

Drinking Water and Environmental
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July 26, 2021

File no. SI-MI-MC-GW-540

The Municipality of Middlesex Centre
R.R. #2, 10227 Ilderton Road
Ilderton, ON N0M 2A0

Attention: Mr. Eric Joudrey, Manager of Water and Wastewater Operations

Re: Birr Drinking Water System Inspection Report (WW# 260005492)
Inspection conducted on June 16, 2021

Dear Mr. Joudrey,

The enclosed Drinking Water Inspection Report outlines non-compliance, if any, with Ministry legislation, and policies for the above noted water system. Violations noted in this report, if any, have been evaluated based on community risk. These violations will be monitored for compliance with the minimum standards for drinking water in Ontario as set forth under the *Safe Drinking Water Act* and associated regulations. Where risk is deemed to be high and/or compliance is an ongoing concern, violations will be forwarded to this Ministry's Investigation and Enforcement Branch.

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation & Enforcement (II&E) Secretariat and advice of internal/external risk experts. The Inspection Summary Rating Record (IRR) provides the Ministry, the system owner and the local Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance.

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 council*" found under "Resources" on the Drinking Water Ontario website at www.ontario.ca/drinkingwater.

Please note the attached IRR methodology memo describing how the risk rating model has improved to better reflect the health related and administrative non-compliance found in an inspection report. IRR ratings are published (for the previous inspection year) in the Ministry's Chief Drinking Water Inspector's Annual Report. **Please note that due to a change in IT systems, the Inspection Rating Report (IRR) cannot be generated at the same time as the inspection report. The IRR will be sent separately and prior to any public release (typically within 1-2 month of the completion of the inspection).**

If you have any questions regarding the report, please feel free to call me at (519) 281-2237.

Yours truly,

A handwritten signature in black ink, appearing to read "N. Rising".

Neville Rising, P.Eng.
Provincial Officer
London District Office

cc. Middlesex London Health Unit
Upper Thames River Conservation Area
London District File



BIRR DRINKING WATER SYSTEM
15 GWENDOLYN ST, MIDDLESEX CENTRE, ON, N0M 1P0
Inspection Report

System Number: 220005492
Inspection Start Date: 07/26/2021
Inspection End Date: 07/26/2021
Inspected By: Neville Rising
Badge #: 1039

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(signature)

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: Security

Question ID	MRDW1069000	
Question	Question Type	Legislative Requirement
Are all storage facilities completely covered and secure?	BMP	Not Applicable
Observation/Corrective Action(s)		
<p>All storage facilities were not completely covered and secure.</p> <p>At the time of the site inspection the hatch cover for the reservoir was observed to be rusted and degraded on one corner and in need of repair.</p> <p>Corrective Actions: It is strongly recommended that the Owner / Operating Authority immediately repair the damage to the existing reservoir hatch to mitigate the entry of foreign material to the reservoir as recommended by the Recommended Standards for Waterworks - Section 7.0 Finished Water Storage. Upon completion of this work, the Owner / Operating Authority shall forward documentation describing the work completed on the reservoir hatch to Neville Rising of the MECP.</p>		

Question ID	MRDW1071000	
Question	Question Type	Legislative Requirement
Has the owner provided security measures to protect components of the drinking water system?	BMP	Not Applicable
Observation/Corrective Action(s)		
<p>The owner had not provided security measures to protect components of the drinking water system. The Treatment Plant remains locked at all times and is equipped with an entry alarm which is connected to a dialing system to alert the Operating Authority / Owner of unathourized entry. It is visited daily and the property on which the Treatment Plant is located is fully fenced and locked to mitigate unwanted access to the Treatment Plant property.</p> <p>According to the Operating Authority, security of the SCADA system is based solely from their Internet provider.</p> <p>Corrective Actions: It is recommended that the Owner / Operating Authority assess the current state of their cyber-security to protect the confidentiality and integrity of transmitted information and deter identity theft by outside attackers as referenced in the 2012 Edition of the Recommended Standards for Waterworks</p>		

INSPECTION DETAILS

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

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

Question ID	MRDW1001000	
Question	Question Type	Legislative Requirement
What was the scope of this inspection?	Information	Not Applicable
Observation		
<p>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.</p> <p>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.</p> <p>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.</p> <p>As part of the inspection, several documents were reviewed to support the conclusions and inferences presented within this report. Generally, these include but are not limited to:</p> <ol style="list-style-type: none"> 1. Birr Water Treatment System, Operations and Maintenance Manual revised June 2021. 2. Permit to Take Water PTTW #3415-A3JHTY dated October 30, 2015 3. Drinking Water Works Permit #052-204, Issue #3 dated December 16, 2016 4. Municipal Drinking Water License #052-104, Issue #6 dated October 30, 2017 5. Municipal Drinking Water License #052-104, Issue #7 dated April 23, 2021 <p>Other documents reviewed include microbiological and chemical testing results, logsheets, etc. It should be noted that this inspection covers the period from August 1, 2020 to May 31, 2021. The physical inspection was conducted on June 16, 2021 and included a site visit to the water treatment plant and wells. There are no other outstations associated with this water system.</p>		

Question ID	MRDW1000000	
Question	Question Type	Legislative Requirement
Does this drinking water system provide primary disinfection?	Information	Not Applicable

Observation
<p>This Drinking Water System provides for both primary and secondary disinfection and distribution of water.</p> <p>The water system provides primary disinfection through the injection of liquid sodium hypochlorite and sufficient contact time by way of reservoirs. Critical parameters associated with primary disinfection include the measurement of the concentration of free chlorine, the reservoir water levels, and the flow rate through the system.</p>

Question ID	MRDW1007000	
Question	Question Type	Legislative Requirement
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	SDWA O. Reg. 170/03 1-2 (1)
Observation		
<p>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.</p> <p>Well #2 was drilled and completed on July 3, 2015 and came into service on December 3, 2015. At the time of the inspection it was noted that Well #2 had a securely mounted well cap and the electrical conduit was securely screwed into the well cap. There were no depressions around the well into which water could pond, and both vents were fitted with appropriate screens. In addition, there are concrete barriers placed around the well for protection from vehicles.</p>		

