water system.

The distribution sample stations and the water treatment plant are kept locked. The treatment plant is also alarmed for forced entry. The elevated water storage tower in Brechin is kept locked and has a security fence surrounding it. No trespassing signage and the Township's contact information are prominently displayed at the water treatment building and the elevated water storage reservoir. The operating authority has a contingency plan to be used in the event of a security breach.

Question ID	DWMR1073001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 128/04 | 23 | (1);

Question:
Was an overall responsible operator designated for all subsystems which comprise the drinking water system?

Compliance Response(s)/Corrective Action(s)/Observation(s):
An overall responsible operator was designated for all subsystem.

In accordance with Ontario Regulation 128/04 (Certification of Drinking Water System Operators and Water Quality Analysts) made under the SDWA, the Brechin and Lagoon City

Drinking Water System is comprised of a Water Distribution and Supply Class I subsystem and a Water Treatment Class II subsystem.
At the time of this inspection, an individual possessing a Class III Water Treatment subsystem certificate and a Class III Water Distribution and Supply subsystem certificate has been designated to act in the capacity of Overall Responsible Operator (ORO). The operator acting as the ORO is indicated in the electronic logbook on each day that entries are made.

Question ID	DWMR1074001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 128/04 | 25 | (1);

Question:
Were operators-in-charge designated for all subsystems which comprise the drinking water system?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Operators-in-charge were designated for all subsystems.

In accordance with Ontario Regulation 128/04 (Certification of Drinking Water System Operators and Water Quality Analysts) made under the SDWA, the Brechin and Lagoon City Drinking Water System is comprised of a Water Distribution and Supply Class I subsystem and a Water Treatment Class II subsystem. The operator acting as the operator-in-charge (OIC) is indicated in the electronic logbook on each day that entries are made.

Question ID	DWMR1075001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 128/04 | 22;

Question:
Were all operators certified as required?

Compliance Response(s)/Corrective Action(s)/Observation(s):
All operators were certified as required.

Section 22 ('Owner or operating authority responsibility') of Ontario Regulation 128/04 ('Certification of Drinking Water Systems Operators and Water Quality Analysts') prescribes that the owner of a drinking water system and the operating authority for the system shall ensure that adjustments to the water treatment equipment are carried out only by certified operators or emergency substitute operators.
Operator certification records provided by the operating authority verify that all operators were certified as required, in accordance with the requirements of section 22 of Ontario Regulation 128/04.

Question ID	DWMR1076001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 1-2 | (2);

Question:
Were adjustments to the treatment equipment only made by certified operators?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Adjustments to the treatment equipment were only made by certified operators.

Section 1-2(2)(5) of Schedule 1 of Ontario Regulation 170/03 prescribes that the owner of a drinking water system and the operating authority for the system shall ensure that adjustments to the water treatment equipment are carried out only by certified operators or emergency substitute operators.
Operational records of the inspection review period verify that adjustments to the water treatment equipment were carried out only by certified operators, in accordance with the requirements of section 1-2(2)(5) of Schedule 1 of Ontario Regulation 170/03.

Ministry of the Environment, Conservation and Parks - Inspection Summary Rating Record (Reporting Year - 2025-26)

DWS Name:	BRECHIN & LAGOON CITY DRINKING WATER SYSTEM
DWS Number:	210001273
DWS Owner:	CORPORATION OF THE TOWNSHIP OF RAMARA
Municipal Location:	RAMARA
Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Compliance Assessment Start Date:	Nov-26-2025
Ministry Office:	Barrie District Office

Maximum Risk Rating: 492

Inspection Module	Non Compliance Risk (X out of Y)
Capacity Assessment	0/30
Certification and Training	0/42
Logbooks	0/14
Operations Manuals	0/14
Reporting & Corrective Actions	0/66
Source	0/0
Treatment Processes	0/214
Water Quality Monitoring	0/112
Overall - Calculated	**0/492**

Inspection Risk Rating:	**0.00%**

Final Inspection Rating:	**100.00%**

Inspection Rating Record Generated On 2026-01-19 (Inspection ID: 1-1434011624)

DWS Name:	BRECHIN & LAGOON CITY DRINKING WATER SYSTEM
DWS Number:	210001273
DWS Owner Name:	CORPORATION OF THE TOWNSHIP OF RAMARA
Municipal Location:	RAMARA
Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Compliance Assessment Start Date:	Nov-26-2025
Ministry Office:	Barrie District Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 492

Inspection Risk Rating:	**0.00%**

FINAL INSPECTION RATING:	**100.00%**

APPLICATION OF THE RISK METHODOLOGY USED FOR MEASURING MUNICIPAL RESIDENTIAL DRINKING WATER SYSTEM INSPECTION RESULTS

The Ministry of the Environment (MOE) has a rigorous and comprehensive inspection program for municipal residential drinking water systems (MRDWS). Its objective is to determine the compliance of MRDWS with requirements under the Safe Drinking Water Act and associated regulations. It is the responsibility of the municipal residential drinking water system owner to ensure their drinking water systems are in compliance with all applicable legal requirements.

