Ministry of the Environment, Conservation and Parks

Drinking Water and Environmental Compliance Division

Central Region

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Division de la conformité en matière d'eau potable et d'environnement

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February 11, 2022

Jessica Gunby, Chief Administrative Officer The Township of Ramara 2297 Highway 12, PO Box 130 Brechin, ON, L0K 1B0 (email: jgunby@ramara.ca)

Dear Ms. Gunby

RE: Communal Drinking Water Inspection Report #1-31425413 Davy Drive Subdivision Drinking Water System Date of MECP Inspection: December 23, 2021

Please find enclosed the Ministry of the Environment, Conservation and Parks Inspection Report for the Davy Drive Subdivision Drinking Water System (Water Works # 220007141). The physical inspection process took place on December 23, 2021.

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

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

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 and risk experts.



The Inspection Summary Rating Record (IRR) provides the Ministry, the system owner and the associated Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance. 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 or concerns regarding the rating, please contact Sheri Broeckel, Drinking Water Program Supervisor, at 705-716-3712.

If you have any questions or concerns regarding this inspection report, please contact the undersigned.

Respectfully,

Mark Kowalyk

Drinking Water Inspector – Provincial Officer # 1707

Barrie District Office

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Drinking Water and Environmental Compliance Division

Ministry of the Environment, Conservation and Parks

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DAVY DRIVE SUBDIVISION DRINKING WATER SYSTEM 7230 DAVY DR, RAMARA, ON, L0K 2B0

Inspection Report

System Number: 220007141
Inspection Start Date: 12/23/2021
Inspection End Date: 02/11/2022
Inspected By: Mark Kowalyk

Badge #: 1707

(signature)

NON-COMPLIANCE/NON-CONFORMANCE ITEMS

This should not be construed as a confirmation of full compliance with all potential applicable legal requirement and 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: Regulated Activity: DRINKING WATER: DW Municipal Residential

Question ID MRDW1001000		
Question	Question	Legislative
	Туре	Requirement
What was the scope of this inspection?	Information	Not Applicable
Observation		

The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry drinking water policies and guidelines during the inspection period. The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as management practices. This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, Drinking Water Systems" (O.Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA. This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements. The Davy Drive Drinking Water System is owned by the Corporation of the Township of Ramara and serves an estimated population of 90 people in the residential subdivision of Davy Drive. Since September 1, 2020, the Ontario Clean Water Agency (OCWA) has been the operating authority for the facility, with the Township having had responsibility for the time previous to this date. The Davy Drive Drinking Water System is categorized as a small municipal residential drinking water system, as defined by Ontario Regulation 170/03 and operates under DWS number 220007141.

The Davy Drive Subdivision Drinking Water System consists of 4 groundwater wells, treatment equipment, two distribution sample points and two blow offs, one at each end of the distribution system. The wells are considered to have the potential to be ground water under the direct influence of surface water (GUDI). Treatment is provided by UV inactivation for primary disinfection, after filtration. Chlorination is provided for secondary disinfection. There is a standpipe that can provide contact time if chlorination is needed as the only source of primary disinfection, if the UV units are not functioning. Raw water from the four wells is injected with sodium hypochlorite and potassium permanganate prior to passing through two greensand filters to remove the oxidized iron and manganese. Water then flows through cartridge filters, including a one micron absolute filter before being dosed by UV light. Both of the UV units are equipped with a solenoid valve which will stop the flow of water in the event of a power failure, malfunction or the required dosage not being delivered by the UV units. Water is then injected with sodium hypochlorite prior to storage within the 43 cubic metre standpipe. Two high lift pumps discharge water to the distribution system. There are no storage structures within the distribution system. The distribution system consists of 50 mm diameter polyethylene watermain. On Thursday December 23, 2021, an unannounced on-site physical inspection of the Davy Drive Subdivision Drinking Water System was conducted. The drinking water inspection included: physical inspections of the treatment equipment and facility; interview with OCWA staff; and a

review of relevant documents and data from the period of November 17, 2020 to December 23, 2021 (hereafter referred to as the "inspection review period").

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

Observation

This Drinking Water System provides for both primary and secondary disinfection and distribution of water. Treatment is provided by UV inactivation for primary disinfection, after filtration. Chlorination is provided for secondary disinfection.

Question ID MRDW1007000		
Question	Question	Legislative
	Type	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

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. Subsection 1-2. (1) 1. of Schedule 1 of Ontario Regulation 170/03 requires that the owner of a drinking water system shall ensure that any well that serves as an entry point of raw water supply is constructed and maintained to prevent surface water and other foreign materials from entering the well.

There are four wells for the Davy Drive Subdivision Drinking Water System. Each of the wells has a secure cap and screened vent. The wells are locked and notices posted that the area is a well head protection zone. The Operating Authority performs regular maintenance and inspection of the wells. The supply wells have been identified as being potentially groundwater under the direct influence of surface water (GUDI).

Question	Legislative
Type	Requirement
Legislative	SDWA 31 (1)
	Type

Observation

Measures were in place to protect the groundwater and/or GUDI source in accordance with any the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA. Condition 16.2.8 of Schedule B of Municipal Drinking Water Licence 147-106 Issue Number 4 requires an inspection schedule for all wells associated with the drinking water system, including all production wells, standby wells, test wells and monitoring wells.

Condition 16.2.9 of Schedule B of Municipal Drinking Water Licence 147-106 Issue Number 4

requires well inspection and maintenance procedures for the entire well structure of each well including all above and below grade well components.

Condition 16.2.10 of Schedule B of Municipal Drinking Water Licence 147-106 Issue Number 4 requires 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 Operating Authority has developed a Well Inspection, Maintenance and Monitoring Plan. The Plan outlines the schedule for inspection of the four (4) production wells supplying water for the Davy Drive Subdivision Drinking Water System. The inspection schedule includes both above and below grade well components, as well as comparison of well level monitoring data and calibration of the flow meters. The Plan includes a list of conditions that may indicate a problem with the well casing or structure. The Plan includes a monthly well inspection checklist, monthly water level monitoring checks, yearly well performance inspection check list and a 5-year checklist of the unexposed well structure.

Operators regularly checked the well caps and above grade structures of the production wells during the inspection review period.

Question ID	MRDW1010000		
Question		Question	Legislative
		Type	Requirement
Are trends in s	ource water quality being monitored?	BMP	Not Applicable

Observation

Trends in source water quality were being monitored. Raw water microbiological samples are collected on a monthly basis and are reviewed when the results are received. The sample results that have been reviewed for this inspection review period have not identified any concerning trends and there were no significant raw water quality changes identified.

