

Ministry of the Environment,  
Conservation and Parks

Eastern Region  
Peterborough District Office  
300 Water Street  
2<sup>nd</sup> Floor, South Tower  
Peterborough ON K9J 3C7  
Tel.: 705-755-4300 or 800-558-0595

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

Région de l'Est  
Bureau du district de Peterborough  
300, rue Water  
2<sup>e</sup> étage, Tour Sud  
Peterborough ON K9J 3C7  
Tél.: 705-755-4300 ou 800-558-0595



September 15, 2023

Lynn Phillips  
CAO  
The Corporation of the Municipality of Trent Hills  
66 Front Street, P.O. Box 1030  
Campbellford, ON K0L 1L0

Dear Ms. Phillips,

**Re: Warkworth Drinking Water System No. 210000498  
2023-2024 Compliance Inspection Report**

Enclosed is the report of the 2023-2024 inspection of the Warkworth DWS and the corresponding Inspection Rating Report (IRR) and Risk Methodology document.

This report provides an assessment of compliance and conformance based on observations and information available during the inspection review period only. As always, please refer to the applicable legislative requirements, permissions, policies, guidelines and best management practices to clarify your specific obligations.

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 councilors, 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" on the Drinking Water Ontario website at <https://www.ontario.ca/environment-and-energy/taking-care-your-drinking-water-guide-members-municipal-councils>.

The IRR is a summarized quantitative measure of the drinking water system's annual inspection and is published in the Ministry's Chief Drinking Water Inspector's Annual Report. The Risk Methodology document describes the risk rating methodology which has been applied to the findings of the Ministry's municipal residential drinking water system inspection results.

If you have any questions or concerns regarding the rating, please feel free to contact me or Water Supervisor (A) Brad Jackson at 705-768-9245. I would be pleased to answer any questions or provide additional clarification.

Sincerely,

A handwritten signature in blue ink that reads "Viktoria Light". The signature is written in a cursive, flowing style.

**Viktoria Light**

Provincial Officer #1100

Drinking Water Program Inspector

Eastern Region

Ministry of Environment, Conservation and Parks

Enclosure (1)

c: Scott White, General Manager of Infrastructure & PW Admin, Municipality of Trent Hills  
Scott Campbell, Water Operations Senior Operator, Municipality of Trent Hills  
Dr. Natalie Bocking, Medical Officer of Health, Haliburton Kawartha Pine Ridge HU  
Rhonda Bateman, CAO/Secretary-Treasurer, Lower Trent Conservation Authority  
Office File



WARKWORTH DRINKING WATER SYSTEM  
140 BANTA RD, TRENT HILLS, ON, K0K 3K0  
**INSPECTION REPORT**

System Number: 210000498  
Entity: THE MUNICIPALITY OF TRENT  
HILLS  
Inspection Start Date: August 15, 2023  
Inspection End Date: September 14, 2023  
Inspected By: Viktoria Light  
Badge #: 1100



signature



## **NON-COMPLIANCE**

This should not be construed as a confirmation of full compliance with all potential applicable legal requirements. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

## RECOMMENDATIONS

This should not be construed as a confirmation of full conformance with all potential applicable BMPs. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

### INSPECTION DETAILS

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

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

Question ID	DWMR1001000	Question Type	Information
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> What was the scope of this inspection?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> <p>The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry drinking water policies and guidelines during the inspection period. The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as management practices.</p> <p>This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O. Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA.</p> <p>This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.</p> <p>On August 15, 2023, Provincial Officer Viktoria Light initiated an announced inspection of the Warkworth Drinking Water System (DWS). Scott Campbell and Jody Trottman were in attendance during the inspection. Please note that all references to the "inspection review period" refer to the elapsed time since the previous Ministry Compliance Inspection was completed. In this inspection report, "inspection review period" refers to the period between September 21, 2022, and August 15, 2023.</p> <p>The Warkworth DWS is a Class 3 Water Treatment Subsystem and a Class 2 Water Distribution Subsystem.</p> <p>During the inspection review period, the Warkworth DWS was operated under authority of the following control documents:</p> <ul style="list-style-type: none"> <li>• Permit to Take Water Number 2317-9PHKFF (issued October 6, 2014),</li> <li>• Drinking Water Works Permit Number 150-201 (issued June 25, 2021), and</li> <li>• Municipal Drinking Water Licence Number 150-101, Issue Number 4 (issued June 25, 2021).</li> </ul> <p>The drinking-water system inspection included a visual inspection of the treatment facility, Warkworth booster station and subsurface storage tank.</p>			

No audit samples were collected during the inspection.