This document describes the risk rating methodology, which has been applied to the findings of the Ministry's MRDWS inspection results since fiscal year 2008-09. The primary goals of this assessment are to encourage ongoing improvement of these systems and to establish a way to measure this progress.

MOE reviews the risk rating methodology every three years.

The Ministry's Municipal Residential Drinking Water Inspection Protocol contains 15 inspection modules consisting of approximately 100 regulatory questions. Those protocol questions are also linked to definitive guidance that ministry inspectors use when conducting MRDWS inspections.

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The questions address a wide range of regulatory issues, from administrative procedures to drinking water quality monitoring. The inspection protocol also contains a number of non-regulatory questions.

A team of drinking water specialists in the ministry assessed each of the inspection protocol regulatory questions to determine the risk (not complying with the regulation) to the delivery of safe drinking water. This assessment was based on established provincial risk assessment principles, with each question receiving a risk rating referred to as the Question Risk Rating. Based on the number of areas where a system is deemed to be non-compliant during the inspection, and the significance of these areas to administrative, environmental, and health consequences, a risk-based inspection rating is calculated by the ministry for each drinking water system.

It is important to be aware that an inspection rating less than 100 per cent does not mean the drinking water from the system is unsafe. It shows areas where a system's operation can improve. The ministry works with owners and operators of systems to make sure they know what they need to do to achieve full compliance.

The inspection rating reflects the inspection results of the specific drinking water system for the reporting year. Since the methodology is applied consistently over a period of years, it serves as a comparative measure both provincially and in relation to the individual system. Both the drinking water system and the public are able to track the performance over time, which encourages continuous improvement and allows systems to identify specific areas requiring attention.

The ministry's annual inspection program is an important aspect of our drinking water safety net. The ministry and its partners share a common commitment to excellence and we continue to work toward the goal of 100 per cent regulatory compliance.

Determining Potential to Compromise the Delivery of Safe Water

The risk management approach used for MRDWS is aligned with the Government of Ontario's Risk Management Framework. Risk management is a systematic approach to identifying potential hazards, understanding the likelihood and consequences of the hazards, and taking steps to reduce their risk if necessary and as appropriate.

The Risk Management Framework provides a formula to be used in the determination of risk:

RISK = LIKELIHOOD × CONSEQUENCE
(of the consequence)

Every regulatory question in the inspection protocol possesses a likelihood value (L) for an assigned consequence value (C) as described in **Table 1** and **Table 2**.

TABLE 1:

Likelihood of Consequence Occurring	Likelihood Value
0% - 0.99% (Possible but Highly Unlikely)	L = 0
1 – 10% (Unlikely)	L = 1
11 – 49% (Possible)	L = 2
50 – 89% (Likely)	L = 3
90 – 100% (Almost Certain)	L = 4

TABLE 2:

Consequence	Consequence Value
Medium Administrative Consequence	C = 1
Major Administrative Consequence	C = 2
Minor Environmental Consequence	C = 3
Minor Health Consequence	C = 4
Medium Environmental Consequence	C = 5
Major Environmental Consequence	C = 6
Medium Health Consequence	C = 7
Major Health Consequence	C = 8

The consequence values (0 through 8) are selected to align with other risk-based programs and projects currently under development or in use within the ministry as outlined in **Table 2**.

The Question Risk Rating for each regulatory inspection question is derived from an evaluation of every identified consequence and its corresponding likelihood of occurrence:

- All levels of consequence are evaluated for their potential to occur
- Greatest of all the combinations is selected.

The Question Risk Rating quantifies the risk of non-compliance of each question relative to the others. Questions with higher values are those with a potentially more significant impact on drinking water safety and a higher likelihood of occurrence. The highest possible value would be 32 (4×8) and the lowest would be 0 (0×1).

Table 3 presents a sample question showing the risk rating determination process.

TABLE 3:

Does the Operator in Charge ensure that the equipment and processes are monitored, inspected and evaluated?							
Risk = Likelihood × Consequence							
C=1	C=2	C=3	C=4	C=5	C=6	C=7	C=8
Medium Administrative Consequence	**Major** Administrative Consequence	**Minor** Environmental Consequence	**Minor** Health Consequence	**Medium** Environmental Consequence	**Major** Environmental Consequence	**Medium** Health Consequence	**Major** Health Consequence
L=4 (Almost Certain)	L=1 (Unlikely	L=2 (Possible)	L=3 (Likely)	L=3 (Likely)	L=1 (Unlikely	L=3 (Likely)	L=2 (Possible)
R=4	**R=2**	**R=6**	**R=12**	**R=15**	**R=6**	**R=21**	**R=16**

Application of the Methodology to Inspection Results

Based on the results of a MRDWS inspection, an overall inspection risk rating is calculated. During an inspection, inspectors answer the questions related to regulatory compliance and input their "yes", "no" or "not applicable" responses into the Ministry's Laboratory and Waterworks Inspection System (LWIS) database. A "no" response indicates non-compliance. The maximum number of regulatory questions asked by an inspector varies by: system (i.e., distribution, stand-alone); type of inspection (i.e., focused, detailed); and source type (i.e., groundwater, surface water).

