

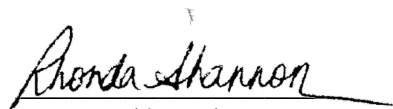


DUNDALK DRINKING WATER SYSTEM

Physical Address: 75 DUNDALK ST, ,
SOUTHGATE, ON N0C 1B0

INSPECTION REPORT

System Number: 220001753
Entity: THE CORPORATION OF THE
TOWNSHIP OF SOUTHGATE
Inspection Start Date: February 29, 2024
Site Inspection Date: February 29, 2024
Inspection End Date: April 11, 2024
Inspected By: Rhonda Shannon
Badge #: 1237


(signature)

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	DWMR1001000	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: What was the scope of this inspection?			
Compliance Response(s)/Corrective Action(s)/Observation(s): <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>A drinking water inspection was conducted on February 29, 2024 at the Dundalk drinking water facility, owned and operated by the Corporation of the Township of Southgate. The system is comprised of groundwater wells located at the intersection of Victoria Street and Industry Road (Well D#3), the intersection of Main Street and the arena entrance (Well #D4) and 250 Hagen Street South (Well #D5). There are approximately 1400 water meters connected to the system with an approximate population of 2,803 residents, according to the 2021 census data.</p> <p>This inspection covers the time period of September 20, 2022 to February 29, 2024 and includes a review of Ministry files, plant operating data and a detailed assessment of compliance with the terms and conditions of all MECP authorizing documents. The physical inspection included a tour of the three (3) facilities and was conducted with Cory Henry, Lead Hand TAPS and ES.</p>			

Question ID	DWMR1000000	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: Does this drinking water system provide primary disinfection?			
Compliance Response(s)/Corrective Action(s)/Observation(s): This drinking water system provides for both primary and secondary disinfection and distribution of water. Primary disinfection for all three (3) wells is achieved through chlorination to meet a 2-log inactivation of viruses for this facility, as required in Schedule E of Licence #110-101, Issue No. 5. Well #D3 also provides UV disinfection for a multi-barrier approach to disinfection.			

Question ID	DWMR1007000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (1);			
Question: Is the owner maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. All wells appeared secure at the time of this inspection. A review of the raw water test results during this inspection period showed a minimal number of positive total coliforms events (from 1 cfu/100 mL to 2 cfu/100 mL) in Well #D3 and #D4. There were no instances of total coliforms detected in Well #D5 nor of E. coli detection in any of the three (3) wells. This indicates that there is no current threat to the source water.			

Question ID	DWMR1009000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Are measures in place to protect the groundwater and/or GUDI source in accordance with any MDWL and DWWP issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. Continued physical well inspections and ongoing preventative maintenance is recommended			

to ensure integrity of the drinking water source.

Question ID	DWMR1014000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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.			

Question ID	DWMR1016000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Is the owner in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the MDWL issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. The rated capacity for this system is 1,181 m ³ /day for Well #D3, 1,637 m ³ /day for Well #D4 and 1,961 m ³ /day for Well #D5, as authorized under the DWS Licence No. 110-101, Issue 5. There were no flow exceedances nor flow monitoring anomalies found in the data reviewed. The maximum flow rates occurred as follows: <ul style="list-style-type: none"> • Well #D3 - in February 2023 with 475 cubic metres of water used, which represents approximately 40% of the rated capacity allowed in the Licence. • Well #D4 - in September 2023 when filling the new water tower, with 999 cubic metres of water used, which represents approximately 61% of the rated capacity allowed in the Licence. • Well #D5 - in August 2023 with 860 cubic metres of water used, which represents approximately 44% of the rated capacity allowed in the Licence. 			

Question ID	DWMR1018000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			

Question:

Has the owner ensured that all equipment is 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 had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.

Question ID	DWMR1114000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Does the owner have evidence that, when required, all legal owners associated with the DWS were notified of the requirements of the Licence & Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had evidence that required notifications to all legal owners associated with the Drinking Water System had been made during the inspection period. The municipality is reported to take responsibility of the commissioning of any new watermain.			

Question ID	DWMR1025000	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 (added, modified, replaced or extended) 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 in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit.			

Question ID	DWMR1023000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Do records indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a DWWP and/or MDWL issued under Part V of the SDWA at all times that water was being supplied to consumers?			

Compliance Response(s)/Corrective Action(s)/Observation(s):

Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under O. Reg. 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers.