Question ID MRDW1014000		
Question	Question	Legislative
	Type	Requirement
Is there sufficient monitoring of flow as required by the	Legislative	SDWA 31 (1)
MDWL or DWWP issued under Part V of the SDWA?		

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. Condition 2.1 of Schedule C of Municipal Drinking Water Licence 147-106 Issue Number 4 prescribes that for each treatment subsystem, continuous flow measurement and recording shall be undertaken for the flow rate and daily volume of treated water that flows from the treatment subsystem to the distribution system, and the flow rate and daily volume of water that flows into the treatment subsystem.

There are magnetic flow meters installed on each of the four raw water lines, on the combined raw water header, and on the distribution header. Each of the flow meters provides a 4-20 mA signal that are continuously recorded on the SCADA system as flow rate. Daily log print outs include the 24 hour totalized flows from each of the raw water wells and the totalized volume entering the distribution system. The minimum, maximum and average flows are also recorded. Flow monitoring data is captured by the SCADA system and is capable of being monitored remotely by the Operators via laptop.

Question ID MRDW1015000		
Question	Question	Legislative
	Type	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)

The flow measuring devices were calibrated or verified in accordance with the requirements of the MDWL issued under Part V of the SWDA. Condition 3 of Schedule C of Municipal Drinking Water Licence Number 147-106 Issue 4 states that:

- 3.1 All flow measuring devices that are required by regulation, by a condition in the Drinking Water Works Permit, or by a condition otherwise imposed by the Ministry of the Environment, Conservation and Parks, shall be checked and calibrated in accordance with the manufacturer's instructions.
- 3.2 If the manufacturer's instructions do not indicate how often to check and calibrate a flow measuring device, the equipment shall be checked and calibrated at least once every 12 months during which the drinking water system is in operation.
- 3.2.1 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.

On January 21, 2021, the treated water, Well 1, Well 2, Well 3, and Well 4 flow meters underwent testing for calibration verification. A review of the submitted Flow Meter Verification Report shows that the above mentioned flow meters passed calibration.

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. Condition 1.1 of Schedule C of Municipal Drinking Water Licence 147-106 Issue Number 4 prescribes that flows from the treatment subsystem to the distribution system shall not exceed 75.69 cubic metres/day. Based on a review of flow data for the inspection review period, there were no exceedances of the prescribed flow capacity.

Question ID MRDW1017000		
Question	Question	Legislative
	Type	Requirement
Were appropriate records of flows and any capacity	Legislative	SDWA 31 (1)
exceedances made in accordance with the MDWL issued		

	under	Part	V	of t	he	SD	WA?
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Appropriate records of flows and any capacity exceedances were made in accordance with the Municipal Drinking Water Licence issued under Part V of the SDWA. Condition 2.1 of Schedule C of Municipal Drinking Water Licence 147-106 Issue Number 4 requires that for each treatment subsystem identified in column 1 of Table 1 and in addition to any other flow measurement and recording that may be required, continuous flow measurement and recording shall be undertaken for:

- 2.1.1 The flow rate and daily volume of treated water that flows from the treatment subsystem to the distribution system.
- 2.1.2 The flow rate and daily volume of water that flows into the treatment subsystem.

There are six flow meters installed in the Davy Drive Subdivision pumphouse; one for each of the four wells, one for the combined raw water header and one for the treated water header entering the distribution system. The SCADA system records the measurements from the flow meters each minute.

Condition 2.3 of Schedule C of Municipal Drinking Water License 147-106 Issue Number 4 states that where the rated capacity from Table 1 or a maximum flow rate from Table 2 is exceeded, the following shall be recorded:

- 2.3.1 The difference between the measured amount and the applicable rated capacity or maximum flow rate specified in Table 1 or Table 2;
- 2.3.2 The time and date of the measurement;
- 2.3.3 The reason for the exceedance: and
- 2.3.4 The duration of time that lapses between the applicable rated capacity or maximum flow rate first being exceeded and the next measurement where the applicable rated capacity or maximum flow rate is no longer exceeded.

Table 1 of Schedule C of Municipal Drinking Water License 147-106 Issue Number 4 states that the rated capacity for the Davy Drive Water Works is 75.69 m3/day. There is not a maximum flow rate specified in the Municipal Drinking Water Licence. The rated capacity for the Davy Drive Subdivision Drinking Water System was not exceeded during the inspection review period.

Question ID	MRDW1013000		
Question		Question Type	Legislative Requirement
Is the owner in PTTW?	compliance with all conditions of the	Legislative	OWRA 34 (3)

Observation

The owner was in compliance with all conditions of the PTTW. Permit to Take Water (PTTW) 7187-AQPS6B was issued for the four wells supplying the Davy Drive Subdivision Drinking Water System on June 20, 2017, and expires on August 30, 2027.

Table A of the PTTW gives the following limits for takings from each of the supply wells:

Well 1 maximum takings of 25 L/min; 15,550 L/day; 10 hours/day

Well 2 maximum takings of 20 L/min; 11,640 L/day; 10 hours/day

Well 3 maximum takings of 60 L/min; 49,500 L/day; 14 hours/day

Well 4 maximum takings of 75 L/min; 49,500 L/day; 11 hours/day

Condition 3.3 of PTTW 7187-AQPS6B states that notwithstanding Table A, the maximum daily volume of water to be taken shall not exceed 75,690 L/day.

During the inspection review period, the maximum daily volume taking was not exceeded. Condition 4.1 of PTTW 7187-AQPS6B states that the Permit Holder shall maintain a record of all water takings. This record shall include the dates and times of water takings, and the total measured amounts of water pumped per day for each day that water is taken under the authorization of this Permit. A separate record shall be maintained for each source. The Permit Holder shall keep all required records up to date and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon their request. The total amounts of water pumped shall be measured using a flow measuring device for each source. A flow meter is installed to measure the flow rate from each of the four supply wells, as well as a combined raw water flow meter. The SCADA system records the flow measurements and the daily logsheet includes the 24 hours flow volume, amount of flow since midnight (the logsheet prints at 6am) and the percentage of the allowed flow taken. Operators typically record the number of hours each well pump has run in the last day when they attend the pumphouse.

Question	Legislative
Type	Requirement
Legislative	SDWA O. Reg.
	170/03 7-2 (1),
	SDWA O. Reg.
	170/03 7-2 (2)
1	Гуре

Observation

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. Schedule E of Municipal Drinking Water Licence 147-106 Issue Number 4 indicates that 2+ log removal/inactivation credits are achieved by chlorination in the standpipe. A continuous chlorine analyser is fed sample water after the standpipe, prior to entering the distribution system, the point where the intended contact time has been completed. The chlorine analyser is equipped with alarm capabilities for high and low levels, as indicated in the Instrument and Control section of Schedule A of Drinking Water Works Permit 147-206 Issue Number 4.