Question ID	DWMMR1000000	Question Type	Information
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Does this drinking water system provide primary disinfection?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> This drinking water system provides for both primary and secondary disinfection and distribution of water.			

Question ID	DWMMR1012000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Does the owner have a harmful algal bloom monitoring plan in place that meets the requirements of the MDWL?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The owner had a harmful algal bloom monitoring plan in place.			
<p>Condition 6 of Schedule C of the MDWL requires that the owner develops and keeps up to date a Harmful Algal Bloom monitoring, reporting and sampling plan, and implement the plan when a potential harmful algal bloom is suspected or present. The owner must have the plan in place on or before December 14, 2021.</p> <p>'Warkworth Water Treatment Plant Harmful Algal Bloom Monitoring Plan' was developed by operating authority on May 12, 2021. The plan describes how to identify, monitor, report and sample harmful algal blooms.</p>			

Question ID	DWMMR1014000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> 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.			



Raw, treated water and booster station flow meters were calibrated on November 15, 2022, by Tower Electronics Canada Inc.

Question ID	DWMR1016000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> 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?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> 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.  Part 1.0 of Schedule C of the current MDWL limits the maximum daily volume of treated water that directed to the distribution system to 900 m <sup>3</sup> /day. The SCADA summary data was reviewed for the inspection period. The rated capacity for the flow into the distribution system has not been exceeded during the inspection period. The maximum daily volume of treated water entering the distribution system of 297 m <sup>3</sup> /day was recorded on October 12, 2022.			

Question ID	DWMR1018000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Has the owner ensured that all equipment is installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.			

Question ID	DWMR1021000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Is the owner/operating authority able to demonstrate that, when required during the inspection period, Form 2 documents were prepared in accordance with their Drinking Water Works Permit?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b>			

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.

Since the last compliance inspection, a single Form 2 was completed on March 28, 2023, for the replacement of the existing HACH 1720W filter effluent turbidity analyzers with HACH TU5300 turbidity analyzers.

Question ID	DWMMR1025000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Were all parts of the drinking water system that came in contact with drinking water (added, modified, replaced or extended) disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All parts of the drinking water system were disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit.  Ontario Watermain Disinfection Procedure and Watermain Repair Report template were included in the Operations Manual.			

Question ID	DWMMR1023000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   1-2   (2);			
<b>Question:</b> Do records indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a DWWP and/or MDWL issued under Part V of the SDWA at all times that water was being supplied to consumers?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under O. Reg. 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers.  The Warkworth DWS obtains water from a surface water source (Mill Creek). The treatment system must be capable of achieving an overall performance that provides, at a minimum, 5-log removal or inactivation of viruses, 4-log removal or inactivation of Giardia cysts and 2-log removal or inactivation of Cryptosporidium oocysts. The treatment system at the Warkworth DWS consists of chemically assisted filtration followed by disinfection using chlorination. The chemically assisted filtration is credited to provide 2-log			

Cryptosporidium oocysts, 2.5-log Giardia cysts and 2-log viruses removal or inactivation. Chlorine disinfection is required to provide, at a minimum, 1.5-log removal or inactivation of Giardia cysts.

The primary disinfection free chlorine residual and Giardia cysts log inactivation are continuously measured and recorded on the SCADA system.

The minimum chlorine residual required to achieve primary disinfection at 0oC, 10oC and 20oC, using both chlorine contact chambers (based on pH of 8.61) is 1.17 mg/L, 0.54 mg/L and 0.24 mg/L, respectively, according to the CT calculations included in the Warkworth Operations Manual. At the time of the inspection, the minimum chlorine residual alarm set at the chlorine analyzer monitoring primary disinfection was 0.6 mg/L. The minimum chlorine alarm will trigger an automatic filter shutdown.

The monthly data summaries were reviewed for the inspection period.