Question ID	MRDW1009000	
Question	Question Type	Legislative Requirement
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	SDWA 31 (1)
Observation		
<p>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.</p> <p>As required by Municipal Drinking Water License #052-104 – Issue #6 and #7, a well inspection and maintenance plan has been prepared for the Birr Production Well and includes the following: an inspection schedule for all wells associated with the water treatment system(s); defined well inspection and maintenance procedures for the entire well structure of each well, including all above and below grade well components; and remedial action plans for situations where an inspection indicates non-compliance with respect to regulatory requirements and/or risk to raw well water quality. The Owner / Operating Authority conducts a monthly inspection of the well and maintains records related to the inspections.</p>		

In addition, concrete barriers are in place in the vicinity of the Production Well to protect against vehicular traffic in the area.

Question ID	MRDW1010000	
Question	Question Type	Legislative Requirement
Are trends in source water quality being monitored?	BMP	Not Applicable
Observation		
Trends in source water quality were being monitored.		
As required by Ontario Regulation 170/03, the Operating Authority collects and analyzes raw water samples from the Production Well on a monthly basis. In addition, the Operating Authority collects raw water samples on an annual basis for other parameters including total suspended solids, bicarbonate, carbonate, hydrogen sulphide, iron and manganese.		

Question ID	MRDW1014000	
Question	Question Type	Legislative Requirement
Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?	Legislative	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.		
Municipal Drinking Water License #052-104 – Issue #6 and #7, Section 2 of Schedule C stipulates that the flow entering the Treatment Plant, and leaving the Treatment Plant to the distribution system must be measured and recorded. At the time of the site visit, the water system was equipped with both raw and treated water flow meters.		

Question ID	MRDW1015000	
Question	Question Type	Legislative Requirement
Are the flow measuring devices calibrated or verified in accordance with the requirements of the MDWL issued under Part V of the SDWA?	Legislative	SDWA 31 (1)
Observation		
The flow measuring devices were calibrated or verified in accordance with the requirements of the MDWL issued under Part V of the SWDA.		
Municipal Drinking Water License #052-104, Issue #6 and #7, Schedule C – Section 3.0 stipulates that all flow measuring devices must be calibrated in accordance with the manufacturer's instructions, and in the event that the manufacturer's instructions do not indicate how often to check and calibrate a flow measuring device, then the equipment must be calibrated at least once every 12 months.		

Condition 3.2.1 of the Municipal Drinking Water Licence further stipulates the following in reference to the 12 month period referenced in Condition 3.2:

"For greater certainty, if condition 3.2 applies, the equipment shall be checked and calibrated not more than 30 days after the first anniversary of the day the equipment was checked and calibrated in the previous 12 month period."

The Operating Authority provided flow calibration records for the distribution and raw water flow meter dated October 15, 2021. The records also indicated that the next scheduled calibration of the flow meters is October 2021.

Question ID	MRDW1016000	
Question	Question Type	Legislative Requirement
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	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.		
Municipal Drinking Water License #052-104 – Issue #6 and #7, Section 1 of Schedule C stipulates that the maximum flow of treated water from the Treatment Plant to the distribution system must not exceed 88.4 cubic meters per day. Over the course of the inspection period, this maximum daily flow was not exceeded.		

Question ID	MRDW1013000	
Question	Question Type	Legislative Requirement
Is the owner in compliance with all conditions of the PTTW?	Legislative	OWRA 34 (3)
Observation		
The owner was in compliance with all conditions of the PTTW.		
According to Permit to Take Water # 3415-A3JHTY dated October 30, 2015, there are several monitoring and reporting requirements associated with the operation of the Production Well. Generally stated, the Owner / Operating Authority shall ensure the following:		
<ol style="list-style-type: none"> 1. Records are maintained of water taking from the Production Well. 2. The Production Well can operate no longer than 18 hours per day. 3. The daily maximum volume from each well is limited to 88.376 m³/day (82 L/min) 4. Static water levels are measured on a monthly basis from the Production Well. 		

Over the course of the inspection period, the aforementioned conditions associated with the Permit to Take Water were met with.

Question ID	MRDW1030000	
Question	Question Type	Legislative Requirement
Is primary disinfection chlorine monitoring being conducted at a location approved by MDWL and/or DWWP issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved?	Legislative	SDWA O. Reg. 170/03 7-2 (1), SDWA O. Reg. 170/03 7-2 (2)
Observation		
<p>Primary disinfection chlorine monitoring was conducted at a location approved by Municipal Drinking Water Licence and/or Drinking Water Works Permit issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved.</p> <p>The online free chlorine analyzer draws water for measurement from a location just downstream of the reservoir, and just before the water enters into the distribution system. This is the location where the calculated contact time should be achieved, and also from where the calculations for primary disinfection are made.</p> <p>It should be noted that there are 74 metres of 150 mm chlorine contact pipe with a service line for free chlorine monitoring back to the water plant, located downstream of the reservoir that can be used for primary disinfection if needed. However, some modifications to the plumbing in the treatment plant would be required to bypass the reservoir in the event it was not in service. This is referenced in the Operations and Maintenance Manual</p>		

Question ID	MRDW1038000	
Question	Question Type	Legislative Requirement
Is continuous monitoring equipment that is being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format?	Legislative	SDWA O. Reg. 170/03 6-5 (1) 1-4
Observation		
<p>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 specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format.</p> <p>Generally stated, the Owner / Operating Authority provided online data including readings of free chlorine, well flow rates, distribution flow rates, turbidity and the reservoir level. The aforementioned data was provided in one minute time intervals to correspond with the polling rate of the equipment.</p> <p>It should be noted that between January 28 and 31, 2021, there were two occasions when</p>		

approximately one hour worth of online data was not presented within the online data, however, the Operating Authority was able to retrieve the chlorine concentrations over this time period directly from the online analyzer which has an internal memory card.