As stated, primary disinfection is achieved through chlorination at all three (3) wells. The minimum log removal and inactivation outlined in Schedule E of Licence #110-101, Issue No. 5 for all wells is a 2-log removal of viruses. UV is also used at Well #3 as part of a multi-barrier disinfection approach and a dosage of 40 mJ/cm² is required at all times. The UV however, does not apply to the required inactivation credits.

Based on the records reviewed, this facility met current primary treatment requirements at all times during this inspection period.

Question ID	DWMR1026000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-6 (1);			
Question: If primary disinfection equipment that does not use chlorination or chloramination is provided, is the equipment equipped with alarms or shut-off mechanisms that satisfy the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The primary disinfection equipment was equipped with alarms or shut-off mechanisms that satisfied the standards described in Section 1-6 (1) of Schedule 1 of O. Reg. 170/03. Primary disinfection is augmented with UV treatment. The UV major alarm set point at Well #D3 is 70 mJ/cm ² ; below this there is a reported automatic shut-off of water being directed to the distribution system.			

Question ID	DWMR1024000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Do records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes 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 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.			

Question ID	DWMR1033000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (3); SDWA O. Reg. 170/03 7-2 (4);			
Question: Is the secondary disinfectant residual measured as required for the large municipal residential distribution system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The secondary disinfectant residual was measured as required for the large municipal residential distribution system.			

Question ID	DWMR1030000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (1); SDWA O. Reg. 170/03 7-2 (2);			
Question: 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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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.			

Question ID	DWMR1035000	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: Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test. Continuous monitoring trends for both flows, chlorine and UV dosages continue to be reviewed and recorded daily. SCADA trending is also reviewed daily and anomalies identified.			

Question ID	DWMR1038000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4;			
Question: 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?			
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 specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format.			

Question ID	DWMR1037000	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; SDWA O. Reg. 170/03 6-5 (1.1);			
Question: 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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. The online chlorine analyzers at all three (3) wells have a low-level alarm set point of 0.35 mg/L. At 0.25 mg/L it is reported that there is an automatic shut-off of water being directed to the distribution system.			

Question ID	DWMR1040000	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: Are 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, in accordance with the manufacturer's instructions or the regulation.			

Verification of the online chlorine analyzer continues to be completed daily with a hand-held Hach colorimeter. Tolerance ranges of greater than 5% for chlorine were found to be re-calibrated.

Question ID	DWMR1108000	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; 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, 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 take appropriate actions?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. A review of logbook entries for this inspection time period indicates that appropriate actions and timelines were followed.			

Question ID	DWMR1039000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-6 (3);			
Question: If primary disinfection equipment that does not use chlorination or chloramination is provided, has the owner and operating authority ensured that the equipment has a recording device that continuously records the performance of the disinfection equipment?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner and operating authority ensured that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment. UV transmittance, UV dosage and lamp status are continually recorded.			

Question ID	DWMR1109000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-6 (1);			
Question: If the system uses equipment for primary disinfection other than chlorination or chloramination and the equipment has malfunctioned, lost power or ceased to provide the appropriate level of disinfection, causing an alarm or an automatic shut-off, did a qualified person respond in a			

timely manner and take appropriate actions?

Compliance Response(s)/Corrective Action(s)/Observation(s):

When failure(s) of primary disinfection equipment, other than that used for chlorination or chloramination, caused an alarm to sound or an automatic shut-off to occur, a certified operator responded in a timely manner and took appropriate actions.

A review of logbook entries for this inspection time period indicates that appropriate actions and timelines were followed.

Question ID	DWMR1042000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: If UV disinfection is used were duty sensors and reference UV sensors checked and calibrated as per the requirements of Schedule E of the MDWL or at a frequency as otherwise recommended by the UV equipment manufacturer?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All UV sensors were checked and calibrated as required. UV reference sensor checks were found to occur monthly; the reference sensor assembly was calibrated in March 2023.			

Question ID	DWMR1099000	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: Do records show that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O. Reg. 169/03)?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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). Increased sodium and fluoride sampling is done at this facility. Sodium samples from Well #D3 exceeded the ODWQS of 20 mg/L on March 7, 2023 (28.9 mg/L) and July 4, 2023 (28.1 mg/L). Well #D4 also had a sodium result of 26.6 mg/L on March 7, 2023. Fluoride samples from Well #5 exceeded the ODWQS of 1.5 mg/L on April 4, 2023 (1.7 mg/L) and October 10, 2023 (2.1 mg/L). Residents were notified of these exceedances with information provided from the Health Unit.			