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

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. Subsection 6-5(1) of Schedule 6 of Ontario Regulation 170/03 sets out standards to be adhered to where

continuous monitoring equipment is used for sampling and testing required under Ontario Regulation 170/03, for a parameter set out in the Table included in Schedule 6. For the Davy Drive Drinking Water System, this subsection applies to the continuous chlorine analyser used to monitor primary disinfection residuals at or near the intended contact time. In the case of primary disinfection chlorine residual monitoring, paragraph 1, subparagraph i of subsection 6-5(1) of Schedule 6 and the associated Table requires that the continuous analyser test for free chlorine residual once every five minutes, at a minimum.

Data generated during the inspection review period from the continuous analysers used to monitor primary and operational parameters associated with the Davy Drive Drinking Water System was reviewed in conjunction with this inspection. The data indicated that these continuous analysers measured and recorded parameters more frequently than the required frequency set out in the Table included in Schedule 6. The on-line analysers capture the parameter test results every second and upload the minimum, maximum and average results to SCADA every 5 minutes.

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

Observation

Samples for chlorine residual analysis were tested using an acceptable portable device. The Davy Drive Subdivision utilizes the HACH direct read out colourimeters for assessing the secondary disinfection performance, as required by section 6-7 of Schedule 6 of Ontario Regulation 170/03. These units are assessed each month against the secondary standards to ensure accuracy. A complete recalibration of each unit is completed annually.

Question ID MRDW1037000		
Question	Question	Legislative
	Type	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. Subsection 6-5 (1.1) of Schedule 6 of Ontario Regulation 170/03 requires that the continuous monitoring equipment must cause an alarm to sound immediately at the following locations if the equipment malfunctions or loses power or a test result for a parameter is above the maximum alarm standard or below the minimum alarm standard specified in the Table to this section for the parameter:

- i. The location where the equipment conducts tests
- ii. A location where a person is present, if a person is not always present at the location where the equipment conducts tests.

In the event that continuous chlorine or turbidity analyser records a value below or above the set points, an audible alarm is initiated. The set points meet the requirements of the table in Schedule 6 of Ontario Regulation 170/03. After two minutes, the alarm is sent to the phone of the on call Operator and the auxiliary chlorine pump is activated.

Operators also regularly test the low chlorine alarm to ensure its functioning properly in the event that the UV units fall below the set points required to achieve a dosage of 40 mJ/cm2. In this circumstance, a wiper blade will travel across the quartz sleeve to clean it. If the cleaning does not result in the sensor reading above the low level, the solenoid valve will close and an alarm is sent to the on-call Operator.

Question ID MRDW1039000		
Question	Question	Legislative
	Type	Requirement
If primary disinfection equipment that does not use	Legislative	SDWA O. Reg.
chlorination or chloramination is provided, has the owner		170/03 1-6 (3)
and operating authority ensured that the equipment has a		
recording device that continuously records the performance		
of the disinfection equipment?		
Oh		

Observation

The owner and operating authority ensured that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment.

Question ID	MRDW1042000		
Question		Question	Legislative
		Type	Requirement
If UV disinfection	on is used were duty sensors and reference	Legislative	SDWA 31 (1)
UV sensors chec	cked and calibrated as per the requirements		
of Schedule E of	f the MDWL or at a frequency as otherwise		
recommended by	y the UV equipment manufacturer?		
01		•	•

Observation

All UV sensors were checked and calibrated as required. The manufacturer of the Hallett 30 Ultraviolet Disinfection unit (UV Pure) recommends to calibrate the UV sensors once per year to see if the sensor has drifted away from factory calibration. The operating authority had the UV units calibrated by the manufacturer on June 15, 2021.

Question ID MRDW1035000		
Question	Question	Legislative
	Type	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

Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test. Subsection 6-5 (1) 3 of Schedule 6 of Ontario Regulation 170/03 requires that test results recorded under paragraph 1 or 2 must be examined, within 72 hours after the tests are conducted by a certified operator. During the inspection review period, continuous monitoring test results were reviewed by certified operators within 72 hours. Operators are capable of monitoring the results remotely and comments are entered onto the daily logsheets or into the on-site logbook.

Question ID MRDW1040000		
Question	Question	Legislative
	Type	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. Subsection 6-5 (1) 8 of Schedule 6 of Ontario Regulation 170/03 prescribes that the continuous monitoring equipment must be checked and calibrated in accordance with the manufacturer's instructions. Subsection 6-5(1)10 states that if the manufacturer's instructions do not indicate how often to check and calibrate the continuous monitoring equipment and paragraph 9 does not apply, the equipment must be checked and calibrated as often as necessary to ensure that test results are within the following margins of error:

i. In the case of free chlorine residual, 0.05 milligrams per litre, if the concentrations usually measured by the equipment are less than or equal to 1.0 milligrams per litre, and proportionally higher if the concentrations usually measured are greater than 1.0 milligrams per litre, ii. In the case of free chlorine residual and total chlorine residual measured for the purpose of determining combined chlorine residual, 0.05 milligrams per litre, if the concentrations usually measured by the equipment are less than or equal to 1.0 milligrams per litre, and proportionally higher if the concentrations usually measured are greater than 1.0 milligrams per litre. Operational staff perform verifications of the continuous chlorine residual analysers using a portable handheld device multiple times weekly. If a comparative assessment indicates significant differences, the operator will calibrate the continuous analysers as per the manufacturer's instructions. Records of these maintenance activities are made on the daily pumphouse log sheets. In addition, the continuous analysers are calibrated by a qualified company on an annual basis. During the inspection review period, this calibration was performed on January 21, 2021.

Question ID	MRDW1108000		
Question		Question	Legislative
		Type	Requirement

Where continuous monitoring equipment used for the	Legislative	SDWA O. Reg.
monitoring of free chlorine residual, total chlorine residual,		170/03 6-5 (1)
combined chlorine residual or turbidity, required by		1-4,SDWA O.
Regulation 170, an Order, MDWL, or DWWP issued under		Reg. 170/03 6-5
Part V, SDWA, has triggered an alarm or an automatic shut-		(1)5-10,SDWA
off, did a qualified person respond in a timely manner and		O. Reg. 170/03
take appropriate actions?		6-5 (1.1)

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. Upon review of logbook entries and SCADA data, a qualified person responded in a timely manner and took appropriate actions in each instance that continuous monitoring equipment triggered an alarm.