Question ID	MRDW1036000	
Question	Question Type	Legislative Requirement
Where continuous monitoring equipment is not used for chlorine residual analysis, are samples tested using an acceptable portable device?	Legislative	SDWA O. Reg. 170/03 6-7 (1)
Observation		
Samples for chlorine residual analysis were tested using an acceptable portable device.		
The Operating Authority uses Hach pocket colorimeters.		

Question ID	MRDW1037000	
Question	Question Type	Legislative Requirement
Are all continuous monitoring equipment utilized for sampling and testing required by O. Reg.170/03, or MDWL or DWWP or order, equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6?	Legislative	SDWA O. Reg. 170/03 6-5 (1) 1-4,SDWA O. Reg. 170/03 6-5 (1)5-10,SDWA O. Reg. 170/03 6-5 (1.1)
Observation		
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, were equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.		
According to discussions with the Operating Authority, alarms and automatic shut off mechanisms are engaged within the Treatment Plant in the event of unusual activities.		
The following alarm settings are programmed in the instruments at this time, but it is recognized that these setpoints are subject to change based on operating conditions:		
<ol style="list-style-type: none"> 1. Low Free Chlorine = 0.50 mg/L 2. High Free Chlorine = 2.25 mg/L 3. Low Reservoir = 2.25 m 4. High Reservoir = 3.65 m 5. Low Reservoir, Distribution Pump Shut Off Level = 1.13 m 		
There are additional alarms which aid in the operation of the water system.		

Question ID	MRDW1035000	
Question	Question Type	Legislative Requirement
Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?	Legislative	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.		
The Operating Authority typically reviews the online data on a daily basis.		

Question ID	MRDW1040000	
Question	Question Type	Legislative Requirement
Are all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?	Legislative	SDWA O. Reg. 170/03 6-5 (1) 1-4,SDWA O. Reg. 170/03 6-5 (1)5-10
Observation		
All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.		
All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation. The Owner / Operating Authority indicated that the portable chlorine analyzers used at the Middlesex Centre Treatment Plants are calibrated on an annual basis by an outside contractor and were last calibrated in October 2019 and September 2020. The Operating Authority advised that the online continuous analyzers are calibrated / verified against the hand held portable meters on a daily basis. This information was also presented on the systems logsheets. Lastly, the Operating Authority conducts monthly checks of the portable chlorine meters against verification standards to ensure the accuracy of these meters is maintained.		

Question ID	MRDW1108000	
Question	Question Type	Legislative Requirement
Where continuous monitoring equipment used for the monitoring of free chlorine residual, total chlorine residual, combined chlorine residual or turbidity, required by Regulation 170, an Order, MDWL, or DWWP issued under Part V, SDWA, has triggered an alarm or an automatic shut-off, did a qualified person respond in a timely manner and	Legislative	SDWA O. Reg. 170/03 6-5 (1) 1-4,SDWA O. Reg. 170/03 6-5 (1)5-10,SDWA O. Reg. 170/03

take appropriate actions?		6-5 (1.1)
Observation		
Where required continuous monitoring equipment used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person responded in a timely manner and took appropriate actions.		

Question ID	MRDW1031000	
Question	Question Type	Legislative Requirement
Are operators aware of the operational criteria necessary to achieve primary disinfection within the drinking water system?	BMP	Not Applicable
Observation		
Operators were aware of the operational criteria necessary to achieve primary disinfection within the drinking water system.		
The Operating Authority are aware that primary disinfection is achieved through the use of sodium hypochlorite (liquid chlorine) and contact time. Under the worst case scenario, the current operational criteria are as follows:		
Normal Operations – CT is achieved in the Contact Reservoir		
<ul style="list-style-type: none"> - CT > 4 - Maximum Flow Rate < 2.72 L/sec (based on combined treated water pump rate) - Minimum Reservoir Depth > 1.15 m - Total Reservoir Volume > 14.64 m³ - Baffling factor = 0.5 - Minimum Required Chlorine Concentration > 0.09 mg/L 		
It should be noted that any change to the aforementioned operational criteria would necessitate re-calculating whether or not primary disinfection has been met with. In addition, the operational staff would require training on the new operational criteria if it was to change.		

Question ID	MRDW1034000	
Question	Question Type	Legislative Requirement
Is the secondary disinfectant residual measured as required for the small municipal residential distribution system?	Legislative	SDWA O. Reg. 170/03 7-2 (5), SDWA O. Reg. 170/03 7-2 (6)
Observation		
The secondary disinfectant residual was measured as required for the distribution system.		
According to the documentation provided for review, the Operating Authority typically collects at least two samples per week for free chlorine residual testing. Generally stated, these samples are		

collected according to the requirements prescribed by Ontario Regulation 170/03 – Schedule 7-2 (5) where one sample is collected on one day in a week and another sample is collected later in the same week, at least 48 hours from when the first sample was collected.

Question ID	MRDW1018000	
Question	Question Type	Legislative Requirement
Has the owner ensured that all equipment is installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?	Legislative	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.		

Question ID	MRDW1021000	
Question	Question Type	Legislative Requirement
Is the owner/operating authority able to demonstrate that, when required during the inspection period, Form 2 documents were prepared in accordance with their Drinking Water Works Permit?	Legislative	SDWA 31 (1)
Observation		
The owner/operating authority was in compliance with the requirement to prepare Form 2 documents as required by their Drinking Water Works Permit during the inspection period.		
Over the course of the inspection period, there were two Form 2 documents submitted including:		
1. April 19, 2021 – Replaced 2 inch piping and sample tap, raw chlorine injector and chemical line, and 1 inch isolation valve on the bypass sample line		
2. June 4, 2021 – Replaced ¼ inch supply piping to pressure switch and replaced pressure gauge.		

Question ID	MRDW1023000	
Question	Question Type	Legislative Requirement
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	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 Ontario Regulation 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.