Question ID	DWMR1081000	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: For LMR systems, are all microbiological water quality monitoring requirements for distribution samples being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All microbiological water quality monitoring requirements prescribed by legislation for distribution samples in a large municipal residential system were being met. Based on the population (2021 Census data = 2,803 total), 10 distribution samples are required monthly to meet the requirements outlined in O.Reg. 170/03. A minimum of 16 samples are currently being taken monthly and analyzed for the required total coliforms and E.coli. All samples were also analyzed for heterotrophic plate count.			

Question ID	DWMR1083000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10-3;			
Question: For LMR systems, are all microbiological water quality monitoring requirements for treated samples being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All microbiological water quality monitoring requirements prescribed by legislation for treated samples were being met.			

Question ID	DWMR1096000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-3 (1);			
Question: Do records confirm that chlorine residual tests are being conducted at the same time and at the same location that microbiological samples are obtained?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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	DWMR1084000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-2;			
Question: Are all inorganic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency. The most current sample events for Well #D3, #D4 and #D5 occurred on March 1, 2021. All sample results were within the prescribed limits. The Operating Authority is reminded that inorganic sampling for parameters of Schedule 23, O.Reg. 170 is required every thirty-six (36) months.			

Question ID	DWMR1085000	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: Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency. The most current sample events for Well #D3, #D4 and #D5 occurred on March 1, 2021. All sample results were within the prescribed limits. The Operating Authority is reminded that organic sampling for parameters of Schedule 24, O. Reg. 170 is required every thirty-six (36) months.			

Question ID	DWMR1086000	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: Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?			

Compliance Response(s)/Corrective Action(s)/Observation(s):

All haloacetic acid water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.

Haloacetic acid (HAA) monitoring is being conducted in conjunction with THM sampling; the following were the sample dates within this time period reviewed.

- October 4, 2022 (5.3 and 5.3 ug/L)
- January 3, 2023 (5.3 and 5.3 ug/L), April 4, 2023 (5.3 and 5.3 ug/L), July 4, 2023 (5.3 and 5.3 ug/L) and October 10, 2023 (5.3 and 5.3 ug/L)
- January 2, 2024 (5.5 and 5.4 ug/L)

The Ontario Drinking Water Quality Standard (ODWQS) for haloacetic acids is expressed as a running average of quarterly results. The current rolling average is 5.34 ug/L, which is just above the method detection limit of 5.3 ug/L and well below the ODWQS of 80 ug/L.

Question ID	DWMR1087000	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: Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location. Trihalomethanes were sampled on the following dates within the time period reviewed: <ul style="list-style-type: none"> - October 4, 2022 (15 and 22 ug/L) - January 3, 2023 (13 and 20 ug/L), April 4, 2023 (6 and 11 ug/L), July 4, 2023 (16 and 34 ug/L) and October 10, 2023 (15 and 16 ug/L) - January 2, 2024 (18 and 7 ug/L). The current rolling average is 15.38 ug/L, which is well below the ODWQS of 100 ug/L. All samples continue to be collected from a number of different locations in the distribution system which are likely to have an elevated potential for THM formation.			

Question ID	DWMR1088000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-7;			
Question: Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted			

within the required frequency for the DWS?

Compliance Response(s)/Corrective Action(s)/Observation(s):

All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency.

Nitrate and nitrite samples were found to be taken every three (3) months from each well. The sample dates were as follows:

- October 4, 2022
- January 3, 2023, April 4, 2023, July 4, 2023 and October 10, 2023
- January 2, 2024

Question ID	DWMR1089000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-8;			
Question: Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency. The most current regulatory sodium sample date was on March 7, 2023 with results of 28.9 mg/L (Well #D3), 26.6 mg/L (Well #D4) and 13.2 mg/L (Well #D5); the O.Reg. 170/03 reporting limit is 20.0 mg/L. Well #D3 and #D4 results were reported under AWQI #161472 and all HU directions and timelines were followed. Sodium sampling is required every sixty (60) months, as is reporting for any exceedances resulting from this sampling. The Operating Authority is reminded that O. Reg. 170/03 corrective actions for a sodium exceedance requires re-sampling at the time that initial sample results are received.			

