

Ministry of the Environment,  
Conservation and Parks

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

Barrie District

District de Barrie

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May 4, 2020

**Attention: John Pinsent Chief Administrative Officer**  
**Re: 2020 Drinking Water Inspection Report**  
**Somerset/ Knob Hill Distribution System**

Please find enclosed the Ministry of the Environment, Conservation and Parks Inspection Report for Somerset/ Knob Hill Distribution System (Water Works # 260046137). There was no physical inspection undertaken for this inspection, it was done remotely. The inspection commenced on April 9, 2020.

The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks legislation and authorizing documents, as well as evaluating conformance with Ministry drinking water-related policies and guidelines during the inspection review period.

No issues of non-compliance or recommendations were identified in the inspection. No Provincial Officer's Orders were issued in conjunction with this inspection.

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation and Enforcement Secretariat and advice of internal/external risk experts. The Inspection Summary Rating Record (IRR), included as Appendix A of this 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. If you have any questions or concerns regarding the rating, please contact Sheri Broeckel, Drinking Water Supervisor at (705) 716-3712.

If you have any questions regarding the inspection report, please feel free to contact the undersigned at (705) 716-5655 or [laura.kent@ontario.ca](mailto:laura.kent@ontario.ca).

Sincerely,



Laura Kent  
Provincial Officer  
Drinking Water Inspection Program, Safe Drinking Water Branch  
Barrie District Office, Ministry of the Environment Conservation and Parks

CC Medical Officer of Health, Simcoe Muskoka District Health Unit  
Manager of Environmental Services, Township of Ramara  
Barrie District Office File, Ministry of the Environment, Conservation and Parks



**Ministry of the Environment, Conservation and Parks**

**SOMERSET/ KNOB HILL DISTRIBUTION SYSTEM**

**Inspection Report**

<b>Site Number:</b>	260046137
<b>Inspection Number:</b>	1-NRTO1
<b>Date of Inspection:</b>	Apr 09, 2020
<b>Inspected By:</b>	Laura Kent

## OWNER INFORMATION:

<b>Company Name:</b>	RAMARA, THE CORPORATION OF THE TOWNSHIP OF		
<b>Street Number:</b>	2297	<b>Unit Identifier:</b>	
<b>Street Name:</b>	HIGHWAY 12 HWY		
<b>City:</b>	BRECHIN		
<b>Province:</b>	ON	<b>Postal Code:</b>	L0K 1B0

## CONTACT INFORMATION

## INSPECTION DETAILS:

<b>Site Name:</b>	SOMERSET/ KNOB HILL DISTRIBUTION SYSTEM
<b>Site Address:</b>	3398 QUENTON Street WASHAGO ON L0K 1B0
<b>County/District:</b>	RAMARA
<b>MECP District/Area Office:</b>	Barrie District
<b>Health Unit:</b>	SIMCOE MUSKOKA DISTRICT HEALTH UNIT
<b>Conservation Authority:</b>	
<b>MNR Office:</b>	Midhurst Regional Office
<b>Category:</b>	Small Municipal Residential
<b>Site Number:</b>	260046137
<b>Inspection Type:</b>	Special Announced
<b>Inspection Number:</b>	1-NRTO1
<b>Date of Inspection:</b>	Apr 09, 2020
<b>Date of Previous Inspection:</b>	Apr 09, 2019

## COMPONENTS DESCRIPTION

<b>Site (Name):</b>	MOE DWS Mapping	<b>Sub Type:</b>	
<b>Type:</b>	DWS Mapping Point		
<b>Site (Name):</b>	Somerset/Knob Hill Stand Alone Distribution System	<b>Sub Type:</b>	Other
<b>Type:</b>	Other		

**Comments:**  
The Somerset/Knob Hill distribution system is a stand alone connected distribution system owned and operated by the Corporation of the Township of Ramara. The system receives treated water from the Washago Water System (Waterworks # 220005161), owned and operated by the Corporation of the Township of Severn. The Washago water system consists of a direct filtration type package plant which treats water obtained from Lake Couchiching. The system services approximately 300 residential units in the village of Washago, Township of Severn and 17 units in the Somerset/Knob Hill distribution system, Township of Ramara. There are 20 lots in total that can be developed in the Somerset/ Knob Hill system. The Washago water system, hereafter referred to as the donor system, is categorized as a Large Municipal Residential drinking water system as defined by Ontario Regulation 170/03. As a Large Municipal Residential water system, the owner (The Corporation of the Township of Severn), hereafter referred to as donor, has duties as set out in the Safe Drinking Water Act to ensure that all water conveyed to all users meets, at a minimum, those standards set out in Ontario Regulation 169/03, Drinking Water Quality Standards. Likewise, similar duties are set out for the owner/operating authority of the stand alone distribution system used and operated to convey treated water received from the donor to the users of the system.

