

Ministry of the Environment,  
Conservation and Parks

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

Drinking Water and Environmental  
Compliance Division, Northern Region  
Timmins District, North Bay Office  
191 Booth Road, unit 16-17  
North Bay ON P1A 4K3  
Tel.: 705 497-6865  
Fax: 705 497-6866

Division de la conformité en matière d'eau potable  
et d'environnement, Direction régionale du Nord  
District de Timmins, Bureau de North Bay  
191, rue Booth, Unité 16-17  
North Bay ON P1A 4K3  
Tél. : 705 497-6865  
Téléc. : 705 497-6866

January 15, 2021

Mr. Craig Davidson  
Treasurer/ Administrator  
The Corporation of the Municipality of Temagami  
P.O. Box 220  
Temagami, Ontario  
P0H 2H0

Dear Mr. Davidson:

Re: Inspection Report for the Temagami North Drinking Water System - Inspection #1-OIOH8

On October 27, 2020, I conducted the annual inspection of the Temagami North Drinking Water System. The unannounced focused inspection included a physical assessment of the water treatment plant as well as a document review for the period of December 3, 2019 to October 27, 2020. The resulting inspection report is attached.

Two sections of the report, namely, "*Actions Required*" and "*Recommended Actions*" identify aspects of the drinking water system's operation with the potential for improvement.

Please note that "*Actions Required*" are linked to incidents of non-compliance with regulatory requirements contained within an Act, a Regulation or site-specific approvals, licenses, permits, orders, or instructions. Such violations could result in the issuance of mandatory abatement instruments including Orders, tickets, penalties, or referrals to the Ministry's Investigations and Enforcement Branch.

"*Recommended Actions*" convey information that the owner and operating authority should consider implementing in order to advance efforts already in place to address such issues as emergency preparedness, the fulsome availability of information to consumers and conformance with existing and emerging industrial standards. Please note items which appear as 'recommended actions' do not, in themselves, constitute violations.

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

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 a summarized, quantitative measure of the drinking water

system's annual inspection and regulated water quality testing performance. Please review 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 the inspection report.

In accordance with the Ministry's Drinking Water Inspection Protocol, electronic copies of this report have been forwarded to the Timiskaming Health Unit and the Ministry of Natural Resources North Bay Office.

If you have any questions or comments regarding this inspection, please feel free to contact me at (705) 845-1917.

Yours truly,



---

Lori Duquette  
Water Inspector/Provincial Officer  
Ministry of the Environment, Conservation and Parks  
Drinking Water and Environmental Compliance Division  
North Bay Area Office

Cc: Barry Turcotte, Municipality of Temagami, Public Works Superintendent  
Victor Legault, OCWA Northeastern Region, Operations Manager  
Bryce Logan, OCWA Northeastern Region, ORO Temagami North and South WTP  
Rebecca Marshall, OCWA Northeastern Region, Process & Compliance Technician (PCT)  
Yvan Rondeau, OCWA Northeastern Region, PCT Manager  
Ryan Peters, Timiskaming Health Unit, Program Manager  
Mitch Baldwin, Ministry of Natural Resources, District Manager of North Bay District Office  
Angela Whiteley, Acting Supervisor, Safe Drinking Water Branch – Timmins/North Bay, MECP



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

**TEMAGAMI NORTH DRINKING WATER SYSTEM**  
**Inspection Report**

<b>Site Number:</b>	220000433
<b>Inspection Number:</b>	1-OIOH8
<b>Date of Inspection:</b>	Oct 27, 2020
<b>Inspected By:</b>	Lori Duquette

## **Table of Contents**

---

Owner & Contact Information	2
Inspection Details & Drinking Water System Components Description	3
Inspection Summary	4
▪ Introduction	4
▪ Source	4
▪ Capacity Assessment	4
▪ Treatment Processes	5
▪ Treatment Process Monitoring	6
▪ Operations Manuals	7
▪ Logbooks	8
▪ Security	8
▪ Certificate and Training	8
▪ Water Quality Monitoring	9
▪ Water Quality Assessment	10
▪ Reporting and Corrective Actions	10
Non-Compliance with Regulatory Requirements and Actions Required	11
Summary of Best Practice Issues and Recommendations	13
Signatures	14