The minimum primary disinfection chlorine residual of 0.17 mg/L was recorded on June 6, 2023. The production of the plant has shutdown at 2:35 am on June 6, 2023, due to a low chlorine residual alarm. The operator responded to the low chlorine alarm and took corrective actions (repaired faulty chlorine feed pump and partially pumped out chlorine contact tank). The required minimum chlorine residual during this event was 0.06 mg/L, based on CT calculations performed by the operator.

To claim 2.5 log Giardia cysts removal and 2.0 log Cryptosporidium oocyst removal credit, the chemically assisted filtration process at the Warkworth DWS must meet the monthly performance criterion for filtered water turbidity of less or equal to 0.3 NTU in 95% of the measurements each month.

The continuous filter effluent turbidity readings are recorded on the SCADA system.

The review of the monthly data summaries confirmed that filter effluent turbidities were maintained below 0.3 NTU in 100% of the time during the inspection period.

During the inspection review period, the Warkworth DWS provided the required minimum level of treatment through chemically assisted filtration and chlorine disinfection.

Question ID	DWMR1024000	Question Type	Legislative
<p><b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   1-2   (2);</p>			
<p><b>Question:</b> Do records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated as required?</p>			
<p><b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> 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.</p> <p>Distribution chlorine residual records, both monthly summaries of the on-line data and grab sample test results, were reviewed for the inspection period. Since the last inspection, the minimum distribution free chlorine residual of 0.24 mg/L was</p>			

measured and recorded on April 25, 2023, at the Main St. dead end hydrant.

<b>Question ID</b>	DWMMR1033000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   7-2   (3); SDWA   O. Reg. 170/03   7-2   (4);			
<b>Question:</b> Is the secondary disinfectant residual measured as required for the large municipal residential distribution system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The secondary disinfectant residual was measured as required for the large municipal residential distribution system.  Distribution system free chlorine residual was continuously measured at the Warkworth booster pumping station by an on-line chlorine analyzer. Chlorine residuals were recorded on the SCADA system. In addition, distribution chlorine residuals were measured during bacteriological sampling using a hand-held colourimetric unit.			

<b>Question ID</b>	DWMMR1030000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   7-2   (1); SDWA   O. Reg. 170/03   7-2   (2);			
<b>Question:</b> Is primary disinfection chlorine monitoring being conducted at a location approved by MDWL and/or DWWP issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> 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.  The primary disinfection free chlorine residual is measured at the discharge from a two-cell chlorine contact tank.			

<b>Question ID</b>	DWMMR1032000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   7-3   (2);			
<b>Question:</b> If the drinking water system obtains water from a surface water source and provides filtration, is continuous monitoring of each filter effluent line being performed for turbidity?			

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

Continuous monitoring of each filter effluent line was being performed for turbidity.

On-line turbidity analyzers are located at the discharge lines from filter #1 and #2. Filter effluent turbidities are continuously measured and recorded on the SCADA system.

<b>Question ID</b>	DWMR1035000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b>			
SDWA   O. Reg. 170/03   6-5   (1)1-4; SDWA   O. Reg. 170/03   6-5   (1)5-10;			
<b>Question:</b>			
Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b>			
Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.			
Operation staff attended the facility each weekday and reviewed the on-line trending of the operational parameters. The trending review, daily operational parameters and checks, as well as any unusual observations, were documented in the logbook.			

<b>Question ID</b>	DWMR1038000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b>			
SDWA   O. Reg. 170/03   6-5   (1)1-4;			
<b>Question:</b>			
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?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b>			
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.			

<b>Question ID</b>	DWMR1037000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b>			
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);			
<b>Question:</b>			

Are all continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or MDWL or DWWP or order, equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6?

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

All continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or Municipal Drinking Water Licence or Drinking Water Works Permit or order, were equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.

The minimum chlorine residual required to achieve primary disinfection at 0oC, 10oC and 20oC, using both chlorine contact chambers (based on pH of 8.61) is 1.17 mg/L, 0.54 mg/L and 0.24 mg/L, respectively, according to the CT calculations included in the Warkworth Operations Manual.

It was reported during the inspection that the minimum chlorine alarm at the continuous chlorine analyzer monitoring primary disinfection is set at 0.6 mg/L. The minimum chlorine alarm will trigger an automatic filtered water production shutdown.

At the time of the inspection, the maximum (high-high) filter effluent turbidity alarm and an automatic filter shutdown system was set at 0.3 NTU.