Question ID MRDW1109000		
Question	Question	Legislative
	Type	Requirement
If the system uses equipment for primary disinfection other	Legislative	SDWA O. Reg.
than chlorination or chloramination and the equipment has		170/03 1-6 (1)
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?		

Observation

When the primary disinfection equipment, other than that used for chlorination or chloramination, has failed causing an alarm to sound or an automatic shut-off to occur, a certified operator responded in a timely manner and took appropriate actions. Primary disinfection is achieved at the Davy Drive Subdivision Drinking Water System by UV inactivation following filtration. The UV Pure Hallet 30 units are NSF certified and have internal sensors that will initiate an alarm in the event that the required dosage for primary disinfection is not provided, as well as closing the solenoid valve to stop the flow of water. In the event that the lamp UV sensor or water UV sensor detects a reading below the minimum set point, the wiper blade is started. In the event that the wiper blade does not result in the sensors reading a level above the minimum set points, an alarm is initiated and the on-call Operator is notified. Operators are also able to check the alarm status remotely with their cell phones. Operators attend the pumphouse if they receive an alarm. Upon review of logbook entries and SCADA data, a qualified person responded in a timely manner and took appropriate actions in each instance that the UV disinfection system triggered an alarm.

Question ID MRDW1031000		
Question	Question	Legislative
	Type	Requirement
Are operators aware of the operational criteria necessary to achieve primary disinfection within the drinking water system?	BMP	Not Applicable

Operators were aware of the operational criteria necessary to achieve primary disinfection within the drinking water system. Operators are familiar with the operational criteria necessary to achieve primary disinfection. A CT calculator is also available so that details of each specific parameter can be entered and a calculation performed to ensure primary disinfection is being achieved at all times. CT related procedures also exist within the Operations and Maintenance Manual.

Question ID MRDW1034000		
Question	Question	Legislative
	Type	Requirement
Is the secondary disinfectant residual measured as required	Legislative	SDWA O. Reg.
for the small municipal residential distribution system?		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. Section 7-2(5) of Schedule 7, O.Reg. 170/03 requires the Owner and the operating authority to ensure that at least two distribution samples are taken each week and tested immediately for, (a) free chlorine residual, if the system provides chlorination and does not provide chloramination. Section 7-2(6) of Schedule 7, O.Reg. 170/03 requires that at least one of the distribution samples referred to in subsection (5) must be taken at least 48 hours after, and during the same week as, one of the other distribution samples referred to in subsection (5).

The operating authority is testing secondary disinfection residuals twice weekly in the distribution system.

Question ID MRDW1018000		
Question	Question	Legislative
	Type	Requirement
Has the owner ensured that all equipment is installed in	Legislative	SDWA 31 (1)
accordance with Schedule A and Schedule C of the Drinking		
Water Works Permit?		

Observation

The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit. Drinking Water Works Permit 147-206 Issue Number 4, issued on July 20, 2016, and the Municipal Drinking Water Licence 147-106 Issue Number 4, issued on April 29, 2021 were in effect during the inspection review period. At the time of the physical inspection, the equipment at the treatment facility appeared to be installed in accordance with these authorizing documents.

Question ID	MRDW1023000		
Question		Question	Legislative
		Type	Requirement
Do records ind	icate that the treatment equipment was	Legislative	SDWA O. Reg.

operated in a manner that achieved the design capabilities	170/03 1-2 (2)
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?	

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. Section 1-4 of Schedule 1 Ontario Regulation 170/03 prescribes that the Owner of a drinking water system that obtains water from a raw water supply that is surface water (GUDI) shall ensure provision of water treatment equipment that is designed to be capable of chemically assisted filtration or better, and is designed to be capable of achieving, at all times, primary disinfection in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario. Primary disinfection for a surface water source includes at least 99 per cent removal or inactivation of Cryptosporidium oocysts, at least 99.9 per cent removal or inactivation of Giardia cysts and at least 99.99 per cent removal or inactivation of viruses by the time water enters the distribution system. Section 1-5 of Schedule 1 of Ontario Regulation 170/03 prescribes that the Operator of a drinking water system shall ensure provision of water treatment equipment that is designed to be capable of secondary disinfection (where necessary) using chlorination or chloramination in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario; or, provide other water treatment equipment that, in the opinion of a licensed engineering practitioner, is designed to be capable of providing secondary disinfection that is equivalent to or better than the secondary disinfection provided by the chlorination or chloramination equipment.

Condition 1 of Schedule E of Municipal Drinking Water Licence 147-106 Issue Number: 4 states that the Davy Drive Water Works achieves 2 log removal of cryptosporidium oocysts and 2 log removal of giardia cysts by cartridge filtration, 2 log removal of cryptosporidium oocysts, 3 log removal of giardia cysts and 2 log removal of viruses by UV disinfection as well as 2+ log removal of viruses by chlorination, if the applicable log removal/inactivation credit assignment criteria is met.

Based on continuously recorded and manually sampled data provided by the Owner and reviewed during the course of this inspection, it appears that the required level of treatment was provided at all times during the inspection review period. Sufficient contact time is afforded to all users of the system by the above-ground contact chamber, and treatment integrity is supported by auxillary and duty chemical feed pumps with automatic switch over if one pump fails and automatic shutdown upon UV failure.

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)

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. Subsection 1-2 (2), paragraph 4 of Schedule 1 of Ontario Regulation 170/03 states that if chlorination is provided for secondary disinfection, the owner shall ensure that the equipment is operated so that, at all times and at all locations within the distribution system, the free chlorine residual is never less than 0.05 milligrams/Litre. Records provided indicated that there were no free chlorine residuals less than 0.05 milligrams/Litre within the distribution system at any time during the inspection review period.

At the time of the inspection, the inspector measured the free chlorine residual at the pumphouse where the free chlorine residual was 1.52 mg/L whereas the continuous analyser showed a reading of 1.47mg/L.

Question ID MRDW1026000		
Question	Question	Legislative
	Type	Requirement
If primary disinfection equipment that does not use	Legislative	SDWA O. Reg.
chlorination or chloramination is provided, is the equipment		170/03 1-6 (1)
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?		