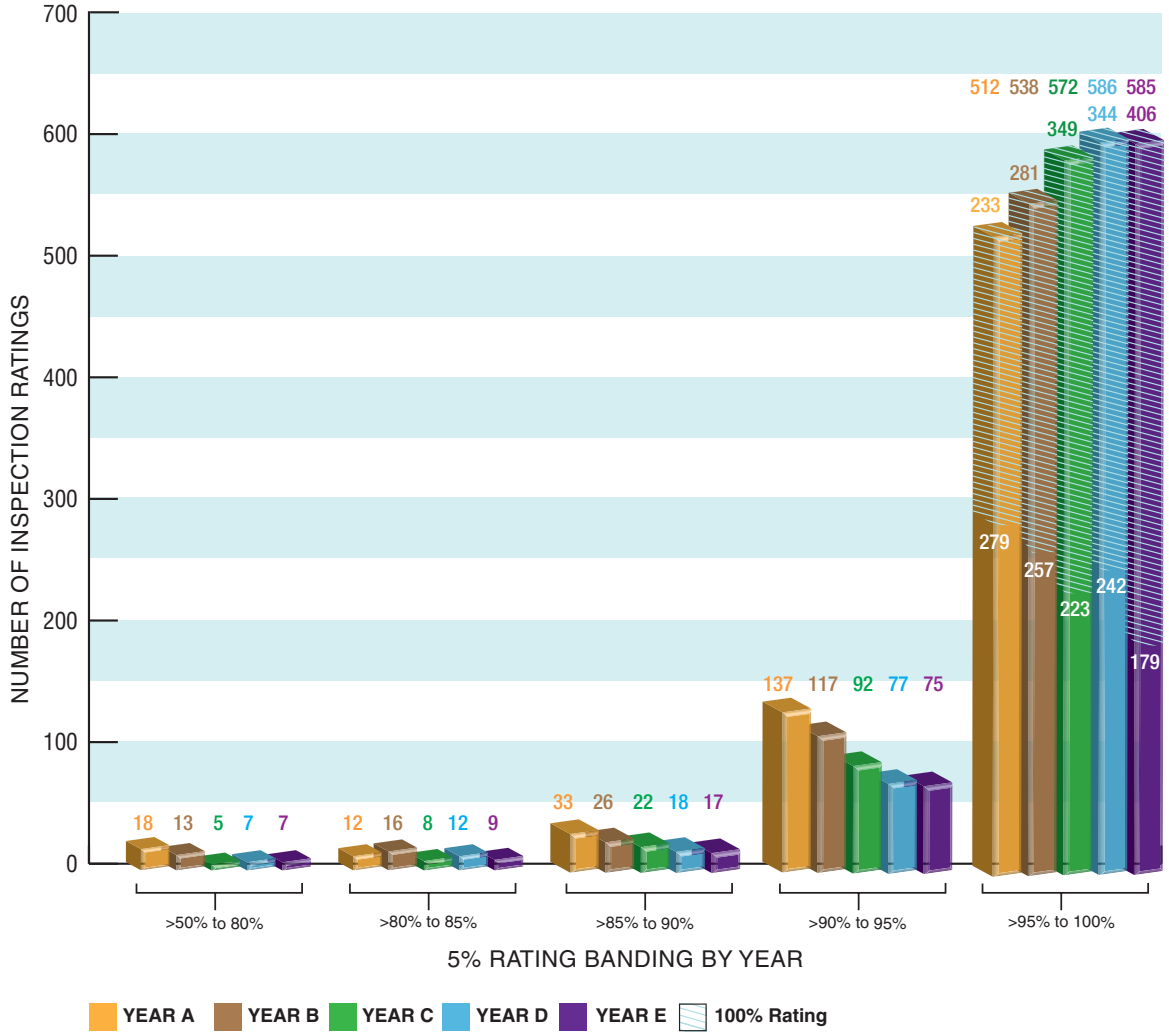
The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

Application of the Methodology for Public Reporting

The individual MRDWS Total Inspection Ratings are published with the ministry's Chief Drinking Water Inspector's Annual Report.

Figure 1 presents the distribution of MRDWS ratings for a sample of annual inspections. Individual drinking water systems can compare against all the other inspected facilities over a period of inspection years.

Figure 1: Year Over Year Distribution of MRDWS Ratings



Reporting Results to MRDWS Owners/Operators

A summary of inspection findings for each system is generated in the form of an Inspection Rating Record (IRR). The findings are grouped into the 15 possible modules of the inspection protocol, which would provide the system owner/operator with information on the areas where they need to improve. The 15 modules are:

1. Source
2. Permit to Take Water
3. Capacity Assessment
4. Treatment Processes
5. Treatment Process Monitoring
6. Process Wastewater
7. Distribution System
8. Operations Manuals
9. Logbooks
10. Contingency and Emergency Planning
11. Consumer Relations
12. Certification and Training
13. Water Quality Monitoring
14. Reporting, Notification and Corrective Actions
15. Other Inspection Findings

For further information, please visit **www.ontario.ca/drinkingwater**