The alarms will trigger an immediate notification to the operator.

Question ID	DWMR1040000	Question Type	Legislative
<b>Legislative Requirement(s):</b>			
SDWA   O. Reg. 170/03   6-5   (1)1-4; SDWA   O. Reg. 170/03   6-5   (1)5-10;			
<b>Question:</b>			
Are all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b>			
All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.			
All on-line turbidity and chlorine residual analyzers were calibrated by operation staff on a quarterly basis and documented in work order forms.			
All hand-held chlorine and turbidity analyzers were calibrated by Nichol Water Services on June 8, 2023.			

Question ID	DWMR1108000	Question Type	Legislative
<b>Legislative Requirement(s):</b>			
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);			
<b>Question:</b>			
Where continuous monitoring equipment used for the monitoring of free chlorine residual, total			

chlorine residual, combined chlorine residual or turbidity, required by O. Reg. 170/03, an Order, MDWL, or DWWP issued under Part V, SDWA, has triggered an alarm or an automatic shut-off, did a qualified person respond in a timely manner and take appropriate actions?

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

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

Since the last compliance inspection, operators received couple of alarms related to low primary disinfection chlorine residual. Alarms were caused by routine maintenance activities or chlorine feed system failure. All alarm incidents were documented in the logbooks along with corrective actions.

Question ID	DWMR1099000	Question Type	Information
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> 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)?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> 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).			

Question ID	DWMR1081000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   10-2   (1); SDWA   O. Reg. 170/03   10-2   (2); SDWA   O. Reg. 170/03   10-2   (3);			
<b>Question:</b> For LMR systems, are all microbiological water quality monitoring requirements for distribution samples being met?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All microbiological water quality monitoring requirements prescribed by legislation for distribution samples in a large municipal residential system were being met.  The Warkworth distribution system serves a population of approximately 660 residents. The system is classified as a large municipal residential system, and the owner and operating authority for the system is required to collect at a minimum eight (8) distribution samples each month and have them tested for the prescribed bacteriological parameters.			

During the inspection period, the operation staff collected two (2) distribution samples each week and on average 9 distribution samples each month for microbiological analysis. Free chlorine residuals were measured at the time of sampling. All distribution samples were tested for total coliform, and E. coli bacteria. Half of all samples were tested for heterotrophic plate count bacteria.

<b>Question ID</b>	DWMR1083000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   10-3;			
<b>Question:</b> For LMR systems, are all microbiological water quality monitoring requirements for treated samples being met?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All microbiological water quality monitoring requirements prescribed by legislation for treated samples were being met.			
During the inspection period, water samples were collected from a designated treated water tap on a weekly basis and tested for total coliforms, E. coli and heterotrophic plate count bacteria.			

<b>Question ID</b>	DWMR1096000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   6-3   (1);			
<b>Question:</b> Do records confirm that chlorine residual tests are being conducted at the same time and at the same location that microbiological samples are obtained?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.			

<b>Question ID</b>	DWMR1084000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   13-2;			
<b>Question:</b> Are all inorganic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.			



The Warkworth DWS obtains water from a surface water source. The owner and the operating authority for the system is required to take at least one treated water sample every 12 months and have it tested for each parameter set out in Schedule 23 of O.Reg.170/03. Treated water samples were collected and tested for inorganic parameters listed in Schedule 23 on January 4, 2023.

Question ID	DWMR1085000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   13-4   (1); SDWA   O. Reg. 170/03   13-4   (2); SDWA   O. Reg. 170/03   13-4   (3);			
<b>Question:</b> Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.			
The sampling and testing for organic parameters was conducted on January 4, 2023.			

Question ID	DWMR1086000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   13-6.1   (1); SDWA   O. Reg. 170/03   13-6.1   (2); SDWA   O. Reg. 170/03   13-6.1   (3); SDWA   O. Reg. 170/03   13-6.1   (4); SDWA   O. Reg. 170/03   13-6.1   (5); SDWA   O. Reg. 170/03   13-6.1   (6);			
<b>Question:</b> Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All haloacetic acid water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.			
Since the last ministry inspection, haloacetic acid samples were collected at 33 Banta Road or booster station on November 14, 2022; February 13, 2023, and May 15, 2023. The running annual average of haloacetic acids in the samples collected in the past four quarters was 25.5 µg/L.			