According to the contents of the Operations and Maintenance Manual, a more recent CT calculation and discussions with the Operating Authority, the water system is configured with a 51 cubic meter in-ground contact chamber which provides residence time to ensure adequate primary disinfection is met. Under standard conditions for a groundwater system, adequate primary disinfection when using sodium hypochlorite, is met with when the system provides a minimum contact time of 15 minutes and the concentration of free chlorine is at least 0.2 mg/L. The normal operating conditions associated with primary disinfection for the Treatment Plant are presented below:

Normal Operations – CT is achieved in the Contact Reservoir (Worst Case)

- CT > 4
- Maximum Flow Rate < 2.72 L/sec (based on combined treated water pump rate)
- Minimum Reservoir Depth > 1.15 m
- Total Reservoir Volume > 14.64 m³
- Baffling factor = 0.5
- Minimum Required Chlorine Concentration > 0.09 mg/L

According to the Operating Authority, the Treatment Plant ran under normal operating conditions over the inspection period. The minimum concentration of free chlorine was consistently greater than 0.09 mg/L, and the maximum flow rate recorded was consistently less than 2.72 L/sec, with the exception of rare, acceptable instances such as flow meter calibrations. In addition, the Operating Authority provided reservoir levels which were all greater than 1.15 m. As such, it is inferred that the Treatment Plant was operated in a manner that met with adequate primary disinfection over the course of the inspection period.

Question ID	MRDW1024000	
Question	Question Type	Legislative Requirement
Do records confirm 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?	Legislative	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 daily logsheets for the inspection period show that the chlorine residual was collected at least two times per week and that the free chlorine residual was never below 0.05 mg/L.		

Question ID	MRDW1027000	
Question	Question Type	Legislative Requirement
Does the owner have evidence indicating that all chemicals and materials which come in contact with water within the drinking water system have met all applicable AWWA and ANSI standards in accordance with the DWWP and MDWL issued under Part V of the SDWA?	Legislative	SDWA 31 (1)
Observation		
<p>The owner had evidence indicating that all chemicals and materials that come in contact with water within the drinking water system met the AWWA and ANSI standards in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.</p> <p>The Owner / Operating Authority provided documentation from their chemical supplier that the sodium hypochlorite used at the water plant and identified as Anchlor 12, is NSF / ANSI 60 certified with a maximum concentration of 60 mg/L.</p>		

Question ID	MRDW1028000	
Question	Question Type	Legislative Requirement
Are up-to-date plans for the drinking water system kept in place, or made available in such a manner, that they may be readily viewed by all persons responsible for all or part of the operation of the drinking water system in accordance with the DWWP and MDWL issued under Part V of the SDWA?	Legislative	SDWA 31 (1)
Observation		
<p>Up-to-date plans for the drinking water system were kept in a place, or made available in such a manner, that they could be readily viewed by all persons responsible for all or part of the operation of the drinking water system in accordance with the DWWP and MDWL issued under Part V of the SDWA.</p> <p>The Owner / Operating Authority provided process instrumentation diagrams for the Treatment Plant dated September 18, 2019 which are understood to be representative of the current configuration at the site. In addition, the Owner / Operating Authority provided an updated map of the distribution system dated May 14, 2020.</p>		

Question ID	MRDW1045000	
Question	Question Type	Legislative Requirement
Has the owner updated the document describing the distribution components within 12 months of completion of alterations to the system?	Legislative	SDWA 31 (1)
Observation		

The owner had up-to-date documents describing the distribution components as required.

Schedule A - Table 1 of the DWWP indicates the distribution map presenting watermain information is dated April 4, 2016. Since the issuance of the DWWP in 2016, the Owner / Operating Authority has updated the map of the distribution system. The current date of the updated map is May 14, 2020.

Question ID	MRDW1046000	
Question	Question Type	Legislative Requirement
Is there a backflow prevention program, policy and/or bylaw in place that addresses cross connections and connections to high hazard facilities?	BMP	Not Applicable
Observation		
There is a backflow prevention program, policy and/or bylaw in place.		
Part 9 of Water Use Bylaw 2018-028 presents information related to cross connections and backflow prevention as associated with the water system. Generally stated, this bylaw stipulates that no person shall connect to the water system in a manner that could introduce contamination. The bylaw also authorizes municipal staff access to premises where water is supplied for the purposes of inspection, repair, altering or disconnection of service.		

Question ID	MRDW1047000	
Question	Question Type	Legislative Requirement
Does the owner have a program or maintain a schedule for routine cleanout, inspection and maintenance of reservoirs and elevated storage tanks within the distribution system?	BMP	Not Applicable
Observation		
The owner had a program or maintained a schedule for routine cleanout, inspection and maintenance of reservoirs and elevated storage tanks within the distribution system.		
An inspection of the reservoir was completed by a contractor in April 2016 at which time the reservoir was determined to be in relatively good condition. The Owner / Operating Authority advised that inspections and cleaning (as needed) of the reservoir is completed every five years. It is understood that the Owner / Operating Authority has scheduled an inspection of the reservoir for 2021.		

Question ID	MRDW1048000	
Question	Question Type	Legislative Requirement
Has the owner implemented a program for the flushing of watermains as per industry standards?	BMP	Not Applicable
Observation		

The owner had implemented a program for the flushing of watermains as per industry standards.

The Owner / Operating Authority advised that the distribution system is flushed on an annual basis from the two blowoff valves connected to the system.

Question ID	MRDW1049000	
Question	Question Type	Legislative Requirement
Do records confirm that disinfectant residuals are routinely checked at the extremities and dead ends of the distribution system?	BMP	Not Applicable
Observation		
Records confirmed that disinfectant residuals were routinely checked at the extremities and "dead ends" of the distribution system.		
Free chlorine residual testing is typically conducted the sampling station which is essentially at the end of the distribution main.		

Question ID	MRDW1050000	
Question	Question Type	Legislative Requirement
Is there a program in place for inspecting and exercising valves?	BMP	Not Applicable
Observation		
A program was in place for inspecting and exercising valves.		
The Owner / Operating Authority advised two blowoff valves are exercised on an annual basis with the flushing program.		