Observation

The primary disinfection equipment was equipped with alarms or shut-off mechanisms that satisfied the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03. Subsection 1-6 (1) of Schedule 1 of Ontario Regulation 170/03 requires that if primary disinfection equipment that does not use chlorination or chloramination is provided by a drinking water system, the owner of the system and the operating authority for the system shall ensure that the disinfection equipment is designed and operated in accordance with the standards described in subsection (2), or that,

- (a) the disinfection equipment has a feature that ensures that no water is directed to users of water treated by the equipment in the event that the equipment malfunctions, loses power or ceases to provide the appropriate level of disinfection; and
- (b) if the disinfection equipment malfunctions, loses power or ceases to provide the appropriate level of disinfection, a certified operator takes appropriate action at the location where the equipment is installed before water is again directed to users of water treated by the equipment. The two Hallet 30 units installed at the Davy Drive Subdivision Drinking Water System are each equipped with a solenoid valve that will shut down the supply of water in the event that the UV intensity or transmittance drops below that required for primary disinfection. An alarm is also sent to the on-call Operator who is able to check the system remotely with their phone. Operators attend the site in the event of an alarm or acknowledge the alarm remotely. The standpipe provides approximately 1.5 days of storage.

Question ID	MRDW1027000		
Question		Question	Legislative
		Type	Requirement

Legislative	SDWA 31 (1)

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. Condition 14.1 of Municipal Drinking Water Licence 147-106 Issue Number 4 states that all chemicals and materials used in the alteration or operation of the drinking water system that come into contact with water within the system shall meet all applicable standards set by both the American Water Works Association ("AWWA") and the American National Standards Institute ("ANSI") safety critical standards NSF/60, NSF/61, NSF/372.

The Davy Drive Subdivision Drinking Water System uses NSF certified potassium permanganate for pre-chlorination and sodium hypochlorite for secondary disinfection.

Question ID MRDW1028000		
Question	Question	Legislative
	Type	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

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. Condition 15.3 of Schedule B of Municipal Drinking Water Licence 147-106 Number 4 requires that process flow diagrams and process and instrumentation diagrams for any treatment subsystem shall be 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. Plans are available at the pumphouse and a Process Flow Diagram also exists in Schedule D of the Drinking Water Works Permit 147-206 Issue 4.

Question ID MRDW1043000		
Question	Question	Legislative
	Type	Requirement
Are the process wastewater and residual solids/sludges being treated, handled and disposed of in accordance with the	Legislative	SDWA 31 (1)
design requirements approved under the Drinking Water		
Works Permit and the Municipal Drinking Water Licence?		
Observation		

The process wastewater and residual solids/sludges were treated, handled and disposed of in accordance with the design requirements approved under the Drinking Water Works Permit and the Municipal Drinking Water Licence. Backwash water from the Davy Drive Subdivision filters is directed to a 13,500 L precast concrete tank complete with float controls and effluent pump. Backwash cycles are initiated manually, typically once per week for each filter, or more if required. After a backwash cycle, water is held in the tank for 12 hours to allow for solids to settle. After the settling period, water is pumped to the adjacent ditch east of the pumphouse. Settled solids are removed by a vacuum truck.

Question ID MRDW1044000		
Question	Question	Legislative
	Type	Requirement
Does the process wastewater discharge monitoring program	Legislative	SDWA 31 (1)
and discharge quality comply with requirements established		
in the MDWL issued under Part V of the SDWA?		

Observation

The process wastewater discharge monitoring program and discharge quality complied with requirements established in the Municipal Drinking Water Licence Issued under Part V of the SDWA. Condition 1.5 of Schedule C of Municipal Drinking Water Licence 147-106 Issue Number 4 states that in respect of an effluent discharged into the natural environment from a treatment subsystem or treatment subsystem component listed in column 1 or Table 3:

- 1.5.1 The annual average concentration of a test parameter identified in column 2 shall not exceed the value in column 3 of the same row; and
- 1.5.2 The maximum concentration of a test parameter identified in column 2 shall not exceed the value in column 4 of the same row.

Table 3 of Schedule C of Municipal Drinking Water Licence 147-106 Issue Number 4 states that the Davy Drive Water Works Filter backwash system has an annual average concentration limit of 15mg/L for total suspended solids and an annual average concentration limit of 1mg/L for iron. Table 7 of Schedule C of Municipal Drinking Water Licence 147-106 Issue Number 4 requires quarterly manual composite samples at the point of discharge for the Davy Drive Water Works filter backwash system to be tested for total suspended solids and iron.

During the inspection review period, backwash effluent was sampled on February 24, 2021, May 12, 2021, August 9, 2021 and November 02, 2021. All samples were tested for iron. During the inspection review period, the annual average concentration for total suspended solids was 5.75 mg/L. The annual average concentration for iron was .95375 mg/L. Both total suspended solids and iron complied with the prescribed limits.

Question ID MRDW1046000		
Question	Question Type	Legislative Requirement
Is there a backflow prevention program, policy and/or bylaw	BMP	Not Applicable
in place that addresses cross connections and connections to high hazard facilities?		
Observation		
There is a backflow prevention program, policy and/or bylaw in place. The Owner for the Davy		

Drive Subdivision Drinking Water System has installed backflow preventers on all service connections within the system. The backflow preventers were installed as part of the water metering program.

Question ID MRDW1047000		
Question	Question	Legislative
	Type	Requirement
Does the owner have a program or maintain a schedule for	BMP	Not Applicable
routine cleanout, inspection and maintenance of reservoirs		
and elevated storage tanks within the distribution system?		

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. During the on-site inspection, it was confirmed with the Operator that for the routine cleanout, inspection and maintenance of its storage structures, the Davy Drive Subdivision Drinking Water System maintains a 5 year schedule.

Question ID MRDW1048000		
Question	Question	Legislative
	Type	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. Flushing of the Davy Drive Subdivision Drinking Water System is completed annually.

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. Chlorine residuals are measured at the two blow off stations installed in the Davy Drive Subdivision system, which are located at the extremities.

Question ID MRDW1050000		
Question	Question	Legislative
	Type	Requirement
Is there a program in place for inspecting and exercising	BMP	Not Applicable
valves?		
Observation		

A program was in place for inspecting and exercising valves. The Davy Drive Subdivision Drinking Water System Operations Manual contains a procedure for valve maintenance. Each distribution system main valve is to be opened once per year to ensure it is in good working order. If a valve is found to require replacement or maintenance, actions will be taken to rectify the problem. Valves are exercised in the fall during flushing.

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.

Question ID MRDW1058000		
Question	Question	Legislative
	Type	Requirement
Do operators and maintenance personnel have ready access	Legislative	SDWA O. Reg.
to operations and maintenance manuals?		128/04 28

Observation

Operators and maintenance personnel had ready access to operations and maintenance manuals. Operations and maintenance manuals, including the contingency plans for the Davy Drive Subdivision Drinking Water System are located at the pumphouse and at the Environmental Services Office. Operators are aware of where the operations and maintenance manuals are located.