## **Appendices**

- A. Ministry Inspection Rating Record (IRR)
- B. Key Reference and Guidance Material for Municipal Residential DWS

## OWNER INFORMATION:

<b>Company Name:</b>	TEMAGAMI, THE CORPORATION OF THE MUNICIPALITY OF		
<b>Street Number:</b>	7	<b>Unit Identifier:</b>	P.O. Box 220
<b>Street Name:</b>	LAKESHORE Dr		
<b>City:</b>	TEMAGAMI		
<b>Province:</b>	ON	<b>Postal Code:</b>	P0H 2H0

## CONTACT INFORMATION

<b>Type:</b>	Owner	<b>Name:</b>	Craig Davidson
<b>Phone:</b>	(705) 569-3421	<b>Fax:</b>	
<b>Email:</b>	craig.d@temagami.ca		
<b>Title:</b>	Treasurer/Administrator for the Municipality of Temagami		

<b>Type:</b>	Owner	<b>Name:</b>	Barry Turcotte
<b>Phone:</b>	(705) 569-3272	<b>Fax:</b>	(705) 569-2834
<b>Email:</b>	publicworks@temagami.ca		
<b>Title:</b>	Superintendent, Public Works, Municipality of Temagami		

<b>Type:</b>	Operating Authority	<b>Name:</b>	Victor Legault
<b>Phone:</b>	(705) 672-5549	<b>Fax:</b>	(705) 672-2534
<b>Email:</b>	vlegault@ocwa.com		
<b>Title:</b>	Senior Operations Manager, OCWA		

<b>Type:</b>	OCWA	<b>Name:</b>	Bryce Logan
<b>Phone:</b>	(705) 648-4082	<b>Fax:</b>	
<b>Email:</b>	blogan@ocwa.com		
<b>Title:</b>	Overall Responsible Operator Temagami North and South, OCWA		

<b>Type:</b>	Operating Authority	<b>Name:</b>	Rebecca Marshall
<b>Phone:</b>	(705) 672-5549	<b>Fax:</b>	(705) 672-2534
<b>Email:</b>	rmarshall@ocwa.com		
<b>Title:</b>	Process and Compliance Technician - OCWA		

<b>Type:</b>	MECP	<b>Name:</b>	Angela Whiteley
<b>Phone:</b>	(705) 491-0406	<b>Fax:</b>	(705) 497-6866
<b>Email:</b>	angela.whiteley@ontario.ca		
<b>Title:</b>	A/Water Compliance Supervisor, Ministry of Environment, Conservation and Parks, Timmins/North Bay		

<b>Type:</b>	Timiskaming Health Unit	<b>Name:</b>	Ryan Peters
<b>Phone:</b>	(705) 647-4305 x2250	<b>Fax:</b>	(705) 647-5779
<b>Email:</b>	petersr@timiskaminghu.com		
<b>Title:</b>	Program Manager, Timiskaming Health Unit		

## INSPECTION DETAILS:

**Site Name:** TEMAGAMI NORTH DRINKING WATER SYSTEM  
**Site Address:** 5 CEDAR Avenue South TEMAGAMI ON P0H 2H0  
**County/District:** TEMAGAMI  
**MECP District/Area Office:** North Bay Area Office  
**Health Unit:** TIMISKAMING HEALTH UNIT  
**Conservation Authority:**  
**MNR Office:** North Bay Regional Office  
**Category:** Large Municipal Residential  
**Site Number:** 220000433  
**Inspection Type:** Unannounced  
**Inspection Number:** 1-OIOH8  
**Date of Inspection:** Oct 27, 2020  
**Date of Previous Inspection:** Dec 03, 2019

## COMPONENTS DESCRIPTION

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

**Site (Name):** Net Lake  
**Type:** Source  
**Sub Type:** Surface Water

**Comments:**

The intake facility for the Temagami North Water Treatment Plant (WTP) is located approximately 165 m off the west shore of Net Lake at 10 m below the low water level of the lake. The raw water is directed by gravity via a 222 metre 250 mm diameter intake pipe to a low lift pumping station consisting of a wet well and two submersible low lift pumps, each rated at 3.8 L/second (328 m<sup>3</sup>/day). These pumps are controlled by the system PLC (Programmable Logic Controller) and discharge to the two "BCA" water treatment package plants located within the WTP.