Question ID	DWMR1090000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-9;			
Question: Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?			

Compliance Response(s)/Corrective Action(s)/Observation(s):

All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency.

The most current regulatory fluoride sample date was on March 8, 2022 for Well #D3 and #D4 with results of 0.4 mg/L and 0.5 mg/L respectively, well within the ODWQS of 1.5 mg/L.

Well #D5 was last sampled for regulatory purposes on January 20, 2020 and January 23, 2020 with results of 2.0 mg/L and 2.5 ml/L. This was reported as an AWQI at the time results were received.

The Operating Authority is reminded that fluoride sampling is required every sixty (60) months.

Question ID	DWMR1094000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Are all water quality monitoring requirements imposed by the MDWL and DWWP being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All water quality monitoring requirements imposed by the MDWL or DWWP issued under Part V of the SDWA were being met. Both radionuclides and sodium are required to be tested annually from Well #D3 and sodium annually from Well #D4. During this inspection period radionuclides were tested on March 7, 2023. Sodium is currently being tested twice per year and was sampled on March 7, 2023 and July 4, 2023. Radionuclides continue to be well under the ODWQS while sodium continues to be greater than the O.Reg. 170/03 reporting limit of 20 mg/L. Sodium has been found to be naturally occurring in the source water and communication from the Public Health Unit is provided to residents on an ongoing basis.			

Question ID	DWMR1101000	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 LMR Systems, have corrective actions (as per Schedule 17 of O. Reg. 170/03) been taken to address adverse conditions, including any other steps as directed by the Medical Officer of Health?			

Compliance Response(s)/Corrective Action(s)/Observation(s):

Corrective actions (as per Schedule 17), including any other steps that were directed by the Medical Officer of Health, had been taken to address adverse conditions.

All directions outlined by the Health Unit were taken at the time of the sodium exceedances. The Operating Authority, however, is reminded that O. Reg. 170/03 corrective actions for a sodium exceedance requires re-sampling at the time that initial sample results are received.

Question ID	DWMR1104000	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 all required verbal notifications of adverse water quality incidents immediately provided as per O. Reg. 170/03 16-6?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.			

Question ID	DWMR1060000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The operations and maintenance manuals met the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.			

Question ID	DWMR1062000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-5;			
Question: Do records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment is being done by a certified operator, water quality analyst, or person who meets the requirements of O. Reg. 170/03 7-5?			

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 being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.

The logbooks show that only certified Operators conducted operational testing at this facility during the time period reviewed.

Question ID	DWMR1071000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Has the owner provided security measures to protect components of the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had provided security measures to protect components of the drinking water system. Well pumphouses are all well signed, brick buildings with perimeter fencing, locked gates and intruder alarms. All reservoir hatches and ladders were also found to be locked. As well, security inspections are done on a regular basis.			

Question ID	DWMR1073000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 23 (1);			
Question: Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The overall responsible operator had been designated for each subsystem. It is recommended that the backup ORO be officially designated.			

Question ID	DWMR1074000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 25 (1);			
Question: Have operators-in-charge been designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators-in-charge had been designated for all subsystems which comprise the drinking water system.			

The OIC is reported to be the on-call operator. It is recommended that operators either note the OIC daily in a logbook or include a schedule to denote who the OIC is for each respective time period.

Question ID	DWMR1075000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 22;			
Question: Do all operators possess the required certification?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All operators possessed the required certification. The Operating Authority is reminded that a couple of licences expire in late 2024.			

Question ID	DWMR1076000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Do only certified operators make adjustments to the treatment equipment?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Only certified operators made adjustments to the treatment equipment.			



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APPENDIX A

STAKEHOLDERS

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

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

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

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



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

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

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



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

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



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APPENDIX B

INSPECTION SUMMARY RATING RECORD

DWS Name: DUNDALK DRINKING WATER SYSTEM
DWS Number: 220001753
DWS Owner: THE CORPORATION OF THE TOWNSHIP OF SOUTHGATE
Municipal Location: SOUTHGATE

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Inspection Date: Feb-29-2024
Ministry Office: Owen Sound District Office

Maximum Risk Rating: 545

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	0/91
Source	0/14
Treatment Processes	0/228
Water Quality Monitoring	0/112
Overall - Calculated	0/545

Inspection Risk Rating:	0.00%
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Final Inspection Rating:	100.00%
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Ministry of the Environment, Conservation and Parks - Detailed Inspection Rating Record (Reporting Year - 2023-24)

DWS Name: DUNDALK DRINKING WATER SYSTEM
DWS Number: 220001753
DWS Owner Name: THE CORPORATION OF THE TOWNSHIP OF SOUTHGATE
Municipal Location: SOUTHGATE

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Inspection Date: Feb-29-2024
Ministry Office: Owen Sound District Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 545

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.

ontario.ca/drinkingwater

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).