Question ID	DWMR1087000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   13-6   (1); SDWA   O. Reg. 170/03   13-6   (2); SDWA   O. Reg. 170/03			

| 13-6 | (3); SDWA | O. Reg. 170/03 | 13-6 | (4); SDWA | O. Reg. 170/03 | 13-6 | (5); SDWA | O. Reg. 170/03 | 13-6 | (6);

**Question:**

Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?

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

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

Since the last ministry inspection, trihalomethane samples were collected at 12 Dudley Road in the south extremity of the distribution system on November 14, 2022; February 13, 2023, and May 15, 2023.

The running annual average of trihalomethanes in the samples collected in the past four quarters was 36.75 µg/L.

Question ID	DWMR1088000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   13-7;			
<b>Question:</b> Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted within the required frequency for the DWS?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency.			
Nitrate & nitrite samples were collected at the treatment facility on November 13, 2022; February 13, 2023, and May 15, 2023. The concentration of nitrates and nitrites in all collected samples was below the Ontario Drinking Water Quality Standard (ODWS) of 10 mg/L and 1 mg/L, respectively.			

Question ID	DWMR1089000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   13-8;			
<b>Question:</b> Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.			

The owner of a drinking water system and the operating authority for the system must ensure that at least one water sample is taken every 60 months and tested for sodium. The sodium sample was collected on January 4, 2023. The concentration of sodium in this treated water sample was 9.04 mg/L.

<b>Question ID</b>	DWWMR1090000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   13-9;			
<b>Question:</b> Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency.			
If a drinking water system does not provide fluoridation, the owner of the system and the operating facility for the system must ensure that a treated water sample is taken at least once every 60 months and is tested for fluoride, in accordance with Schedule 13-9 of O.Reg.170/03. The fluoride sample was collected on January 4, 2023. The fluoride concentration in the collected sample was 0.06 mg/L.			

<b>Question ID</b>	DWWMR1094000	<b>Question Type</b>	Legislative
<b>Legislative Requirement(s):</b> SDWA   31   (1);			
<b>Question:</b> Are all water quality monitoring requirements imposed by the MDWL and DWWP being met?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All water quality monitoring requirements imposed by the MDWL or DWWP issued under Part V of the SDWA were being met.			
Section 5.2 of the Schedule C of the Municipal Drinking Water Licence requires collection of a monthly manual composite sample for total suspended solids (TSS) analysis and a monthly grab sample for total chlorine residual analysis in the wastewater supernatant discharged to the Mill Creek. The MDW sets the annual running average limits for TSS at 25 mg/L, and a limit of 0.02 mg/L for total chlorine residual. The document review confirmed that wastewater samples were collected monthly and analyzed for total suspended solids. The 2022 annual average of TSS was 2.17 mg/L. A grab sample of wastewater supernatant was collected each month and tested for total chlorine residual. The test results were documented in the facility logbook. The data review for the			

inspection period confirmed that all total chorine residuals were maintained at or below 0.02 mg/L.

Question ID	DWMR1059000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   28;			
<b>Question:</b> Do the operations and maintenance manuals contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.			

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

Question ID	DWMR1061000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   27   (1); SDWA   O. Reg. 128/04   27   (2); SDWA   O. Reg. 128/04   27   (3); SDWA   O. Reg. 128/04   27   (4); SDWA   O. Reg. 128/04   27   (5); SDWA   O. Reg. 128/04   27   (6); SDWA   O. Reg. 128/04   27   (7);			
<b>Question:</b> Are logbooks properly maintained and contain the required information?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Logbooks were properly maintained and contained the required information.			

Question ID	DWMR1062000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   7-5;			
<b>Question:</b>			

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

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

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

Distribution system chlorine residuals measured by a hand-held instrument during bacteriological sampling were recorded in the operation logs and chain of custody forms along with operator's initials.

All operators working at the Warkworth DWS are appropriately certified to conduct operational tests.

Question ID	DWMMR1071000	Question Type	BMP
<b>Legislative Requirement(s):</b> Not Applicable			
<b>Question:</b> Has the owner provided security measures to protect components of the drinking water system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The owner had provided security measures to protect components of the drinking water system.			
The property around the Warkworth water treatment facility is fenced. The building's access door is locked and equipped with Trent security alarm system.			