Treated water conveyed from the donor system is measured through a metering chamber consisting of a two inch mechanical flow meter, isolation valves, and a one inch meter bypass, also equipped with a mechanical flow meter, providing redundancy for maintenance purposes. The metering chamber is located at a dead end within the Washago distribution system so the donor has installed recirculation lines which maintain a constant flow of freshly treated water into the dead end and back to the treatment facility. An agreement signed between the donor and receiver in 1995 identifies the donor as having sole ownership and exclusive control of the metering chamber and associated valving, whereas the receiver is responsible for the distribution piping connected to the metering chamber. The donor has not specifically agreed in writing that they would ensure the maintenance of secondary disinfection within the receiver system nor have they formally agreed to sample and test the water in the receiver system as though it was part of the donor's system. Therefore, the agreement does not satisfy full exemption criteria set out in Section 5(4) O.Reg.170/03.

The Somerset/Knob Hill distribution system is comprised of approximately 700 metres of two inch polyethylene water main used to convey treated water across the Severn River (the municipal boundary). A two inch tee situated approximately 15-20 metres on shore directs water along the river to two separate easements through which the water main is installed to service the individual service connections. According to a title search performed by Russell, Christie, LLP Barristers and Solicitors, on behalf of the owner in March 2005, the easements are in favour of the Corporation of the Township of Orillia, now the Corporation of the Township of Severn.

The two inch water mains and ¾ inch service lines are equipped with isolation valves. The portion of the water main lain across the bottom of the river is reportedly held in place by sandbags. There are no storage structures or hydrants associated with the distribution system. There are three sample stations installed in the distribution system and one blow-off. At the time of inspection, the Somerset/Knob Hill distribution system serviced 17 lots located on Knob Hill Drive, Meadow Crescent and Somerset Drive. As such, the system is categorized as a Small Municipal Residential drinking water system as defined by Ontario Regulation 170/03. There are no known designated facilities serviced by the Somerset/Knob Hill water system.

## INSPECTION SUMMARY:

### Introduction

- 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.

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 an inspection of a "stand alone connected distribution system" and was conducted remotely. This type of system receives treated water from a separately owned "donor" system. This report contains elements required to assess key compliance and conformance issues associated with a "receiver" system. This report does not contain items associated with the inspection of the donor system, such as source waters, intakes/wells and treatment facilities.

This report is based on a "focused" inspection of the system and was conducted remotely. 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 Somerset/Knob Hill Distribution System is a stand-alone distribution small municipal residential drinking water system, as defined by Ontario Regulation 170/3, and operates under drinking water system # 260046137. The distribution system serves an estimated population of 44 people. Seventeen of the available 20 lots have been developed. The distribution system is owned and operated by the Corporation of the Township of Ramara. Drinking water is supplied by the Township of Severn from the Washago Drinking Water System (waterworks # 220005161). The Washago Drinking Water System is a surface water treatment plant which provides coagulation, flocculation, filtration and disinfection.

The Somerset/Knob Hill Distribution System consists of approximately 700 m of 50 mm diameter watermains, including a watermain that conveys treated water across the Severn River. There are three sample stations, a blow off, and an air vent installed in the distribution system. There are no storage structures or rechlorination facilities within the distribution system.

This inspection was conducted pursuant to section 81 of the Safe Drinking Water Act in order to assess compliance with the requirements of Ontario Regulation 170/03. The drinking water inspection included: interview with Township of Ramara staff; and a review of relevant documents and data from the period of April 9, 2019 to April 9, 2020 (hereafter referred to as "inspection review period"). A site visit was not conducted as part of the inspection. The previous inspection of the Somerset/Knob Hill Distribution System was conducted on April 9, 2019.

### 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.

**Treatment Processes**

Drinking Water Works Permit 147-207 issue number 2 contains a description of the length and diameter of the installed watermains. There are also three sample stations, a blow-off and air vent installed in the distribution system. A flow meter and bypass flow meter are housed in a metering chamber and used to measure the treated water flows to the Somerset/Knob Hill water distribution system. There is not a Schedule C in the Drinking Water Works Permit.

- **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.**

Section 1-2. (2) 4. of Schedule 1 of Ontario Regulation 170/03 requires that if the drinking water system's water treatment equipment provides chlorination or chloramination for secondary disinfection, the equipment is operated so that, at all times and at all locations within the distribution system, the free chlorine residual is never less than 0.05 mg/L, if the drinking water system provides chlorination and does not provide chloramination.