**Site (Name):** Treatment Plant  
**Type:** Treated Water POE  
**Sub Type:** Treatment Facility

**Comments:**

The system is centred on two "BCA" Pre-Fabricated Water Treatment Plants and their associated treatment and process control components. These treatment trains, their controls and chemical dosing equipment produce filtered water which is directed to three clear wells which have a combined working volume of 259.6 m<sup>3</sup>. Further chemical treatment for disinfection and pH adjustment is undertaken as the filtered water enters the clear wells and is pumped by the high lift pumps to the distribution subsystem. The plant is equipped with an automated monitoring system which records various component operations, system flows and chemical treatment dosages. The plant operates on a distribution demand basis controlled by water level signals fed back from the water tower. All process and floor drain wastes are directed to waste sumps for pumping to the municipal sewage collection system.

**Site (Name):** Distribution  
**Type:** Other  
**Sub Type:** Other

**Comments:**

Temagami North is classified as a Large Municipal Residential Drinking Water System and has 218 service connections serving an estimated population of 300 residents. The distribution system is equipped with a standpipe known as the "North Tower" which has a storage capacity of 732 m<sup>3</sup> and assists with maintaining water pressure in the 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 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.

Ontario Clean Water Agency (OCWA) personnel Chris Barkhouse, Operator accompanied Lori Duquette, Water Inspector/Provincial Officer with the Ministry of the Environment, Conservation and Parks during the inspection of the Temagami North Drinking Water System (DWS) on October 27, 2020. Additional information relating to the inspection was provided by OCWA personnel Bryce Logan, Overall Responsible Operator (ORO) and Rebecca Marshall, Process Compliance Technician. OCWA operates the Temagami North DWS on behalf of the municipality.

The drinking-water system inspection included a physical assessment of the treatment works on October 27, 2020 and a document review for the period from December 3, 2019 until October 27, 2020. This period is referred to as the "inspection period" in this report.

### Source

- The owner had a harmful algal bloom monitoring plan in place.

### Capacity Assessment

- 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.
- The owner was not in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Municipal Drinking Water Licence issued under Part V of the SDWA.

Condition 1.0 of Schedule C of the Municipal Drinking Water Licence (MDWL) identifies the rated capacity for the Temagami North Water Treatment Plant (WTP) as 328 m<sup>3</sup>/day of total flow into the distribution system on any given calendar day.

### Capacity Assessment

A review of plant records for this inspection period indicated that the rated capacity was exceeded on June 11 due to watermain flushing program (342 m<sup>3</sup>/day) and on June 18 (340 m<sup>3</sup>/day), July 4 (329 m<sup>3</sup>/day) and July 5 (329 m<sup>3</sup>/day) due to increased water usage in the community as a result of warm weather. The MDWL allows for temporary exceedance of the above noted rated capacity for the purpose of fighting a large fire or for maintenance of the DWS. The flow exceedances which occurred on June 18, July 4 and 5, 2020 which were caused by an increase in demand do not meet the above criteria and is a non-compliance with the requirements of condition 1.0 of Schedule C to the MDWL.

Failure to ensure that the WTP is operated in a manner to ensure that the rated capacity is not exceeded is a violation of the MDWL and section 31 (1)(b) of the Safe Drinking Water Act.

Please refer to the section entitled "Non-Compliance with Regulatory Requirements and Actions Required" located on page 11 for further requirements.

### 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.**  
It should be noted that one of the two coagulant chemical dosage pumps located at the Temagami North WTP failed on August 19, 2020 and needs to be replaced. The DWWP indicates that the coagulant system has both a duty and a standby chemical pump. At the time of the inspection, it was indicated that a new pump is being ordered and that there are other standby chemical pumps on-site that can be quickly installed if the coagulant duty pump were to fail.
- **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.**
- **Records did not indicate 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.**

In accordance with O. Reg. 170/03, Schedule 1-2(2)3, surface water systems must consist of chemically assisted filtration and disinfection and achieve an overall performance of at least a 2-log 99% removal/inactivation of *Cryptosporidium* oocysts, a 3-log 99.9% removal/inactivation of *Giardia* cysts, and a 4-log 99.99% removal/inactivation of viruses by the time the water is delivered to the first consumer.