Question ID	MRDW1052000	
Question	Question Type	Legislative Requirement
Is there a by-law or policy in place limiting access to hydrants?	BMP	Not Applicable
Observation		
There was a by-law or policy in place limiting access to hydrants.		
Part 11 of Water Use Bylaw 2018-028 prohibits access to fire hydrants to those without lawful authority to do so. It should be noted however, that there are no hydrants associated with the Birr water system.		

Question ID	MRDW1053000	
Question	Question	Legislative

	Type	Requirement
Is the Owner able to maintain proper pressures in the distribution system and is pressure monitored to alert the operator of conditions which may lead to loss of pressure below the value under which the system is designed to operate?	BMP	Not Applicable
Observation		
The owner was able to maintain proper pressures in the distribution system and pressure was monitored to alert the operator of conditions which may lead to loss of pressure below the value under which the system is designed to operate.		
Although pressure is not monitored within the distribution system itself, it is measured at the Treatment Plant which is generally representative of the distribution system given its small size.		

Question ID	MRDW1058000		
Question	Question Type	Legislative Requirement	
Do operators and maintenance personnel have ready access to operations and maintenance manuals?	Legislative	SDWA O. Reg. 128/04 28	
Observation			
Operators and maintenance personnel had ready access to operations and maintenance manuals.			
The Operations and Maintenance Manual is stored within the Treatment Plant and is also available in a digital file format for the Operating Authority. The most recent update to the manual is dated June 2021.			

Question ID	MRDW1063000		
Question	Question Type	Legislative Requirement	
For every required operational test and for every required sample, is a record made of the date, time, location, name of the person conducting the test and result of the test?	Legislative	SDWA O. Reg. 170/03 6-10 (1)	
Observation			
For every required operational test and every required sample, a record was made of the date, time, location, name of the person conducting the test and result of the test.			

Question ID	MRDW1064000		
Question	Question Type	Legislative Requirement	
Did the operator-in-charge ensure that records were maintained of all adjustments made to the processes within his or her responsibility?	Legislative	SDWA O. Reg. 128/04 26 (2)	
Observation			
The operator-in-charge ensured that records were maintained of all adjustments made to the			

processes within his or her responsibility.

Question ID	MRDW1065000	
Question	Question Type	Legislative Requirement
Are logs and other record keeping mechanisms available for at least five (5) years?	Legislative	SDWA O. Reg. 128/04 27 (6)
Observation		
Logs or other record keeping mechanisms were available for at least five (5) years.		

Question ID	MRDW1059000	
Question	Question Type	Legislative Requirement
Do the operations and maintenance manuals contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system?	Legislative	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	Question Type	Legislative Requirement
Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?	Legislative	SDWA 31 (1)
Observation		
<p>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.</p> <p>Municipal Drinking Water Licence # 052-104, Issue #6 and #7, Schedule B, Section 16.2 stipulates that an Operations and Maintenance Manuals must include, at a minimum, the following:</p> <p>16.2.1 - The requirements of this licence and associated procedures;</p> <p>16.2.2 - The requirements of the drinking water works permit for the drinking water system;</p> <p>16.2.3 - A description of the processes used to achieve primary and secondary disinfection within the drinking water system, including where applicable:</p> <p>a) A copy of the CT calculations that were used as the basis for primary disinfection under worst case operating conditions; and</p> <p>b) The validated operating conditions for UV disinfection equipment, including a copy of the</p>		

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;

16.2.8 - An inspection schedule for all wells associated with the drinking water system, including all production wells, standby wells, test wells and monitoring wells;

16.2.9 - Well inspection and maintenance procedures for the entire well structure of each well including all above and below grade well components; and

16.2.10 - Remedial action plans for situations where an inspection indicates noncompliance with respect to regulatory requirements and/or risk to raw well water quality

Generally stated, the aforementioned required elements were present within the Operations and Maintenance Manual.

Question ID	MRDW1061000	
Question	Question Type	Legislative Requirement
Are logbooks properly maintained and contain the required information?	Legislative	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.		

The logbooks identify the ORO and the OIC for the day. In addition, the time at which the Operator conducted their duties, and the duties and checks performed were recorded within the logbooks. The Operating Authority also completed daily logsheets of standard activities including but not limited to: pump run time, raw and treated water flow, chlorine residual, turbidity and chlorine tank level.

The system is equipped with a paperless recorder to log the data from the online meters. This information is reviewed on a daily basis, and Middlesex Centre utilizes an ERIS Reporting system which provides summaries of the online data on which the Operators can sign off on their review of the data and add comments in the event of any unusual readings.

Question ID	MRDW1062000	
Question	Question Type	Legislative Requirement
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	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.		
All staff members working at the drinking water system are Certified Operators.		

Question ID	MRDW1066000	
Question	Question Type	Legislative Requirement
Is spill containment provided for process chemicals and standby power generator fuel?	BMP	Not Applicable
Observation		
Spill containment was provided for process chemicals and/or standby power generator fuel.		
Sodium hypochlorite (liquid chlorine) is stored within a designated and labelled container in the central part of the plant. This container is located within a secondary containment unit.		
There is a small portable generator at the Treatment Plant which contains a limited amount of fuel. There was no evidence of spillage associated with its infrequent operation. This generator is assessed on a monthly basis and annually by a contractor to ensure it is functioning properly.		

Question ID	MRDW1067000	
Question	Question Type	Legislative Requirement

elevated storage structures equipped with screens?		
Observation		
Air vents and overflows associated with reservoirs and elevated storage structures were equipped with screens.		
At the time of the site visit, there were appropriate screens on the vents associated with the production well, and also the reservoir. The Owner / Operating Authority advised that the reservoir is not fitted with an overflow.		

