Ministry of the Environment and Climate Change

Safe Drinking Water Branch

Guelph District Office
4th Floor
1 Stone Road West
Guelph, Ontario N1G 4Y2

Ministère de l'Environnement et de l'Action en matière de changement climatique

Direction du contrôle la qualité de l'eau potable

Bureau du district de Guelph
4e étage
1, chemin Stone Ouest
Guelph (Ontario) N1G 4Y2

Ontario

August 12, 2016

The Corporation of the Township of Mapleton
7275 Sideroad 16
Drayton, ON
N0G 1P0

Attention: Mr. Jamie Morgan
Director of Public Works

RE: 2016-17 Inspection Report for the Drayton Drinking Water System

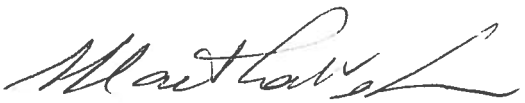
Dear Mr. Morgan,

I would like to thank you and the team at the Ontario Clean Water Agency for the assistance provided to me during my recent inspection of the Drayton Drinking Water System (DWS # 220004064). Attached is the final report for this inspection, with inspection report number 1-CLQCO.

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation & Enforcement (II&E) Secretariat and advice of internal/external risk experts. The Inspection Summary Rating Record (IRR), included as Appendix A of the inspection report, provides the Ministry, the system owner and the local Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance. Please note the attached IRR methodology memo describing how the risk rating model has improved to better reflect the health related and administrative non-compliance found in an inspection report. IRR ratings are published (for the previous inspection year) in the Ministry's Chief Drinking Water Inspector's Annual Report. If you have any questions or concerns regarding the rating, please contact Lisa Williamson, Drinking Water Program Supervisor, at 519-837-6386.

Feel free to contact me at (519) 826-4274 if you have any questions related to this inspection.

Best regards,



Martha Weber
Provincial Officer
Water Inspection Program
Guelph District Office

Cc via email: Scott Craggs, West Highlands Hub, OCWA
Lisa Benoit, West Highlands Hub, OCWA
Shawn Zentner, Wellington-Dufferin-Guelph Health Unit
Sandra Cooke, Grand River Conservation Authority
District Office File (SI WE MA WO 540)

Ontario

Ministry of the Environment and Climate Change

DRAYTON DRINKING WATER SYSTEM

Inspection Report

Site Number:	220004064
Inspection Number:	1-CLQCO
Date of Inspection:	Jun 29, 2016
Inspected By:	Martha Weber

Ontario

Drayton Drinking Water System
DWS# 220004064
2016/17 Focused Inspection Report

TABLE OF CONTENTS:

APPENDICES:

OWNER INFORMATION:

Company Name: MAPLETON, THE CORPORATION OF THE TOWNSHIP OF
Street Number: 7275 **Unit Identifier:**
Street Name: SIDEROAD 16 Rd
City: DRAYTON
Province: ON **Postal Code:** N0G 1P0

CONTACT INFORMATION

Type: Owner **Name:** Jamie Morgan
Phone: (519) 638-3313 **Fax:** (519) 638-5113
Email: jmorgan@mapleton.ca
Title: Director of Public Works

Type: Operating Authority **Name:** Scott Craggs
Phone: (519) 941-1938 **Fax:** (519) 941-1794
Email: scraggs@ocwa.com
Title: OCWA - Operations Manager

Type: Operating Authority **Name:** Lisa Benoit
Phone: (519) 941-1938 **Fax:** (519) 941-1794
Email: lbenoit@ocwa.com
Title: Process & Compliance Technician

INSPECTION DETAILS:

Site Name: DRAYTON DRINKING WATER SYSTEM
Site Address: 60 WOOD ST DRAYTON N0G 1P0
County/District: Mapleton
MOECC District/Area Office: Guelph District
Health Unit: WELLINGTON-DUFFERIN-GUELPH HEALTH UNIT
Conservation Authority:
MNR Office:
Category: Large Municipal Residential
Site Number: 220004064
Inspection Type: Announced
Inspection Number: 1-CLQCO
Date of Inspection: Jun 29, 2016
Date of Previous Inspection:

COMPONENTS DESCRIPTION

Site (Name): WELL 1 RAW
Type: Source **Sub Type:** Ground
Comments:
Well 1 is a 66.3 m deep, 250 mm diameter drilled groundwater well located within the pumphouse at 60 Wood Street. According to Water Well Record # 6700125, Well 1 was drilled in 1967. It is equipped with a submersible pump rated at 1,364 L/min at a total dynamic head of 37.0 m, sanitary well seal, depth gauge and bubbler tube system for

monitoring. Flow from Well 1 is monitored via a propeller flow meter. Well 1 is not considered to be under the direct influence of surface water.

Site (Name): WELL 2 RAW
Type: Source **Sub Type:** Ground
Comments:
Well 2 is a 67.1 m deep 250 mm diameter drilled groundwater well located within the pumphouse at 60 Wood Street. According to Water Well Record #6707970, Well 2 was drilled in 1984. It is equipped with a submersible pump rated at 1,364 L/min at a total dynamic head of 37.0 m, sanitary well seal, depth gauge and bubbler tube system for monitoring. Flow from Well 2 is monitored via a propeller flow meter. Well 2 is not considered to be under the direct influence of surface water.

Site (Name): PUMPHOUSE TREATED
Type: Treated Water POE **Sub Type:** Pumphouse
Comments:
Treatment consists of iron sequestration and disinfection via chlorination. The iron sequestration system is comprised of a sodium silicate solution tank, two chemical metering pumps (one dedicated to each well), and feed lines injecting prior to the sodium hypochlorite injection. The disinfection system is comprised of a sodium hypochlorite solution tank, two chemical metering pumps (one dedicated to each well), and feed lines injecting prior to a common header that discharges into the reservoir.

Chlorine contact time is provided in a 405 m^3 in-ground reservoir with four cells that can be individually isolated for maintenance purposes. During normal operating conditions, chlorinated raw water enters cell 1 and continues through to cells 2, 3 and 4 where high lift pumps 1 and 2, draw water from cell 4, and direct the treated water into the distribution system. During fireflow or maintenance only, high lift pumps 4 and 5 draw water from cell 3, and CT calculations have been completed for this situation. Each reservoir cell has an access hatch, and there are two screened air vents.

High lift pumps 1 and 2 are submersible pumps, each rated at a capacity of 15 L/s at a total dynamic head (TDH) of 61.3 m. Pump 3, which has not been used in years and is physically locked out, is a vertical turbine pump rated at a capacity of 45 L/s at a TDH of 61.3 m. Pump 4 is rated at 13 L/s at a TDH of 61.3 m. Pump 5 is rated at a capacity of 45 L/s.

A potential bypass exists via a pipe leading off of Well 2, after sodium hypochlorite injection, that discharges into reservoir cell 3. The valve for this piping is locked and is labelled as a potential disinfection bypass that is not to be opened without notification to the Overall Responsible Operator.

Emergency power is delivered via a 150 kW diesel generator complete with an automatic transfer switch.

Site (Name): DISTRIBUTION
Type: Other **Sub Type:** Other
Comments:
The distribution system was installed in 1987 and is reported to consist mainly of PVC pipes. There are approximately 1,880 residents connected to the distribution system. There are 51 fire hydrants and 102 valves in the system. There are currently no storage structures in the distribution system.

Site (Name): MOE DWS Mapping
Type: DWS Mapping Point **Sub Type:**

INSPECTION SUMMARY:

Introduction

- **The primary focus of this inspection is to confirm compliance with Ministry of the Environment and Climate Change (MOECC) legislation as well as evaluating conformance with ministry drinking water related 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 report is based on a "focused" inspection of the system. Although the inspection involved fewer activities than those normally undertaken in a detailed inspection, it contained critical elements required to assess key compliance issues. This system was chosen for a focused inspection because the system's performance met the ministry's criteria, most importantly that there were no deficiencies as identified in O.Reg. 172/03 over the past 3 years. The undertaking of a focused inspection at this drinking water system does not ensure that a similar type of inspection will be conducted at any point in the future.