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

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. Schedule 6-10 of Ontario Regulation 170/03 requires that the owner of a drinking water system and the operating authority for the system shall ensure that for every sample required by this Regulation, a record is made of the date and time the sample was taken, the location where the sample was taken, the name of the person who took the sample, and the result of the test where applicable.

All required information was recorded during the inspection review period, either on the chain of custody form for samples submitted to an accredited laboratory, or on the log sheets for the Davy Drive Subdivision Drinking Water System, or in Operator logbooks.

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

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

Logs or other record keeping mechanisms were available for at least five (5) years.

Question	Legislative
Type	Requirement
Legislative	SDWA O. Reg.
	128/04 28
	Type

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	Legislative
	Type	Requirement
Do the operations and maintenance manuals meet the	Legislative	SDWA 31 (1)
requirements of the DWWP and MDWL issued under Part V		
of the SDWA?		

Observation

The operations and maintenance manuals met the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA. Section 16.2 of Schedule B of Municipal Drinking Water Licence 147-106 Issue Number 4 requires that the operations and maintenance manual or manuals, shall include at a minimum:

- 16.2.1 The requirements of this licence and associated procedures;
- 16.2.2 The requirements of the drinking water works permit for the drinking water system;
- 16.2.3 A description of the processes used to achieve primary and secondary disinfection within the drinking water system, including where applicable:
- a) A copy of the CT calculations that were used as the basis for primary disinfection under worst case operating conditions; and
- b) The validated operating conditions for UV disinfection equipment, including a copy of the validation certificate:
- 16.2.4 Procedures for monitoring and recording the in-process parameters necessary for the control of any treatment subsystem and for assessing the performance of the drinking water system;
- 16.2.5 Procedures for the operation and maintenance of monitoring equipment;
- 16.2.6 Contingency plans and procedures for the provision of adequate equipment and material to deal with emergencies, upset conditions and equipment breakdown;
- 16.2.7 Procedures for dealing with complaints related to the drinking water system, including the recording of the nature of the complaint and any investigation and corrective action taken in respect of the complaint;
- 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 non-compliance with respect to regulatory requirements and/or risk to raw well water quality.

The Davy Drive Water Works Operations and Maintenance manual meets the requirements of the Municipal Drinking Water Licence.

The Operating Authority updated the Davy Drive Subdivision Operations Manuals in January 2019 to ensure that the descriptions contained and procedures outlined were accurate. In March 2020 the Operators and Classification section was updated to reflect changes to Operator certification.

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

Logbooks were properly maintained and contained the required information.

Question ID MRDW1062000		
Question	Question	Legislative
	Type	Requirement
Do records or other record keeping mechanisms confirm that	Legislative	SDWA O. Reg.
operational testing not performed by continuous monitoring		170/03 7-5
equipment is being done by a certified operator, water		
quality analyst, or person who meets the requirements of O.		
Reg. 170/03 7-5?		

Observation

Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.

Question ID MRDW1066000		
Question	Question	Legislative
	Type	Requirement
Is spill containment provided for process chemicals and	BMP	Not Applicable
standby power generator fuel?		

Observation

Spill containment was provided for process chemicals and/or standby power generator fuel. During the course of the inspection, it was observed that adequate spill containment measures are available within the pumphouse. In regards to the standby power generator's fuel supply, the propane tank is located approximately 3 meters away from the pumphouse and is mounted on concrete footings and is free and clear from any foliage.

Question ID MRDW1067000		
Question	Question	Legislative
	Type	Requirement
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. Spill response kits are located in Operator vehicles.

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. The Davy Drive Subdivision Drinking Water System is equipped with a propane fuelled generator capable of powering the water treatment plant. The generator is exercised weekly in a non-load condition, and tested every month under load, unless it was called on in response to a power outage since the previous load test. Annually the generator undergoes a resistance load test by an outside company.

Question ID MRDW1069000		
Question	Question	Legislative
	Type	Requirement
Are all storage facilities completely covered and secure?	BMP	Not Applicable
Observation		

All storage facilities were completely covered and secure. The standpipe is completely covered, the vents are screened and the ladder for accessing the hatch is locked. The overflow for the standpipe is equipped with a duck bill check valve. There are no other storage facilities associated with the Davy Drive Subdivision Drinking Water System.

Question ID MRDW1070000		
Question	Question	Legislative
	Type	Requirement
Are air vents and overflows associated with reservoirs and	BMP	Not Applicable
elevated storage structures equipped with screens?		
Observation	_	

Air vents and overflows associated with reservoirs and elevated storage structures were equipped with screens.

Question ID MRDW1071000		
Question	Question	Legislative
	Type	Requirement
Has the owner provided security measures to protect	BMP	Not Applicable
components of the drinking water system?		

Observation

The owner had provided security measures to protect components of the drinking water system. Well 1 is located within the pumphouse and is alarmed for forced entry, Well 2, Well 3, Well 4 are all located within 80m surrounding the pumphouse, the sample stations and standpipe are locked. There are no other storage structures within the distribution system.

Question ID MRDW1072000		
Question	Question	Legislative
	Type	Requirement
Has the owner and/or operating authority undertaken efforts	BMP	Not Applicable
to promote water conservation and reduce water losses in		
their system?		

The owner and/or operating authority undertook efforts to promote water conservation and reduce water losses in their system. All service connections are outfitted with water meters. The Owner has a bylaw to regulate the supply of water, including restrictions for lawn watering and non-domestic water use.

Question ID MRDW1073000		
Question	Question	Legislative
	Type	Requirement
Has the overall responsible operator been designated for all	Legislative	SDWA O. Reg.
subsystems which comprise the drinking water system?		128/04 23 (1)
Observation		

The overall responsible operator has been designated for each subsystem.

The Davy Drive Subdivision Drinking Water System is comprised of a Water Distribution Class 1 and Water Treatment Class 1 subsystem. The Overall Responsible Operator is designated for both of the subsystems.

Question ID MRDW1074000		
Question	Question	Legislative
	Type	Requirement
Have operators in charge been designated for all subsystems	Legislative	SDWA O. Reg.
for which comprise the drinking water system?		128/04 25 (1)
or which comprise the drinking water system:		120/01 25 (1)

Observation

Operators-in-charge had been designated for all subsystems which comprised the drinking water system. The Davy Drive Subdivision Drinking Water System is comprised of a Water Distribution Class 1 and Water Treatment Class 1 subsystem. The Operator in Charge is designated for both of the subsystems.

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

Question ID MRDW1078000		
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 (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
 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 showed that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O.Reg. 169/03). All samples collected during the inspection review period as well as the most recent samples tested for all Schedule 23 and 24 parameters and fluoride, met the Ontario Drinking Water Quality Standards.