Question ID	DWMMR1073000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   23   (1);			
<b>Question:</b> Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> The overall responsible operator had been designated for each subsystem.			
The Warkworth DWS is classified as a Class 3 Water Treatment Subsystem and a Class 2 Water Distribution Subsystem.			
During the inspection period, Scott Campbell, the Senior Operator, was designated as the Overall Responsible Operator (ORO). Mr. Campbell holds valid Class 3 Water Treatment Subsystem and Class 2 Water Distribution and Supply Subsystem certificates.			
In his absence, the General Manager of Infrastructure Renewal, Scott White, would assume the			

role of the ORO. Mr. White holds valid Class 3 Water Treatment Subsystem and Class 2 Water Distribution and Supply Subsystem certificates.  
The ORO designation is documented in the logbook.

Question ID	DWMMR1074000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   25   (1);			
<b>Question:</b> Have operators-in-charge been designated for all subsystems which comprise the drinking water system?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Operators-in-charge had been designated for all subsystems which comprise the drinking water system.  The following operators were designated as OIC and were credited OIC experience for every working hour: <ul style="list-style-type: none"> <li>• Gerry Brownson (WTS Class 2, WDS Class 2)</li> <li>• Paul Kelly (WTS Class 3, WD&amp;SS Class 2)</li> <li>• Todd Kerr (WTS Class 2, WD&amp;SS Class 2)</li> <li>• Jody Trottman (WTS Class 3, WDS Class 2)</li> </ul>			

Question ID	DWMMR1075000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 128/04   22;			
<b>Question:</b> Do all operators possess the required certification?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> All operators possessed the required certification.			

Question ID	DWMMR1076000	Question Type	Legislative
<b>Legislative Requirement(s):</b> SDWA   O. Reg. 170/03   1-2   (2);			
<b>Question:</b> Do only certified operators make adjustments to the treatment equipment?			
<b>Compliance Response(s)/Corrective Action(s)/Observation(s):</b> Only certified operators made adjustments to the treatment equipment.			



**APPENDIX A**  
**STAKEHOLDER APPENDIX**

# Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

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

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

For more information on Ontario's drinking water visit [www.ontario.ca/drinkingwater](http://www.ontario.ca/drinkingwater)



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



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

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



Pour plus de renseignements sur l'eau potable en Ontario, consultez le site [www.ontario.ca/eaupotable](http://www.ontario.ca/eaupotable)

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



**APPENDIX B**  
**INSPECTION RATING RECORD**

Ministry of the Environment, Conservation and Parks - Inspection Summary Rating Record (Reporting Year - 2023-24)

**DWS Name:** WARKWORTH DRINKING WATER SYSTEM  
**DWS Number:** 210000498  
**DWS Owner:** THE MUNICIPALITY OF TRENT HILLS  
**Municipal Location:** TRENT HILLS

**Regulation:** O.REG. 170/03  
**DWS Category:** DW Municipal Residential  
**Type of Inspection:** Focused  
**Inspection Date:** Aug-15-2023  
**Ministry Office:** Peterborough District Office

**Maximum Risk Rating:** 465

Inspection Module	Non Compliance Risk (X out of Y)
Capacity Assessment	0/30
Certification and Training	0/42
Logbooks	0/18
Operations Manuals	0/28
Reporting & Corrective Actions	0/21
Source	0/0
Treatment Processes	0/214
Water Quality Monitoring	0/112
<b>Overall - Calculated</b>	<b>0/465</b>

**Inspection Risk Rating:** 0.00%

**Final Inspection Rating:** 100.00%

Ministry of the Environment, Conservation and Parks - Detailed Inspection Rating Record (Reporting Year - 2023-24)

**DWS Name:** WARKWORTH DRINKING WATER SYSTEM  
**DWS Number:** 210000498  
**DWS Owner Name:** THE MUNICIPALITY OF TRENT HILLS  
**Municipal Location:** TRENT HILLS

**Regulation:** O.REG. 170/03  
**DWS Category:** DW Municipal Residential  
**Type of Inspection:** Focused  
**Inspection Date:** Aug-15-2023  
**Ministry Office:** Peterborough District Office

*All legislative requirements were met. No detailed rating scores.*

Maximum Question Rating: 465

Inspection Risk Rating: 0.00%

FINAL INSPECTION RATING: 100.00%