  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 Drayton Drinking Water System is owned by the Township of Mapleton and operated by the Ontario Clean Water Agency (OCWA). This inspection report covers a review period of July 1, 2015 to June 30, 2016.

  Municipal Drinking Water Licence (MDWL) #105-101, Issue #2 was issued on November 24, 2015 and expires November 22, 2020. Drinking Water Works Permit (DWWP) #105-201, Issue #3 was issued on November 24, 2015.

  Permit to Take Water (PTTW) #0758-98MLKT includes both production wells and was issued on June 18, 2013, with an expiry of May 31, 2023.

  Classification certificate #1578, dated April 27, 2009, deems this system a Class 2 Water Distribution and Supply Subsystem.

Source

- **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.**

- **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.**

  According to Water Well Record #6707970, the annular space for Well 2 is filled with neat cement grout from ground level to 30 feet below grade. Water Well Record #6700125 does not contain information on an annular seal for Well 1, however the water quality history does not indicate a surface water influence.

  Sections 16.2.7 - 16.2.9 of Schedule B in the MDWL requires that an inspection schedule for all wells associated with the drinking water system be included in the operations and maintenance manual. There must be inspection

Source

and maintenance procedures for the entire well structure of each well including all above and below grade components, and remedial action plans for situations where an inspection indicates non-compliance with respect to regulatory requirements and/or risk to raw well water quality.

OCWA has established a well inspection program that requires inspections of the production wells on monthly, 5 year, and 10 year timelines. The 10 year inspection includes a detailed assessment of the well, including below grade components. Wells 1 and 2 are scheduled to undergo the 10 year inspection process in 2023 and 2024, respectively.

Capacity Assessment

- **There was not sufficient monitoring of flow as required by the Municipal Drinking Water Licence or Drinking Water Works Permit issued under Part V of the SDWA.**

  Schedule C of the MDWL requires continuous measuring and recording of the flow rate and daily volume from treatment into the distribution system (Section 2.1.1) and flow rate and daily volume from the wells into the treatment subsystem (Section 2.1.2). For the Drayton Drinking Water System, flow rates are recorded via a chart recorder system, and daily volumes are documented via the operator calculating and recording the difference in readings from each flow meter's totalizer.

  It is noted that the Fire Pump (high lift pump 5 - HLP5) pumps treated water from cell 3 of the reservoir and directs the water into the distribution system at a location in the header pipe which is downstream of the magnetic flow meter and is therefore not measured. OCWA has developed a procedure to estimate any water pumped from HLP5 when in use. This procedure uses the hour meter and pump capacity and these values are recorded on daily log sheets. The fact that HLP5 is not metered is detailed in the Drinking Water Works Permit, with the description that it is used for fire flow and maintenance only.

  The most recent verifications for flow meter accuracy were conducted on September 10, 2015 (Well 2 flow), September 24, 2015 (Chart recorders), and November 12, 2015 (Well 1 flow and discharge to distribution flow).

  A review of chart recorder discs showed that on August 7, 2015, the recording pen for the treated flow rate had run out of ink for a portion of the day, resulting in approximately two hours of missing recorded data. There were two other dates in the inspection review period when the pen ran dry, however, on those dates there was still just enough ink to be able to determine the flow rate for these dates. In addition, on August 8, 2015, the treated flow pen clip failed or shifted such that the recorded data is not accurate to the true flows from that day. The pen was noted in the logbook to have been adjusted the following day.

  UPDATE: A Supervisory Control and Data Acquisition (SCADA) system has been purchased for the purpose of monitoring and recording data from this facility. Specific to flow data, the SCADA system will replace the existing antiquated chart recording system. The SCADA system is reported to be in the programming stage, and is scheduled to be installed on site in August 2016.