The Temagami North WTP is designed to achieve the above performance criteria using conventional filtration followed by chlorination for primary disinfection. The municipal drinking water licence (MDWL) identifies log removal/inactivation credits assigned to the two processes as the following:

- Conventional Filtration receives 2- log for *Cryptosporidium* oocysts, 2.5- log for *Giardia* cysts and 2- log for viruses;
- Chlorination receives 0.5+ log *Giardia* cysts and 2+ log viruses.

Note: In order to receive full log credits the treatment process must be fully operational and the credit assignment criteria met.

#### Chlorination

The CT calculation verified by the Ministry included the following worst-case operating conditions

- Treated water flow rate = 9.58 L/s
- Clear well level = 1.4 m
- Water temperature = 0.5 °C
- pH of water = 8.5
- minimum free chlorine residual after contact time of 0.82 mg/L



### Treatment Processes

However, at the time of the inspection the following operational CT parameter values were being used to set alarms to ensure CT was met at all times:

Treated water flow rate = 19 L/s

- Clear well level = 1.75 m

- Water temperature = 0.5 °C

- pH of water = 8.0

- minimum free chlorine residual after contact time of 0.85 mg/L.

Based on a review of the continuous trends for the above noted parameters and a review of the alarm logs and CT calculations performed when operating outside of the above range, CT was met for the duration of this inspection period.

#### Conventional Filtration

In order to receive the full log removal credits assigned to conventional filtration the filtration process must meet the following criteria which are listed in the Municipal Drinking Water Licence No. 201-102, Issue No. 2, in Schedule E;

1. A chemical coagulant shall be used at all times when the treatment plant is in operation,
2. Chemical dosages shall be monitored and adjusted in response to variation in raw water quality,
3. Effective backwash procedures shall be maintained including filter to waste or an equivalent procedure during filter ripening to ensure that the effluent turbidity requirements are met all times,
4. Filtrate turbidity is continuously monitored from each filter, and
5. The plant is operated to meet the performance criterion for filtered water turbidity of less than or equal to 0.3 NTU in 95% of the measurements each month for each filter.

Based on a review of the filter effluent turbidity trends and operational information provided, for most of the duration of this inspection period, the above noted conventional filtration criteria were met. However, for the period of time from approximately 12:30 am on August 19 to 9:30 am on August 20, 2020 coagulant was only being dosed on every second pump cycle as one of the pumps stopped working and failed to alarm. Therefore, for that period of time the filter failed to meet item 1 of the conventional filtration criteria noted above and did not receive log removal credits.

Failure to meet the log removal/inactivation credit assignment criteria identified in Schedule E of Municipal Drinking Water Licence (MDWL) No. 201-102 issue no. 2 is a violation of the Safe Drinking Water Act.

Please refer to the section entitled "Non-Compliance with Regulatory Requirements and Actions Required" located on page 11 for further requirements.

- **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.**

Based on information provided for this inspection period, the lowest free chlorine residual noted in the distribution system was 0.12 mg/L in April 2020.

- **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.**

### 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.**

### **Treatment Process Monitoring**

- **Continuous monitoring of each filter effluent line was being performed for turbidity.**
- **The secondary disinfectant residual was measured as required for the distribution system.**

Subsection 7-2(3) of Schedule 7 to O. Reg. 170/03 required the owner and operating authority for the system to ensure at least seven (7) water samples were collected weekly from locations in the distribution system and tested for free chlorine residual.

Additionally, the required sampling must be conducted in accordance with the rules prescribed by subsection 7-2(4) of Schedule 7 of O. Reg. 170/03. The rules stipulate the following:

- At least four (4) of the samples must be taken on one day of the week, at least 48 hours after the last sample was taken in the previous week.
- At least three (3) of the samples must be taken on a second day of the week, at least 48 hours after the last sample taken on the day noted above.
- When more than one sample is taken on the same day of the week under the paragraphs noted above, each sample must be taken from a different location.

The above noted sampling requirements were met for the duration of this inspection period.