The Owner of Somerset/Knob Hill Distribution System does not provide primary or secondary disinfection for the drinking water. The Township of Severn provides the treatment of the drinking water, and it is then sent across the municipal boundary into the Township of Ramara, and the Somerset/Knob Hill Distribution System.

During the inspection review period, there were no free chlorine residuals measured below 0.05 mg/L in the Somerset/Knob Hill Distribution System. The lowest free chlorine residual recorded during the inspection review period was 1.09 mg/L.

- **Where an activity has occurred that could introduce contamination, all parts of the drinking water system were disinfected in accordance with Schedule B, Condition 2.3 of the Drinking Water Works Permit.**

The Somerset/Knob Hill Distribution System Operations and Maintenance Manual, Contingency and Emergency Plan was updated in January 2019 by the Operating Authority. The Plan includes procedures for watermain leak repairs. The procedures are detailed and meet the requirements. The Ministry's Watermain Disinfection Procedure (effective for the system on January 29, 2017) as well as the most recent version of AWWA C651 are appended in the Plan.

**Treatment Process Monitoring**

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

Subsection 7-2 (5) of Schedule 7 of Ontario Regulation 170/03 requires that the owner of a small municipal residential system that provides secondary disinfection and the operating authority for the system shall ensure that at least two distribution samples are taken each week in accordance with subsection (6) and are tested immediately for free chlorine residual, if the system provides chlorination and does not provide chloramination.

Subsection (6) states 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).

During the inspection review period a free chlorine residual was measured in the Somerset/ Knob Hill Distribution System on at least two days each week, with at least 48 hours between samples as required.

**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.**

Section 16.2 of Schedule B of Municipal Drinking Water Licence 147-107 Issue Number 2 requires that the operations and maintenance manual or manuals, shall include at a minimum:

### Operations Manuals

- 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 maintain secondary disinfection within the drinking water system;
- 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;
- 16.3 Procedures necessary for the operation and maintenance of any alterations to the drinking water system shall be incorporated into the operations and maintenance manual or manuals prior to those alterations coming into operation.

The Somerset/ Knob Hill Operations and Maintenance manual was last updated by the Operating Authority in January 2019 and meets the requirements of the Municipal Drinking Water Licence.

### Logbooks

- **Logbooks were properly maintained and contained the required information.**

The Somerset/ Knob Hill Distribution System logsheets are filled in by Operators whenever the system is attended. Records of the free, total and combined chlorine residual measured, as well as the date, time and operators on duty, including Operator in Charge and Overall Responsible Operator are indicated. It is assumed that the Operator in Charge is the person making the notes on the logsheets. Operator initials are not indicated with entries. Comments such as sampling performed and flow meter readings are also indicated on the logsheets where applicable.

- **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.**

### Security

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

The three sampling stations are kept locked. Periodic checks are done of the watermain running through the Severn River.

### Certification and Training

- **The overall responsible operator had been designated for each subsystem.**

The Somerset/ Knob Hill Distribution System is classified as a Water Distribution Class 1 subsystem. The Overall Responsible Operators are designated for the subsystem and have appropriate certification.

- **Operators-in-charge had been designated for all subsystems which comprised the drinking water system.**

The Somerset/ Knob Hill Distribution System is classified as a Water Distribution Class 1 subsystem. The Operator In Charge is designated for the subsystem and indicated on the logsheets. The Operators In Charge hold the appropriate certification.

- **All operators possessed the required certification.**
- **Only certified operators made adjustments to the treatment equipment.**

## Certification and Training

### Water Quality Monitoring

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

Subsection 11-2 of Schedule 11 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 distribution sample is taken every two weeks, if the system provides treatment equipment in accordance with Schedule 1 or 2 and the equipment is operated in accordance with that Schedule. The owner of the drinking water system and the operating authority for the system shall ensure that each of the samples taken is tested for *Escherichia coli*, total coliforms and general bacteria population expressed as colony counts on a heterotrophic plate count (HPC), as Somerset/ Knob Hill Distribution System has secondary disinfection. During the inspection review period two distribution samples were collected each week from the Somerset/ Knob Hill Distribution system and tested for all the required parameters.

- **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 standard of 0.80 mg/L for HAA as a reportable limit came into effect on January 1, 2020.

During the inspection review period a sample was collected from the Somerset/ Knob Hill distribution system in May 2019, August 2019, November 2019 and February 2020 and tested for HAA as required. The average for HAA during the inspection review period was 26.65 ug/L.