  REQUIRED ACTIONS: The Township or OCWA shall provide notice to the undersigning officer within two weeks of completion of installation of the SCADA system.

- **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.**

  Section 1 of Schedule C in the MDWL allows a rated capacity from the treatment system into the distribution system of 3,928 m^3/day. A review of flow records showed that there were no exceedances of the rated capacity during the review period.

Treatment Processes

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

- **The owner/operating authority was in compliance with the requirement to prepare Form 1 documents as required by their Drinking Water Works Permit during the inspection period.**

- **The owner/operating authority was in compliance with the requirement to prepare Form 2 documents as required by their Drinking Water Works Permit during the inspection period.**

  A Form 2 document has been prepared in reference to the installation of SCADA at Drayton, which is proposed to be completed at the end of July 2016.

- **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.**

  The Drayton Drinking Water System obtains water from ground water sources. The treatment system consists of disinfection using chlorine and is capable of achieving an overall performance that provides, at a minimum, 2-log (99%) removal or inactivation of viruses prior to the first consumer. The minimum required CT value for this system has been determined to be 4 mg/L·min. To ensure CT has been achieved, the well pumps are set to shut down if free chlorine residual drops to 0.5 mg/L, or if the reservoir level drops to 1.66 m. The low reservoir level alarm has a setpoint of 2.55 m.

  For normal operation, raw water is dosed with sodium hypochlorite, then enters cell 1, then 2, 3, and then 4 before high lift pumps 1 or 2 draw the water from cell 4. In fireflow or certain maintenance situations, high lift pumps 4 and 5 draw water from cell 3. CT calculations for worst case scenarios have been completed for these situations and alarm setpoints have been established to reflect these calculations.

  There is a connection, which is valved closed/locked out, through which water from well 2 can be discharged into cell 3. If this connection is to be utilized for special circumstances, guidance has been provided that high lift pumps 4 and 5 would have to be locked out, then the valve between cells 3 and 4 would have to be closed such that water would travel from cell 3 to 2 to 1 to 4. In this event, case-specific CT calculations would have to be completed to demonstrate compliance with treatment requirements.

  A review of records shows that the required treatment appears to have been achieved at all times water was being provided to consumers.

- **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.**

Treatment Process Monitoring

- **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.**

  Continuous chlorine residual monitoring occurs after treated water has left the treatment tank in which primary disinfection occurs.

- **The secondary disinfectant residual was measured as required for the distribution system.**

  O. Reg. 170/03, Schedule 7, Section 7.2 requires at least seven distribution samples to be taken each week and

Treatment Process Monitoring

tested immediately for chlorine residual. Unless one sample is taken on each day of the week, there is a requirement for at least 48 hours to pass between the sets of four samples and three samples used to complete the seven sample requirement. OCWA operators conduct daily distribution residual monitoring, and records indicate this monitoring was completed every day of the inspection review period.

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

  Operators follow the Standard Operating Procedure G-48 "Downloading/Reviewing of Continuous Monitoring Data". Data is typically reviewed at the pumphouse on a daily basis.

- **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.**

  If the treated free chlorine residual drops below 0.5 mg/L, alarms are programmed to alert the operator, and the raw well pumps will lock out and cease to pump water into the reservoir. The low level alarm for the reservoir is reported to be set at 2.5 m, with a lockout setpoint of 1.66 m. At the time of inspection, the low chlorine residual alarm and raw well pump lock-out were tested and found to be working as expected.

- **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.**

- **All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.**

Operations Manuals

- **The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.**

- **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.**

  Operations and Maintenance Manual information is required to be available for reference by all persons responsible for the operation and maintenance of the drinking water system. Section 16.2 of Schedule B in the Licence specifies what information must be available.

  Recent changes to operational information include updated CT calculations, which were completed as part of the MDWL and DWWP renewals. These calculations are posted at the pumphouse, as well as being available in operational information binders.

  Work is in progress regarding the installation of a SCADA system at this facility. As such, a number of operating procedures and references will likely need to be updated to reflect the SCADA system.