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

Subsection 6-5(1)3 of Schedule 6 to O. Reg. 170/03 requires that test results recorded by continuous monitoring equipment for sampling and testing required by this regulation or under drinking water works permit and licence be examined within 72 hours by a certified operator. The legislative requirement to review the continuous data is intended to ensure that operators have examined the trends and verified that the continuous monitoring equipment was working properly and that the water treatment equipment achieved the log removal requirements for primary disinfection.

Based on a review of records for this inspection period, the operators have been examining the continuous data within the required timeframe and recording information related to the trends reviewed on the log sheet entitled "Temagami North DWS – Wonderware Data Review Sheet".

Please note that at the time of the inspection it was observed that if an error occurs when recording the information that the operators have been writing the new value overtop of the original record rather than striking a line through it and recording the correction beside it. It is recommended that in the future, the operators strike a line through the information to be corrected and record the new information near it.

- **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 free chlorine residual low level alarm after primary disinfection was set at 0.85 mg/L. This alarm set point immediately shutdown the plant and called the on-call staff.

The filter effluent turbidity alarm set point was set at 1.0 NTU and triggered an on-site audible alarm, filter shutdown and calls the on-call staff.

- **Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was not performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and/or was not recording data with the prescribed format.**

With the exception of a few short periods, the continuous monitoring equipment monitored and recorded the required free chlorine residual and filter effluent turbidity data in accordance with the requirements of section 6-5 of

### **Treatment Process Monitoring**

Schedule 6 to O. Reg. 170/03. However, based on a review of the documentation provided during the inspection, there were two short periods of time on April 8, 2020 (i.e. 51 minutes and 52 minutes) when the free chlorine residual value was not being continuously recorded and water was being distributed. The incident occurred due to a problem with the chlorination system which caused a spike in the free chlorine residual level in the treated water above the upper range for the free chlorine residual analyzer (i.e. 5.0 mg/L). During this time the free chlorine residual trend flatlined at 5.0 mg/L with the exact test result value not been recorded until the free chlorine level in the water dropped and was within the analyzer range (i.e. 0.00-5.00 mg/L).

Failure to ensure that the continuous monitoring equipment records the result of every test is a violation of section 6-5(1)(ii) of Schedule 6 to O. Reg. 170/03.

Please refer to the section entitled "Non-Compliance with Regulatory Requirements and Actions Required located on page # 11 of this report.

- 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.

### **Logbooks**

- 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.

Current security measures provided for the Temagami North DWS include the following:

- Locked doors on all buildings (i.e. water treatment plant and water tower);
- An intruder alarm system at the water treatment plant; and
- Frequent visits by operational staff.

### **Certification and Training**

- The overall responsible operator had been designated for each subsystem.  
Bryce Logan was the Overall Responsible Operator (ORO) for the Temagami North DWS.
- Operators-in-charge had been designated for all subsystems which comprised the drinking water system.
- All operators possessed the required certification.
- Only certified operators made adjustments to the treatment equipment.

### Water Quality Monitoring

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

Section 10-2 of Schedule 10 of O. Reg. 170/03 required the owner and operating authority for the system to ensure that at least eight (8) water samples were collected monthly from the distribution system sites (based on estimated population of 300). Samples must be tested for E.coli, total coliforms and 25% of those samples tested for general background population expressed as colony counts on a heterotrophic plate count (HPC).

Based on a review of the documentation provided during this inspection period, a minimum of two (2) samples were collected weekly from the distribution system. Of the eight to ten samples collected monthly over 25% of them were tested for HPC as required by section 10-2 of O. Reg. 170/03.

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

Section 10-3 of Schedule 10 of O. Reg. 170/03 required the owner and the operating authority for the system to ensure that at least one sample of treated water was collected weekly and tested for E.coli, total coliforms and HPC.

Based on a review of the documentation provided during this inspection period, the above noted requirements have been met.

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

Section 13-2 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority of the system to ensure that at least one sample of treated water was collected every 12 months and tested for every parameter set out in Schedule 23. The most recent samples were collected on October 7, 2019 and October 5, 2020.

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

Section 13-4 of Schedule 13 of O. Reg. 170/03 requires the owner and operating authority of the system to ensure that at least one sample of treated water is collected every 12 months and tested for every parameter set out in Schedule 24. The most recent samples were collected on October 7, 2019 and October 5, 2020.