Subsection 13-6.1 (4) of Schedule 13 of Ontario Regulation 170/03 states that despite subsection (a) and subject to subsection (5), if the following conditions have been met after samples have been taken and tested under subsections (1) and (2) in at least 12 consecutive calendar quarters, a drinking water system that is a small municipal residential system may cease sampling and testing for eight consecutive calendar quarters:

1. No single test result obtained in the previous 12 consecutive calendar quarters indicated that the concentration of haloacetic acids was greater than 0.040 milligrams per litre.
2. The drinking water system's raw water supply is the same source of raw water supply that was used in the calendar quarters referred to in paragraph 1.
3. No alterations that may increase levels of haloacetic acids in the drinking water system have been made to the treatment equipment used in the calendar quarters referred to in paragraph 1.

The Somerset/ Knob Hill Distribution system has obtained 12 consecutive calendar quarter haloacetic acid test results with no values greater than 0.040 mg/L. The source water has not changed, nor have there been alterations that may increase the levels of haloacetic acids in the drinking water system. As such the Somerset/ Knob Hill Distribution system is eligible to cease sampling and testing for haloacetic acids for eight consecutive calendar quarters.

- **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 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 trihalomethanes (THMs). The samples are to be tested for THMs.

During the inspection review period samples were collected and tested for THMs from the Somerset/ Knob Hill



### Water Quality Monitoring

distribution system in May 2019, August 2019, November 2019 and February 2020. The average for THMs during the inspection review period was 33 ug/L.

The Somerset/Knob Hill Distribution System is not eligible for reduced sampling of THMs at this time, as there have been results above 0.050 mg/L in the previous 12 consecutive calendar quarters.

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

Section 6-3. (1) of Schedule 6 of Ontario Regulation 170/03 requires that if this Regulation requires a water sample to be taken and tested for a microbiological parameter, the owner of the drinking water system and the operating authority for the system shall ensure that another sample is taken at the same time from the same location and is tested immediately for free chlorine residual, if the system provides chlorination and does not provide chloramination.

During the inspection review period a free chlorine residual was measured at the same time and the same location that all microbiological samples were collected as required.

### 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).**

All samples collected from the Somerset/Knob Hill Distribution system during the inspection review period met the Ontario Drinking Water Quality Standards.

### Reporting & Corrective Actions

- **All changes to the system registration information were provided within ten (10) days of the change.**

Section 10.1 (3) of Ontario Regulation 170/03 requires that if there is any change to the information given to the Director under subsection (1) or (2), the owner of the drinking water system shall give the Director written notice of the change within 10 days of the change.

In June 2019 the Operating Authority submitted an updated system profile to notify the Director of the new CAO contact information as required.

**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.

**Not Applicable**

## **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.**

**Not Applicable**

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**SIGNATURES**

Inspected By:

Laura Kent

Signature: (Provincial Officer)



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Reviewed & Approved By:

Sheri Broeckel

Signature: (Supervisor)



Review & Approval Date: **MAY 4TH, 2020**

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.



**Inspection Summary Rating Record**

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Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2020-2021)

<b>DWS Name:</b> SOMERSET/ KNOB HILL DISTRIBUTION SYSTEM
<b>DWS Number:</b> 260046137
<b>DWS Owner:</b> Ramara, The Corporation Of The Township Of
<b>Municipal Location:</b> Ramara

**Regulation:** O.REG 170/03  
**Category:** Small Municipal Residential System  
**Type Of Inspection:** Adhoc  
**Inspection Date:** April 9, 2020  
**Ministry Office:** Barrie District

**Maximum Question Rating:** 220

Inspection Module	Non-Compliance Rating
Treatment Processes	0 / 56
Operations Manuals	0 / 28
Logbooks	0 / 18
Certification and Training	0 / 42
Water Quality Monitoring	0 / 51
Reporting & Corrective Actions	0 / 4
Treatment Process Monitoring	0 / 21
<b>TOTAL</b>	<b>0 / 220</b>

<b>Inspection Risk Rating</b>	<b>0.00%</b>
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<b>FINAL INSPECTION RATING:</b>	<b>100.00%</b>
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Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2020-2021)

**DWS Name:** SOMERSET/ KNOB HILL DISTRIBUTION SYSTEM  
**DWS Number:** 260046137  
**DWS Owner:** Ramara, The Corporation Of The Township Of  
**Municipal Location:** Ramara

**Regulation:** O.REG 170/03  
**Category:** Small Municipal Residential System  
**Type Of Inspection:** Adhoc  
**Inspection Date:** April 9, 2020  
**Ministry Office:** Barrie District

**Maximum Question Rating:** 220

**Inspection Risk Rating** | 0.00%

**FINAL INSPECTION RATING:** | 100.00%