Question ID	MRDW1071000	
Question	Question Type	Legislative Requirement
Has the owner provided security measures to protect components of the drinking water system?	BMP	Not Applicable
Observation		
The owner had not provided security measures to protect components of the drinking water system. The Treatment Plant remains locked at all times and is equipped with an entry alarm which is connected to a dialing system to alert the Operating Authority / Owner of unathourized entry. It is visited daily and the property on which the Treatment Plant is located is fully fenced and locked to mitigate unwanted access to the Treatment Plant property.		
According to the Operating Authority, security of the SCADA system is based solely from their Internet provider.		
Corrective Actions: It is recommended that the Owner / Operating Authority assess the current state of their cyber-security to protect the confidentiality and integrity of transmitted information and deter identity theft by outside attackers as referenced in the 2012 Edition of the Recommended Standards for Waterworks		

Question ID	MRDW1072000	
Question	Question Type	Legislative Requirement
Has the owner and/or operating authority undertaken efforts to promote water conservation and reduce water losses in their system?	BMP	Not Applicable
Observation		
The owner and/or operating authority undertook efforts to promote water conservation and reduce water losses in their system.		
Part 10 (Water Conservation) of Water Use Bylaw 2018-028 stipulates that no person shall improperly waste water. In addition, the bylaw also stipulates that during the period from June 1		

to September 15, the external use of water is permitted based on an even and odd home address numbering system.

Question ID	MRDW1073000	
Question	Question Type	Legislative Requirement
Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?	Legislative	SDWA O. Reg. 128/04 23 (1)
Observation		
The overall responsible operator has been designated for each subsystem.		
Middlesex Centre currently has one person designated as the Overall Responsible Operator for this water system. However, there are additional Operators adequately certified to act in the role of Overall Responsible Operator in the event of staff absence.		

Question ID	MRDW1074000	
Question	Question Type	Legislative Requirement
Have operators in charge been designated for all subsystems for which comprise the drinking water system?	Legislative	SDWA O. Reg. 128/04 25 (1)
Observation		
Operators-in-charge had been designated for all subsystems which comprised the drinking water system.		

Question ID	MRDW1075000	
Question	Question Type	Legislative Requirement
Do all operators possess the required certification?	Legislative	SDWA O. Reg. 128/04 22
Observation		
All operators possessed the required certification.		

Question ID	MRDW1076000	
Question	Question Type	Legislative Requirement
Do only certified operators make adjustments to the treatment equipment?	Legislative	SDWA O. Reg. 170/03 1-2 (2)
Observation		
Only certified operators made adjustments to the treatment equipment.		

Question ID	MRDW1078000	
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Are clean-up equipment and materials in place for the clean up of spills?	BMP	Not Applicable
Observation		
Clean-up equipment and materials were in place for the clean up of spills.		
It is understood that absorbent materials are stored within a small, locked cabinet like structure attached to the front of the Treatment Plant building.		

Question ID	MRDW1068000	
Question	Question Type	Legislative Requirement
If available, are standby power generators tested under normal load conditions?	BMP	Not Applicable
Observation		
Standby power generators were tested under normal load conditions.		
Although a backup generator is not a requirement presented within the Drinking Water Works Permit for the water system, the Owner / Operating Authority keep a small portable back up generator at the Treatment Plant which is understood to be tested under load each month.		

Question ID	MRDW1069000	
Question	Question Type	Legislative Requirement
Are all storage facilities completely covered and secure?	BMP	Not Applicable
Observation		
All storage facilities were not completely covered and secure.		
At the time of the site inspection the hatch cover for the reservoir was observed to be rusted and degraded on one corner and in need of repair.		
Corrective Actions:		
It is strongly recommended that the Owner / Operating Authority immediately repair the damage to the existing reservoir hatch to mitigate the entry of foreign material to the reservoir as recommended by the Recommended Standards for Waterworks - Section 7.0 Finished Water Storage. Upon completion of this work, the Owner / Operating Authority shall forward documentation describing the work completed on the reservoir hatch to Neville Rising of the MECP.		

Question ID	MRDW1070000	
Question	Question Type	Legislative Requirement
Are air vents and overflows associated with reservoirs and	BMP	Not Applicable

Question	Question Type	Legislative Requirement
In instances where the overall responsible operator was unable to act, was an adequately certified operator designated to act in place of the overall responsible operator?	Legislative	SDWA O. Reg. 128/04 23 (1), SDWA O. Reg. 128/04 23 (2), SDWA O. Reg. 128/04 23 (3), SDWA O. Reg. 128/04 23 (4), SDWA O. Reg. 128/04 23 (5), SDWA O. Reg. 128/04 23 (6), SDWA O. Reg. 128/04 23 (7)
Observation		
An adequately licenced operator was designated to act in place of the overall responsible operator when the overall responsible operator was unable to act.		

Question ID	MRDW1099000	
Question	Question Type	Legislative Requirement
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)?	Information	Not Applicable
Observation		
Records did not 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).		

Question ID	MRDW1080000	
Question	Question Type	Legislative Requirement
Are all microbiological water quality monitoring requirements for raw water samples prescribed by legislation being met?	Legislative	SDWA O. Reg. 170/03 11-3 (1),SDWA O. Reg. 170/03 11-3 (3)
Observation		
All microbiological water quality monitoring requirements for raw water samples were being met.		
Ontario Regulation 170/03 – Schedule 11-3 stipulates that raw water samples are required to be		

collected for testing every month from each well supplying water to the system within the frequency prescribed by Ontario Regulation 170/03 – Schedule 6-1.1 (3). Testing of the samples collected from the wells must include E. coli and total coliforms.

Over the course of the inspection period, the Operating Authority collected raw water samples from each well for microbiological testing every month as prescribed by Ontario Regulation 170/03 – Schedule 11-3.

Question ID	MRDW1081000	
Question	Question Type	Legislative Requirement
Are all microbiological water quality monitoring requirements for distribution samples being met?	Legislative	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 for distribution samples were being met.		
Ontario Regulation 170/03 – Schedule 11-2 stipulates that distribution water samples are required to be collected for testing every two weeks within the frequency prescribed by Ontario Regulation 170/03 – Schedule 6 1.1 (2). Testing of the samples collected from the distribution system must include E. coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic plate count.		
Over the course of the inspection period, distribution samples for microbiological testing were collected for testing every two weeks which meets with the requirements of Ontario Regulation 170/03 – Schedule 11-2.		