  RECOMMENDATION: It is suggested that once the new SCADA system is installed and is operational at the Drayton Drinking Water System, the Township and OCWA work together to ensure Standard Operating Procedures and other operations and maintenance information is updated to reflect this SCADA system and its capabilities.

Logbooks

- **Records or other record keeping mechanisms confirmed that operational testing not performed by**

Logbooks

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.

Security

- **The owner had provided security measures to protect components of the drinking water system.**

Certification and Training

- **The overall responsible operator had been designated for each subsystem.**
- **Operators in charge had been designated for all subsystems which comprised the drinking-water system.**
- **Only certified operators made adjustments to the treatment equipment.**

Water Quality Monitoring

- **All microbiological water quality monitoring requirements for distribution samples were being met.**

  For the population of approximately 1,800 residents, O.Reg 170/03, Section 10-2 of Schedule 10 requires at least nine distribution samples to be taken every month, with at least one of the samples being taken in each week. These samples are to be tested for E. coli and total coliforms, and 25 percent of the samples are to be tested for general bacteria population expressed as colony counts on a heterotrophic plate count. A review of sampling records shows that samples were taken and tested as required, with sample numbers going above and beyond the minimum requirements every month.

- **All microbiological water quality monitoring requirements for treated samples were being met.**

  In O.Reg 170/03, Section 10-3 of Schedule 10 requires a treated sample be taken at least once every week and be tested for E. coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic plate count. A review of records shows that samples were taken as required.

- **All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

  Sampling for inorganic parameters was last conducted on January 8, 2013.

- **All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

  Sampling for organic parameters was last conducted on January 8, 2013.

- **All trihalomethanes water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

  The latest Running Annual Average was calculated to be 14.5 µg/L.

- **All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS.**
- **All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

  Sodium sampling was last conducted on September 11, 2013.

Water Quality Monitoring

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

  Fluoride sampling was last conducted on September 11, 2013.

- **Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.**

Water Quality Assessment

- **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).**

Reporting & Corrective Actions

- **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.**

Other Inspection Findings

- **The following instance(s) of non-compliance were also noted during the inspection:**

  Ontario Regulation 128/04 (O.Reg.128/04), section 27(5)6 states that information should be entered in the logs when any equipment is taken out of service or ceases to operate and any action taken to maintain or repair the equipment. On August 7, 2015, the treated flow chart recorder pen ran dry, resulting in approximately two hours of missing treated flow records. The logbook for August 8, 2015, noted the pen was changed but did not specify that there were some missing records as a result of the pen going dry. More details should have been entered in the log regarding this incident.

  REQUIRED ACTIONS: Refresher training on logbook entries shall be provided to the operator responsible for the August 8, 2015 entry, to help ensure more details are included in future entries where equipment is taken out of service or ceased to operate. Confirmation of completion of this training shall be provided to the undersigned provincial officer by October 14, 2016.

- **The following issues were also noted during the inspection:**

  (a) A Ministry document titled Watermain Disinfection Procedure, dated November 2015, outlines procedures for disinfecting water mains as part of an addition, modification, replacement, extension, planned maintenance, or emergency repair in a municipal residential drinking water system. The requirement for compliance with this document is being implemented through new conditions in DWWPs. For DWWPs issued prior to the finalization of the document, amendments will be made to include compliance with this new procedure.

  RECOMMENDATION: It is suggested that OCWA staff consider amending their "Main/Service Leak Form" to include terminology found in the Watermain Disinfection Procedure, such as reference to Category 1 and Category 2 breaks, to record in detail the severity of watermain breaks. It is also recommended that the form includes prompts to record information about possible bacteriological sampling that may be conducted in response to a main break, and whether a Boil Water Advisory had been issued.

  (b) Regarding logbooks, a best practice item was observed in that the entries in the wellhouse logbook contain blank lines between daily entries. This is not an ideal practice as it can allow for the recording of information at a later date within the existing log entry.