- **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 to O. Reg. 170/03 requires the owner and operating authority for the system to 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 them tested for HAA.

The Ontario Drinking Water Standard for HAA's came into effect January 1, 2020. The standard is 80 µg/L and is expressed as a RAA.

During this inspection period samples for HAA were collected by the operating authority on January 13, April 14, July 13 and October 5, 2020. The running annual average (RAA) was 28.5 µg/L.

- **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 O. Reg. 170/03 requires the owner and the operating authority for the system to ensure that at least one water sample was collected every calendar quarter from points in the distribution system (including connected plumbing) likely to have an elevated potential for the formation of trihalomethanes (THM). The operating authority completed the sampling in accordance with the regulatory requirements.

### Water Quality Monitoring

During this inspection period samples for THM were collected by the operating authority on January 13, April 14, July 13 and October 5, 2020. The running annual average (RAA) for THM as of October 2020 was 55.8 µg/L.

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

Section 13-7 of Schedule 13 of O. Reg. 170/03 requires the owner and the operating authority for the system to ensure that at least one treated water sample was collected every three months and tested for nitrate and nitrite.

During this inspection period samples were collected on January 13, April 14, July 13 and October 5, 2020.

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

Section 13-8 of Schedule 13 of O. Reg. 170/03 requires the owner and the operating authority for the system to ensure that at least one treated water sample was collected every 60 months and tested for sodium. The most recent samples were collected in October 2017. Two samples were collected, the first exceeded the maximum acceptable concentration (MAC) of 20 mg/L with a result of 26.5 mg/L, and the resample was 23.7 mg/L.

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

Section 13-9 of Schedule 13 of O. Reg. 170/03 requires the owner and the operating authority for the system to ensure that at least one treated water sample was collected every 60 months and tested for fluoride. The most recent sample was collected on October 10, 2017.

- **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

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

During this inspection period, there was only one adverse water quality incident. The loss of coagulant was reported on August 20, 2020 as a report of improperly disinfected water being directed to users. On August 20, 2020, the operator discovered that for the period from approximately 12:30 am on August 19 until 9:30 am on August 20, coagulant was only being added every other pump cycle as one of the chemical pumps had stopped working. The operator reviewed the filter effluent turbidity trends for the period of time noted above and confirmed that there were no turbidity spikes above 0.40 NTU. Corrective action was taken to restore coagulant and the distribution system was flushed and microbiological samples were collected as requested by the health unit.

- **All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.**
- **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.**

## 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. **The owner was not in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Municipal Drinking Water Licence issued under Part V of the SDWA.**

Condition 1.0 of Schedule C of the MDWL identifies the rated capacity for the Temagami North DWS as 328 m<sup>3</sup>/day of total flow into the distribution system on any given calendar day.

A review of plant records for this inspection period indicated that the rated capacity was exceeded on June 11 due to watermain flushing program (342 m<sup>3</sup>/day) and on June 18 (340 m<sup>3</sup>/day), July 4 (329 m<sup>3</sup>/day) and July 5 (329 m<sup>3</sup>/day) due to increased usage in the community due to warm weather. The MDWL allows for temporary exceedance of the above noted rated capacity for the purpose of fighting a large fire or for maintenance of the DWS. Therefore, only the flow exceedances which occurred on June 18, July 4 and 5, 2020 were not permitted and are a non-compliance with condition 1.0 of Schedule C to the MDWL.

Failure to ensure that the WTP is operated in a manner to ensure that the rated capacity is not exceeded is a violation of the MDWL and section 31 (1)(b) of the Safe Drinking Water Act.

### Action(s) Required:

By no later than February 15, 2021, the owner and/or operating authority shall provide written documentation to Provincial Officer/Water Inspector Lori Duquette of the North Bay Office outlining the steps that will be taken to ensure that the maximum rated capacity is not exceeded in the future as a result of increase consumer demand during warm weather.

2. **Records did not indicate 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.**

For the period of time from 12:30 am on August 19 to 9:30 am on August 20, 2020 coagulant was only being dosed on every second pump cycle as one of the pumps stopped working. Therefore, for that period of time the filters failed to meet item 1 of the conventional filtration criteria noted above and did not receive log removal credits.

Failure to meet the log removal/inactivation credit assignment criteria identified in Schedule E of MDWL No. 201-102 issue no. 2 is a violation of the SDWA.