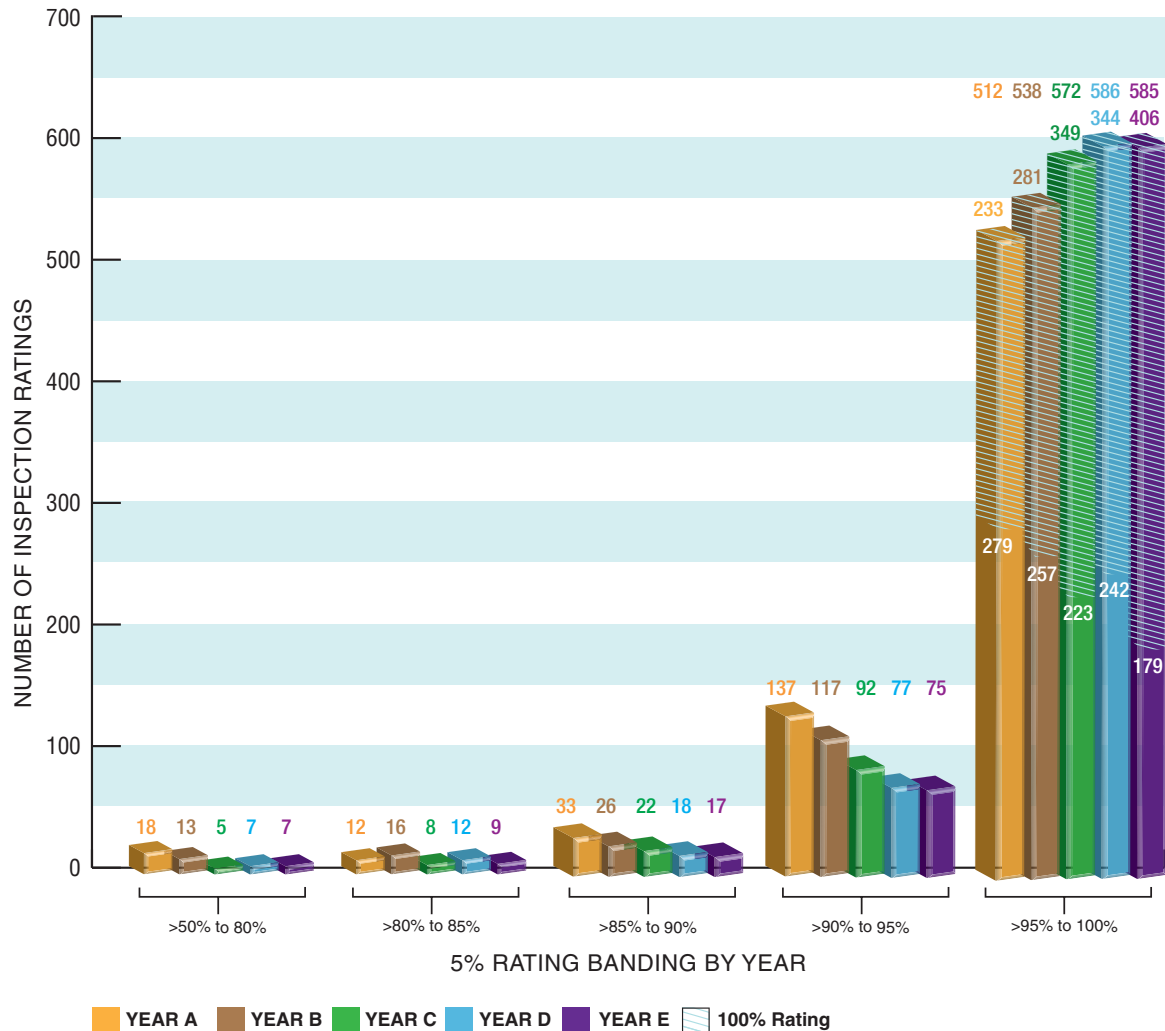
The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

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