Other Inspection Findings

RECOMMENDATION: It is suggested that OCWA staff consider implementing the practice of crossing out empty lines from daily log entries to avoid the potential for the back entry of information.

- **The following items are noted as being relevant to the Drinking Water System:**

  An Environmental Assessment is currently underway to identify capital work projects required to meet future water demands for the remainder of the developable lands within the Village of Drayton limits, and to review the existing water distribution system to determine preferred alternatives for improved flows/pressures.

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

1 There was not sufficient monitoring of flow as required by the Municipal Drinking Water Licence or Drinking Water Works Permit issued under Part V of the SDWA.

Schedule C of the MDWL requires continuous measuring and recording of the flow rate and daily volume from treatment into the distribution system (Section 2.1.1) and flow rate and daily volume from the wells into the treatment subsystem (Section 2.1.2). For the Drayton Drinking Water System, flow rates are recorded via a chart recorder system, and daily volumes are documented via the operator calculating and recording the difference in readings from each flow meter's totalizer.

A review of chart recorder discs showed that on August 7, 2015, the recording pen for the treated flow rate had run out of ink for a portion of the day, resulting in approximately two hours of missing recorded data. There were two other dates in the inspection review period when the pen ran dry, however, on those dates there was still just enough ink to be able to determine the flow rate for these dates. In addition, on August 8, 2015, the treated flow pen clip failed or shifted such that the recorded data is not accurate to the true flows from that day. The pen was noted in the logbook to have been adjusted the following day.

UPDATE: A Supervisory Control and Data Acquisition (SCADA) system has been purchased for the purpose of monitoring and recording data from this facility. Specific to flow data, the SCADA system will replace the existing antiquated chart recording system. The SCADA system is reported to be in the programming stage, and is scheduled to be installed on site in August 2016.

Action(s) Required:

The Township or OCWA shall provide notice to the undersigning officer within two weeks of completion of installation of the SCADA system.

2 The following instance(s) of non-compliance were also noted during the inspection:

Ontario Regulation 128/04 (O.Reg.128/04), section 27(5)6 states that information should be entered in the logs when any equipment is taken out of service or ceases to operate and any action taken to maintain or repair the equipment. On August 7, 2015, the treated flow chart recorder pen ran dry, resulting in approximately two hours of missing treated flow records. The logbook for August 8, 2015, noted the pen was changed but did not specify that there were some missing records as a result of the pen going dry. More details should have been entered in the log regarding this incident.

Action(s) Required:

Refresher training on logbook entries shall be provided to the operator responsible for the August 8, 2015 entry, to help ensure more details are included in future entries where equipment is taken out of service or ceased to operate. Confirmation of completion of this training shall be provided to the undersigned provincial officer by October 14, 2016.

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

1 . The following issues were also noted during the inspection:

(a) A Ministry document titled Watermain Disinfection Procedure, dated November 2015, outlines procedures for disinfecting water mains as part of an addition, modification, replacement, extension, planned maintenance, or emergency repair in a municipal residential drinking water system. The requirement for compliance with this document is being implemented through new conditions in DWWPs. For DWWPs issued prior to the finalization of the document, amendments will be made to include compliance with this new procedure.

(b) Regarding logbooks, a best practice item was observed in that the entries in the wellhouse logbook contain blank lines between daily entries. This is not an ideal practice as it can allow for the recording of information at a later date within the existing log entry.

(c) Work is in progress regarding the installation of a SCADA system at this drinking water system. As such, a number of operating procedures and references will likely need to be updated to reflect the SCADA system.

Recommendation:

(a) It is suggested that OCWA staff consider amending their "Main/Service Leak Form" to include terminology found in the Watermain Disinfection Procedure, such as reference to Category 1 and Category 2 breaks, to record in detail the severity of watermain breaks. It is also recommended that the form includes prompts to record information about possible bacteriological sampling that may be conducted in response to a main break, and whether a Boil Water Advisory had been issued.

(b) It is suggested that OCWA staff consider implementing the practice of crossing out empty lines from daily log entries to avoid the potential for the back entry of information.