Question ID MRDW1080000		
Question	Question	Legislative
	Type	Requirement
Are all microbiological water quality monitoring requirements for raw water samples prescribed by legislation	Legislative	SDWA O. Reg. 170/03 11-3
being met?		(1),SDWA O.
		Reg. 170/03 11-3 (3)

All microbiological water quality monitoring requirements for raw water samples were being met. Section 11-3 of Schedule 11 of Ontario Regulation 170/03 requires that if a drinking water system obtains water from a raw water supply that is ground water or a drinking water system is deemed under Section 2 to obtain water from a raw water supply that is surface water, the owner of the system and the operating authority for the system shall ensure that a water sample is taken at least once every month from the raw water in each well that is supplying water to the system, before any treatment is applied to the water. The owner of the drinking water system and the operating authority for the system shall ensure that each of the samples taken is tested for Escherichia coil and total coliforms.

During the inspection review period, the requirements of Section 11-3 of Schedule 11 were met and raw water samples were collected each month for the four wells supplying water to the Davy Drive Subdivision Drinking Water System. These raw water samples were tested for the required parameters.

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. Subsection 13-2 of Schedule 13 of Ontario Regulation 170/03 requires that the owner of a small residential drinking water system and the operating authority for the system shall ensure that, at least one water sample is taken every 60 months and tested for every parameter set out in Schedule 23.

During the inspection review period, treated samples were collected on August 21, 2019.

Question ID MRDW1085000		
Question	Question	Legislative
Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?	Legislative	Requirement SDWA O. Reg. 170/03 13-4 (1),SDWA O. Reg. 170/03 13-4 (2),SDWA O. Reg. 170/03 13-
		4 (3)

Observation

All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Subsection 13-4 of Schedule 13 of Ontario Regulation 170/03 requires that the owner of a small municipal residential drinking water system and the operating authority for the system shall ensure that, at least one water sample is taken every 60 months and tested for every parameter set out in Schedule 24.

The most recent treated water samples tested for all Schedule 24 parameters were collected on August 21, 2019

Question ID MRDW1086000		
Question	Question Type	Legislative Requirement
Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?	Legislative	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 O. Reg. 170/03 O. Reg. 170/03 13-6.1 (6)

Observation

All haloacetic acid water quality monitoring requirements prescribed by legislation are being conducted within the required frequency and at the required location. Section 13-6.1 of Schedule 13 of Ontario Regulation 170/03 requires that the owner of a drinking water system that provides chlorination or chloramination and the operating authority for the system shall ensure that at least one distribution sample is taken in each calendar quarter from a point in the drinking water system's distribution system or plumbing that is connected to the drinking water system that is likely to have an elevated potential for the formation of haloacetic acids (HAA), and have the samples tested for haloacetic acids.

The requirement to sample for HAA came into effect on January 1, 2017. The standard for HAA as a reportable limit came into effect on January 1, 2020.

During the inspection review period a sample was collected from the Davy Drive Subdivision distribution system on November 19, 2020, February 9, 2021, May 12, 2021, August 4, 2021, and November 2, 2021, as required.

Question ID MRDW1087000		
Question	Question	Legislative
	Type	Requirement
Have all trihalomethane water quality monitoring	Legislative	SDWA O. Reg.
requirements prescribed by legislation been conducted		170/03 13-6 (1)
within the required frequency and at the required location?		
Observation		

Observation

All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location. Section 13-6 of Schedule 13 of Ontario Regulation 170/03 requires that the owner of a drinking water system that provides

chlorination or chloramination and the operating authority for the system shall ensure that at least one distribution sample is taken every three months from a point in the drinking water system's distribution system or plumbing that is connected to the drinking water system that is likely to have an elevated potential for the formation of trihalomethanes (THMs). The samples are to be tested for THMs.

During the inspection review period samples were collected from the Davy Drive Subdivision distribution system and tested for THMs on November 19, 2020, February 9, 2021, May 12, 2021 and August 4, 2021, and November 2, 2021, as required.

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

Observation

All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS. Section 13-7 of Schedule 13 of Ontario Regulation 170/03 requires that the owner of a drinking water system and the operating authority for the system shall ensure that at least one water sample is taken every three months and tested for nitrate and nitrite. During the inspection review period samples tested for nitrate and nitrite were collected from the treated water point of entry for Davy Drive Subdivision Drinking Water System on November 19, 2020, February 9, 2021, May 12, 2021, August 4, 2021, and November 2, 2021, as required.

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

All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-8 of Schedule 13 of Ontario Regulation 170/03 requires that the owner of a drinking water system and the operating authority for the system shall ensure that at least one water sample is taken every 60 months and tested for sodium.

Section 6-1.1 (7) of Schedule 6 of Ontario Regulation 170/03 states that if this Regulation requires at least one water sample to be taken every 60 months and tested for a parameter, the owner of the drinking water system and the operating authority for the system shall ensure that at least one sample that is taken during a 60-month period for the purpose of being tested for that parameter is taken not more than 90 days before or after the fifth anniversary of the day a sample was taken for that purpose in the previous 60-month period.

A treated water sample for sodium was last sampled on August 12, 2020 with a follow-up resample on August 24, 2020.

Question ID MRDW1090000		
Question	Question	Legislative
	Type	Requirement
Where fluoridation is not practiced, are all fluoride water	Legislative	SDWA O. Reg.
quality monitoring requirements prescribed by legislation		170/03 13-9
conducted within the required frequency?		

All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-9 of Schedule 13 of Ontario Regulation 170/03 requires that if a drinking water system does not provide fluoridation, the owner of the system and the operating authority for the system shall ensure that a water sample is taken at least once every 60 months and tested for fluoride.

Section 6-1.1 (7) of Schedule 6 of Ontario Regulation 170/03 states that if this Regulation requires at least one water sample to be taken every 60 months and tested for a parameter, the owner of the drinking water system and the operating authority for the system shall ensure that at least one sample that is taken during a 60-month period for the purpose of being tested for that parameter is taken not more than 90 days before or after the fifth anniversary of the day a sample was taken for that purpose in the previous 60-month period.

The most recent treated water sample was collected and tested for fluoride on August 15, 2017.

Question	Legislative
Type	Requirement
Legislative	SDWA O. Reg.
	170/03 6-2
	Type

Observation

The owner ensured that water samples were taken at the prescribed location. Section 6-2 of Schedule 6 of Ontario Regulation 170/03 states that unless otherwise specified, a person who is required to ensure that samples are taken under this Regulation, shall ensure that they are taking from the point at which water enters the drinking water systems' distribution system or plumbing that is connected to the drinking water system.