Question ID	MRDW1084000	
Question	Question Type	Legislative Requirement
Are all inorganic water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA O. Reg. 170/03 13-2
Observation		
All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.		
Ontario Regulation 170/03 – Schedule 13-2 stipulates that Schedule 23 Inorganic water quality		

samples are required to be collected and tested every 60 months from the treated water within the required frequency as prescribed by Ontario Regulation 170/03 – Schedule 6-1.1(7).

According to documentation provided for review from the Owner / Operating Authority, samples were collected from the Treatment Plant on the following dates:

1. January 30, 2012
2. January 2, 2017

Based on the aforementioned tests, the Owner / Operating Authority are in compliance with the requirements for collecting Schedule 23 Inorganic water quality samples as prescribed by Ontario Regulation 170/03 Schedule 13-2.

Question ID	MRDW1085000	
Question	Question Type	Legislative Requirement
Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	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.		
Ontario Regulation 170/03 – Schedule 13-4 stipulates that Schedule 24 Organic water quality samples are required to be collected and tested every 60 months from the treated water within the required frequency as prescribed by Ontario Regulation 170/03 – Schedule 6-1.1(7).		
According to documentation provided for review from the Owner / Operating Authority, samples were collected from the Treatment Plant on the following dates:		
<ol style="list-style-type: none"> 1. January 30, 2012 2. January 2, 2017 		
Based on the aforementioned tests, the Owner / Operating Authority are in compliance with the requirements for collecting Schedule 24 Organic water quality samples as prescribed by Ontario Regulation 170/03 – Schedule 13-4.		

Question ID	MRDW1086000	
Question	Question Type	Legislative Requirement
Are all haloacetic acid water quality monitoring	Legislative	SDWA O. Reg.

<p>requirements prescribed by legislation conducted within the required frequency and at the required location?</p>		<p>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)</p>
<p>Observation</p>		
<p>All haloacetic acid water quality monitoring requirements prescribed by legislation are being conducted within the required frequency and at the required location.</p> <p>Ontario Regulation 170/03 – Schedule 13-6.1 stipulates that haloacetic acids are required to be collected and tested every three months from the distribution water within the required frequency as prescribed by Ontario Regulation 170/03 – Schedule 6-1.1(4). The requirement for collecting and analyzing haloacetic acids became effective on January 1, 2017.</p> <p>According to documentation provided for review from the Owner / Operating Authority, samples were collected on the following days from the distribution system:</p> <ol style="list-style-type: none"> 1. July 6, 2020 – HAA = 51.3 ug/L 2. October 5, 2020 – HAA = 48.7 ug/L 3. January 4, 2021 – HAA = 31.8 ug/L 4. April 6, 2021 – HAA = 37.5 ug/L <p>Based on the aforementioned tests, the Owner / Operating Authority are in compliance with the requirements for collecting haloacetic acids water quality samples as prescribed in Ontario Regulation 170/03 – Schedule 13-6.1.</p> <p>The Owner / Operating Authority is reminded that assessment of the reported results for haloacetic acids is based on a running annual average of quarterly results and calculated as prescribed by Ontario Regulation 170/03 – Schedule 13-6.1 (3) as follows: "(3) For the purposes of Schedule 2 to the Ontario Drinking Water Quality Standards, the running annual average of quarterly results with respect to haloacetic acids shall be calculated for each calendar quarter by using the following formula:</p> $[A + B + C + D] \div 4$ <p>in which, "A" is the average of all the results from the samples tested under subsection (2) in that calendar quarter,</p>		

"B" is the average of all the results from the samples tested under subsection (2) in the most recent calendar quarter preceding the calendar quarter referred to in "A" in which testing was carried out, "C" is the average of all the results from the samples tested under subsection (2) in the most recent calendar quarter preceding the calendar quarter referred to in "B" in which testing was carried out, and "D" is the average of all the results from the samples tested under subsection (2) in the most recent calendar quarter preceding the calendar quarter referred to in "C" in which testing was carried out."

A running annual average for each quarter must be calculated and recorded to ensure compliance has been met after each quarter.

Question ID	MRDW1087000	
Question	Question Type	Legislative Requirement
Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?	Legislative	SDWA O. Reg. 170/03 13-6 (1)
Observation		
<p>All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.</p> <p>Ontario Regulation 170/03 – Schedule 13-6 stipulates that trihalomethanes are required to be collected and tested every three months from the distribution water within the required frequency as prescribed by Ontario Regulation 170/03 – Schedule 6-1.1(4).</p> <p>According to documentation provided for review from the Owner / Operating Authority, samples were collected from the distribution system on the following dates:</p> <ol style="list-style-type: none"> 1. July 6, 2020 – THM = 63 ug/L 2. October 5, 2020 – THM = 66 ug/L 3. January 4, 2021 – THM = 52 ug/L 4. April 6, 2021 – THM = 53 ug/L <p>Based on the aforementioned tests, the Owner / Operating Authority are in compliance with the requirements for collecting trihalomethane water quality samples as prescribed by Ontario Regulation 170/03 – Schedule 13-6.</p>		

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

<p>Observation</p> <p>All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS.</p> <p>Ontario Regulation 170/03 – Schedule 13-7 stipulates that nitrate and nitrite are required to be collected and tested every three months from the treated water within the required frequency as prescribed by Ontario Regulation 170/03 – Schedule 6-1.1(4).</p> <p>According to documentation provided for review from the Owner / Operating Authority, samples were collected from the Treatment Plant on the following dates:</p> <ol style="list-style-type: none"> 1. July 6, 2020 2. October 5, 2020 3. January 4, 2021 4. April 5, 2021 <p>Based on the aforementioned tests, the Owner / Operating Authority are in compliance with the requirements for collecting and testing nitrates and nitrite water quality samples as prescribed by Ontario Regulation 170/03 – Schedule 13-7.</p>