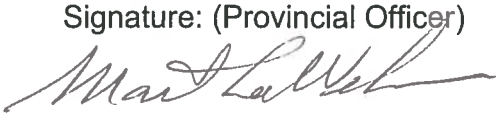
(c) It is suggested that once the new SCADA system is installed and is operational at the Drayton Drinking Water System, the Township and OCWA work together to ensure Standard Operating Procedures and other operations and maintenance information is updated to reflect this SCADA system and its capabilities.

SIGNATURES

Inspected By:

Martha Weber

Signature: (Provincial Officer)



Reviewed & Approved By:

Lisa Williamson

Signature: (Supervisor)

Review & Approval Date:

August 12, 2016

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.

APPENDIX A

Inspection Rating Record

Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2016-2017)

DWS Name:	DRAYTON DRINKING WATER SYSTEM
DWS Number:	220004064
DWS Owner:	Mapleton, The Corporation Of The Township Of
Municipal Location:	Mapleton
Regulation:	O.REG 170/03
Category:	Large Municipal Residential System
Type Of Inspection:	Focused
Inspection Date:	June 29, 2016
Ministry Office:	Guelph District

Maximum Question Rating: 429

Inspection Module	Non-Compliance Rating
Source	0 / 28
Capacity Assessment	14 / 30
Treatment Processes	0 / 64
Operations Manuals	0 / 28
Logbooks	0 / 14
Certification and Training	0 / 28
Water Quality Monitoring	0 / 104
Reporting & Corrective Actions	0 / 21
Other Inspection Findings	0 / 0
Treatment Process Monitoring	0 / 112
TOTAL	**14 / 429**

Inspection Risk Rating	**3.26%**

FINAL INSPECTION RATING:	**96.74%**

Inspection Rating Record Generated On 11-AUG-16 (Inspection ID: 1-CLQCO).

Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2016-2017)

DWS Name:	DRAYTON DRINKING WATER SYSTEM
DWS Number:	220004064
DWS Owner:	Mapleton, The Corporation Of The Township Of
Municipal Location:	Mapleton
Regulation:	O.REG 170/03
Category:	Large Municipal Residential System
Type Of Inspection:	Focused
Inspection Date:	June 29, 2016
Ministry Office:	Guelph District

Non-compliant Question(s)	Question Rating
Capacity Assessment	
Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?	14
Other Inspection Findings	
In the event that an issue of non-compliance outside the scope of this inspection protocol is identified, a "No" response may be used if further actions are deemed necessary (and approved by the DW Supervisor) to facilitate compliance.	0
TOTAL QUESTION RATING	14

Maximum Question Rating: 429

Inspection Risk Rating	**3.26%**
FINAL INSPECTION RATING:	**96.74%**

Inspection Rating Record Generated On 11-AUG-16 (Inspection ID: 1-CLQCO).

APPENDIX B

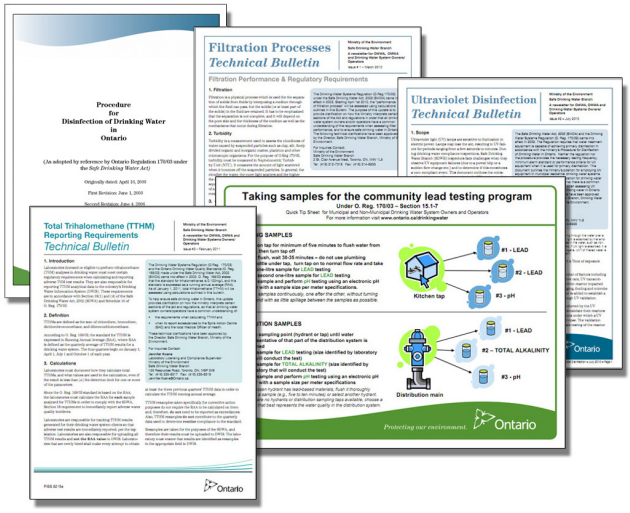
STAKEHOLDER INFORMATION

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 Public Information Centre if you need assistance or have questions at 1-800-565-4923/416-325-4000 or **picemail.moe@ontario.ca**.