Nitrate, nitrite, organic and inorganic samples, as well as treated water microbiological samples were collected from the treated water sampling point in the Davy Drive Subdivision pumphouse.

Question ID MRDW1095000		
Question	Question	Legislative
	Type	Requirement
Have all lead sampling requirements prescribed by Schedule	Legislative	SDWA O. Reg.
15.1 of O.R. 170/03 been met?		170/03 15.1-10,
		SDWA O. Reg.
		170/03 15.1-4
		(1),SDWA O.
		Reg. 170/03
		15.1-5 (1),

SDWA | O. Reg. 170/03 | 15.1-5 | (10),SDWA | O. Reg. 170/03 | 15.1-5 | (11), SDWA | O. Reg. 170/03 | 15.1-5 | (12),SDWA | O. Reg. 170/03 | $15.1-5 \mid (2),$ SDWA | O. Reg. 170/03 | 15.1-5 | (3),SDWA | O. Reg. 170/03 | $15.1-5 \mid (4),$ SDWA | O. Reg. 170/03 | 15.1-5 | (5),SDWA | O. Reg. 170/03 | 15.1-5 | (6), SDWA | O. Reg. 170/03 | 15.1-5 | (7),SDWA | O. Reg. 170/03 | $15.1-5 \mid (8),$ SDWA | O. Reg. 170/03 | 15.1-5 | (9),SDWA | O. Reg. 170/03 | $15.1-7 \mid (1),$ SDWA | O. Reg. 170/03 | 15.1-7 | (2),SDWA | O. Reg. 170/03 | $15.1-7 \mid (3),$ SDWA | O. Reg. 170/03 | 15.1-7 | (4),SDWA | O. Reg. 170/03 | $15.1-9 \mid (1),$ SDWA | O. Reg. 170/03 | 15.1-9 | (2),SDWA | O. Reg. 170/03 | $15.1-9 \mid (3),$ SDWA | O. Reg. 170/03 | 15.1-9 | (4),SDWA | O.

Reg. 170/03
15.1-9 (5),
SDWA O. Reg.
170/03 15.1-9
(6),SDWA O.
Reg. 170/03
15.1-9 (7),
SDWA O. Reg.
170/03 15.1-9
(8),SDWA O.
Reg. 170/03
15.1-9 (9)

All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were being met. Davy Drive Subdivision Drinking Water System has met the requirements to be eligible for reduced sampling under section 15.1-5 (10) of Schedule 15.1 of Ontario Regulation 170/03. As such, one distribution sample is required to be sampled in each winter and summer period (December 15 to April 15, and June 15 to October 15), and be tested for total alkalinity and for pH.

During the inspection review period, a lead sample, along with alkalinity and pH was collected on March 11, 2019, and the required second lead sample was collected on August 21, 2019. Distribution water lead samples are next required in 2022.

Question ID MRDW1096000		
Question	Question	Legislative
	Type	Requirement
Do records confirm that chlorine residual tests are being	Legislative	SDWA O. Reg.
conducted at the same time and at the same location that		170/03 6-3 (1)
microbiological samples are obtained?		

Observation

Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained. During the inspection review period, free chlorine residual tests were conducted at the same time and location that treated and distribution system samples were collected for microbiological analysis, as required by subsection 6-3(1) of Schedule 6 of Ontario Regulation 170/03.

Question ID MRDW1097000		
Question	Question	Legislative
	Type	Requirement
If the drinking water system obtains water from a ground	Legislative	SDWA O. Reg.
water source, is turbidity being tested at least once every		170/03 7-3
month from each well that is supplying water to the system?		(1.1)
Observation		

Turbidity was being tested at least once every month from each well that is supplying water to the system. Section 7-3 of Schedule 7 of Ontario Regulation 170/03 requires that the owner of a

drinking water system and the operating authority for the system shall ensure that a water sample is taken at least once every month from a location that is before raw water enters the treatment system, and is treated for turbidity. If the drinking water system obtains water from a raw water supply that is ground, the owner of the system and the operating authority for the system shall ensure that a sample is taken from each well that is supplying water to the system. There are four groundwater supply wells for the Davy Drive Subdivision Drinking Water System. During the inspection review period, this requirement was exceeded with the turbidity in each well being measured multiple times each week.

Question ID	MRDW1098000		
Question		Question	Legislative
		Type	Requirement
	indicated that the required records are kept of 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	Legislative
	Type	Requirement
Did any reportable adverse/exceedance conditions occur	Information	Not Applicable
during the inspection period?		
Observation		
There were no reportable adverse/exceedances during the inspection period.		

Question ID MRDW1110000		
Question	Question	Legislative
	Type	Requirement
Was an Annual Report containing the required information	Legislative	SDWA O. Reg.
prepared by February 28 of the following year?		170/03 11 (6)
Observation	•	

The Annual Report containing the required information was prepared by February 28th of the following year. The 2020 Annual Report was prepared by the operating authority, on behalf of the owner, for the Davy Drive Subdivision Drinking Water System. A copy of the report is available to the residents at the Township of Ramara Administration Office and on the Township's website.

Question ID	MRDW1082000

Question	Question	Legislative
	Type	Requirement
Are all microbiological water quality monitoring requirements for distribution samples prescribed by legislation being met?	Legislative	SDWA O. Reg. 170/03 11-2 (1),SDWA O. Reg. 170/03 11-
		2 (2),SDWA O. Reg. 170/03 11- 2 (6)

All microbiological water quality monitoring requirements for distribution samples prescribed by legislation were being met. Subsection 11-2(1) of Schedule 11 of, Ontario Regulation 170/03 requires the owner and the operating authority of a small municipal residential drinking water system to ensure that at least one distribution sample is taken every two weeks, if the system provides treatment equipment in accordance with Schedule 2 and the equipment is operated in accordance with that Schedule, as is the case for the Davy Drive Subdivision Drinking Water System.

Subsection 11-2(2) further stipulates that each of the distribution samples collected are tested for E.Coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic plate count, if subsection 2-5(1) of Schedule 2 applies to the system. Records provided and reviewed in the course of this inspection indicate that the owner has complied with these sampling requirements,

Question ID MRDW1111000		
Question	Question	Legislative
	Type	Requirement
Have Summary Reports for municipal council been	Legislative	SDWA O. Reg.
completed on time, include the required content, and		170/03 22-2
distributed in accordance with the regulatory requirements?		(1),SDWA O.
		Reg. 170/03 22-
		2 (2),SDWA O.
		Reg. 170/03 22-
		2 (3),SDWA O.
		Reg. 170/03 22-
		2 (4)

Observation

Summary Reports for municipal council were completed on time, included the required content, and were distributed in accordance with the regulatory requirements.