Question ID	MRDW1089000	
Question	Question Type	Legislative Requirement
Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA O. Reg. 170/03 13-8
Observation		
<p>All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.</p> <p>Ontario Regulation 170/03 – Schedule 13-8 stipulates that sodium samples are required to be collected and tested every 60 months from the treated water within the required frequency as prescribed by Ontario Regulation 170/03 – Schedule 6-1.1(7).</p> <p>According to documentation provided for review from the Owner / Operating Authority, samples were collected from the Treatment Plant on the following dates:</p> <ol style="list-style-type: none"> 1. January 30, 2012 – Sodium = 38.3 mg/L 2. February 9, 2012 – Sodium = 38.1 mg/L (resample associated with January 30, 2012 sample) 3. January 2, 2017 – Sodium = 39.2 mg/L 4. January 9, 2017 – Sodium = 43.1 mg/L (resample associated with January 2, 2017 sample) <p>Based on the aforementioned tests, the Owner / Operating Authority are in compliance with the requirements for collecting sodium water quality samples as prescribed by Ontario Regulation</p>		

170/03 – Schedule 13-8.

Question ID	MRDW1090000	
Question	Question Type	Legislative Requirement
Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	SDWA O. Reg. 170/03 13-9
Observation		
<p>All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency.</p> <p>Ontario Regulation 170/03 – Schedule 13-9 stipulates that fluoride samples are required to be collected and tested every 60 months from the treated water within the required frequency as prescribed by Ontario Regulation 170/03 – Schedule 6-1.1(7).</p> <p>According to documentation provided for review from the Owner / Operating Authority, samples were collected from the Treatment Plant on the following dates:</p> <ol style="list-style-type: none"> 1. January 30, 2012 – Fluoride = 1.29 mg/L 2. January 2, 2017 – Fluoride = 1.34 mg/L <p>Based on the aforementioned tests, the Owner / Operating Authority are in compliance with the requirements for collecting fluoride water quality samples as prescribed by Ontario Regulation 170/03 – Schedule 13-9.</p>		

Question ID	MRDW1092000	
Question	Question Type	Legislative Requirement
Has the owner ensured that water samples are taken at the prescribed location?	Legislative	SDWA O. Reg. 170/03 6-2
Observation		
The owner ensured that water samples were taken at the prescribed location.		

Question ID	MRDW1094000	
Question	Question Type	Legislative Requirement
Are all water quality monitoring requirements imposed by the MDWL and DWWP being met?	Legislative	SDWA 31 (1)
Observation		
All water quality monitoring requirements imposed by the MDWL or DWWP issued under Part V of the SDWA were being met.		

Municipal Drinking Water License #052-104, Issue #6 and #7, Schedule D, Section 1.0 prescribes relief from regulatory lead sampling as prescribed by Ontario Regulation 170/03 – Schedule 15.1. The relief within the aforementioned license allows for the following sampling:

1. 0 Private Residential Lead samples
2. 0 Non-Private Residential Lead samples
3. 1 Distribution Lead samples

Over the course of the inspection period, there were three sampling periods including:

1. June 15, 2020 to Oct 15, 2020
2. Dec 15, 2020 to Apr 15, 2021

During the three sampling periods referenced the Owner / Operating Authority collected one sample each period from the distribution system, and had these samples analyzed for lead, pH and alkalinity as prescribed by MDWL # 052-104, Issue #6 and #7, Schedule D, Section 1.0 and the general requirements of Ontario Regulation 170/03 – Schedule 15.1.

Note – the sampling relief provided in Section 1.0 of Schedule D of the MDWL expires on April 15, 2021 as stipulated by Section 1.4 of Schedule D. The Owner / Operating Authority should assess their sampling results to determine if a long term exemption from future lead sampling from plumbing is applicable.

Question ID	MRDW1096000	
Question	Question Type	Legislative Requirement
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	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	MRDW1097000	
Question	Question Type	Legislative Requirement
If the drinking water system obtains water from a ground water source, is turbidity being tested at least once every month from each well that is supplying water to the system?	Legislative	SDWA O. Reg. 170/03 7-3 (1.1)
Observation		
Turbidity was being tested at least once every month from each well that is supplying water to the system.		
Ontario Regulation 170/03 – Schedule 7-3(1) stipulates that the turbidity of the raw water must be		

tested each month for a groundwater system.

Over the course of the inspection period, the Owner / Operating Authority did test and record the turbidity of the raw water from the production well on a monthly basis.

Question ID	MRDW1098000	
Question	Question Type	Legislative Requirement
Has the owner indicated that the required records are kept and will be kept for the required time period?	Legislative	SDWA O. Reg. 170/03 13 (1), SDWA O. Reg. 170/03 13 (2), SDWA O. Reg. 170/03 13 (3)
Observation		
The owner indicated that the required records are kept and will be kept for the required time period.		

Question ID	MRDW1100000	
Question	Question Type	Legislative Requirement
Did any reportable adverse/exceedance conditions occur during the inspection period?	Information	Not Applicable
Observation		
There were no reportable adverse/exceedances during the inspection period.		
Over the course of the inspection period, there were no reported adverse water quality incidents.		

Question ID	MRDW1113000	
Question	Question Type	Legislative Requirement
Have all changes to the system registration information been provided to the Ministry within ten (10) days of the change?	Legislative	SDWA O. Reg. 170/03 10.1 (3)
Observation		
All changes to the system registration information were provided within ten (10) days of the change.		

Question ID	MRDW1114000	
Question	Question Type	Legislative Requirement
Does the owner have evidence that, when required, all legal owners associated with the DWS were notified of the requirements of the Licence & Permit?	Legislative	SDWA 31 (1)

Observation

The owner had evidence that all required notifications to all legal owners associated with the Drinking Water System had been made during the inspection period.

The Owners are made aware of the requirements of the Licence and Permit through the acceptance of the Annual / Summary Report through council resolution. In addition, the Owner / Operating Authority advised that the Councillors have just recently received Standard of Care training associated with water systems.

Stakeholder Appendix

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
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Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable	9802F
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Liste des personnes-ressources du réseau d'eau potable	Site Web
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