### Action(s) Required:

By no later than February 15, 2021, the owner and/or operating authority shall provide written documentation to Provincial Officer/Water Inspector Lori Duquette identifying the action that will be taken to ensure the following:

- that the broken chemical dosing pump is replaced; and
- steps are taken to prevent a similar situation from occurring again in the future.

3. **Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was not performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and/or was not recording data with the prescribed format.**

With the exception of a few short periods, the continuous monitoring equipment monitored and recorded the required free chlorine residual and filter effluent turbidity data in accordance with the requirements of section 6-5 of Schedule 6 to O. Reg. 170/03.

However, based on a review of the documentation provided during the inspection, there were two short periods of time on April 8, 2020 (i.e. 51 minutes and 52 minutes) when the free chlorine residual value was not being continuously recorded and water was being distributed. The incident occurred due to a problem with the chlorination system causing a spike in the free chlorine residual level in the treated water above the upper range for the continuous monitoring equipment (i.e. 5.0 mg/L). During this time the free chlorine residual trend flatlined at 5.0 mg/L with the exact free chlorine residual test result not been recorded until the residual value was within the analyzer range (i.e. 0.00-5.00 mg/L).

Failure to ensure that the continuous monitoring equipment records the result of every test is a violation of section 6-5(1)1(ii) of Schedule 6 to O. Reg. 170/03.

**Action(s) Required:**

No further action is required as the following actions were taken by the operating authority:

- On November 12, 2020, a high level free chlorine residual alarm set point of 4.0 mg/L was programmed and will trigger a plant shutdown if activated.
- The standard operating procedure for responding to a free chlorine residual alarm was amended to include the requirement for the operator to manually test and record the free chlorine residual in treated water every 5 minutes if the level is above the alarm set point of 4.0 mg/L and water is being sent to the distribution system.

**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**



---

**SIGNATURES**

Inspected By:

Lori Duquette

Signature: (Provincial Officer)



Reviewed &amp; Approved By:

Angela Whiteley

Signature: (Supervisor)



Review &amp; Approval Date:

January 15, 2021

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 (IRR)**

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

**DWS Name:** TEMAGAMI NORTH DRINKING WATER SYSTEM  
**DWS Number:** 220000433  
**DWS Owner:** Temagami, The Corporation Of The Municipality Of  
**Municipal Location:** Temagami

**Regulation:** O.REG 170/03  
**Category:** Large Municipal Residential System  
**Type Of Inspection:** Focused  
**Inspection Date:** October 27, 2020  
**Ministry Office:** North Bay Area Office

**Maximum Question Rating:** 506

Inspection Module	Non-Compliance Rating
Capacity Assessment	16 / 30
Treatment Processes	21 / 81
Operations Manuals	0 / 28
Logbooks	0 / 14
Certification and Training	0 / 42
Water Quality Monitoring	0 / 112
Reporting & Corrective Actions	0 / 66
Treatment Process Monitoring	21 / 133
<b>TOTAL</b>	<b>58 / 506</b>

**Inspection Risk Rating** 11.46%

**FINAL INSPECTION RATING:** 88.54%

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

**DWS Name:** TEMAGAMI NORTH DRINKING WATER SYSTEM  
**DWS Number:** 220000433  
**DWS Owner:** Temagami, The Corporation Of The Municipality Of  
**Municipal Location:** Temagami  
**Regulation:** O.REG 170/03  
**Category:** Large Municipal Residential System  
**Type Of Inspection:** Focused  
**Inspection Date:** October 27, 2020  
**Ministry Office:** North Bay Area Office

Non-compliant Question(s)	Question Rating
<b>Capacity Assessment</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?	16
<b>Treatment Process Monitoring</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?	21
<b>Treatment Processes</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?	21
<b>TOTAL QUESTION RATING</b>	58

Maximum Question Rating: 506

Inspection Risk Rating 11.46%

**FINAL INSPECTION RATING: 88.54%**

## **APPENDIX B**

### **KEY REFERENCE AND GUIDANCE MATERIAL FOR STAKEHOLDERS**

# 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

# 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	012-2149E
Laboratory Services Notification	012-2148E
Adverse Test Result Notification	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