For more information on Ontario's drinking water visit **www.ontario.ca/drinkingwater** and email **drinking.water@ontario.ca** to subscribe to drinking water news.



PUBLICATION TITLE	PUBLICATION NUMBER
Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils	7889e01
FORMS: Drinking Water System Profile Information, Laboratory Services Notification, Adverse Test Result Notification Form	7419e, 5387e, 4444e
Procedure for Disinfection of Drinking Water in Ontario	4448e01
Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids	7152e
Total Trihalomethane (TTHM) Reporting Requirements Technical Bulletin (February 2011)	8215e
Filtration Processes Technical Bulletin	7467
Ultraviolet Disinfection Technical Bulletin	7685
Guide for Applying for Drinking Water Works Permit Amendments, Licence Amendments, Licence Renewals and New System Applications	7014e01
Certification Guide for Operators and Water Quality Analysts	
Guide to Drinking Water Operator Training Requirements	9802e
Taking Samples for the Community Lead Testing Program	6560e01
Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption	7423e
Guide: Requesting Regulatory Relief from Lead Sampling Requirements	6610
Drinking Water System Contact List	7128e
Technical Support Document for Ontario Drinking Water Quality Standards	4449e01

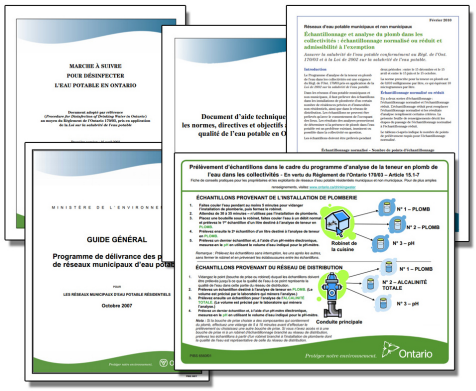
PIBS 8990b01

Ontario

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 Centre d'information au public au 1 800 565-4923 ou au 416 325-4000, ou encore à **picemail.moe@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** ou envoyez un courriel à **drinking.water@ontario.ca** pour suivre l'information sur l'eau potable.

TITRE DE LA PUBLICATION	NUMÉRO DE PUBLICATION
Prendre soin de votre eau potable – Un guide destiné aux membres des conseils municipaux	7889f01
Renseignements sur le profil du réseau d'eau potable, Avis de demande de services de laboratoire, Formulaire de communication de résultats d'analyse insatisfaisants et du règlement des problèmes	7419f, 5387f, 4444f
Marche à suivre pour désinfecter l'eau potable en Ontario	4448f01
Strategies for Minimizing the Disinfection Products Thrihalomethanes and Haloacetic Acids (en anglais seulement)	7152e
Total Trihalomethane (TTHM) Reporting Requirements: Technical Bulletin (février 2011) (en anglais seulement)	8215e
Filtration Processes Technical Bulletin (en anglais seulement)	7467
Ultraviolet Disinfection Technical Bulletin (en anglais seulement)	7685
Guide de présentation d'une demande de modification du permis d'aménagement de station de production d'eau potable, de modification du permis de réseau municipal d'eau potable, de renouvellement du permis de réseau municipal d'eau potable et de permis pour un nouveau réseau	7014f01
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	
Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable	9802f
Prélèvement d'échantillons dans le cadre du programme d'analyse de la teneur en plomb de l'eau dans les collectivités	6560f01
Échantillonnage et analyse du plomb dans les collectivités : échantillonnage normalisé ou réduit et admissibilité à l'exemption	7423f
Guide: Requesting Regulatory Relief from Lead Sampling Requirements (en anglais seulement)	6610
Liste des personnes-ressources du réseau d'eau potable	7128f
Document d'aide technique pour les normes, directives et objectifs associés à la qualité de l'eau potable en Ontario	4449f01

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Ontario