

From: Maracle, Shayna (She/Her) (MECP) <Shayna.Maracle@ontario.ca>
Sent: October 27, 2023 10:53 AM
To: cao-treasurer@twp.tweed.on.ca
Cc: Amber June Coupland; Amy Dickens; Toumishey, Dr. Ethan (HPECHU); Lovell, Catherine (HPECHU); ehfax1@hpeph.ca
Subject: Tweed Drinking Water System Inspection Report Delivery
Attachments: 1-42XD4U_Inspection Report_Tweed DWS 23 24 Detailed.pdf

Please find attached an electronic copy of the report documenting findings of an inspection of the Tweed drinking water system conducted on July 26, 2023.

The attached file opens with a covering letter that draws your attention to one section of the report, namely "Non-compliance/Non-conformance Items", which if found, may cite due dates for the submission of information or plans to my attention.

I wish to thank Amber Coupland and Derek Chapman for the professionalism afforded to me during the conduct of my inspection of the drinking water system.

Please respond to this email to confirm your receipt of the inspection report.

Should you have any questions please do not hesitate to call me.

Thank you,

Shayna Maracle
Water Inspector | Provincial Officer
Ministry of the Environment, Conservation, and Parks | Drinking Water and Environmental Compliance
Division
Belleville Area Office | Kingston District
(613) 449 - 0504

October 27, 2023

Sent by Email: cao-treasurer@twp.tweed.on.ca

Gloria Rayborne
Cao/Treasurer
The Corporation of the Municipality of Tweed
255 Metcalf Street
Tweed, Ontario
K0K 3J0

Dear: Gloria Rayborne

Re: 2023-24 Inspection Report

The enclosed report documents findings of the inspection that was performed at the Tweed Drinking Water System drinking water system on July 26, 2023.

One section of the report, namely "Non-compliance/Non-conformance Items", if found, may cite due dates for the submission of information or plans to my attention.

Please note that Non-compliance Items 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 may result in the issuance of mandatory abatement instruments which could include orders, tickets, penalties, or referrals to the Ministry's Environmental Enforcement and Compliance Office.

Non-conformance Items convey information that the owner or 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 industry standards. Please note that items which appear as recommended actions do not, in themselves, constitute violations.

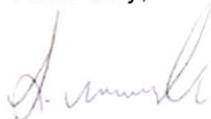
Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councilors, to take steps 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>.

If you have any questions or concerns regarding the rating, please contact Mahmod Mahmod, Acting Water Compliance Supervisor, at 613-548-6934.

Thank you for the assistance afforded to me during the conduct of the compliance assessment.

Should you have any questions regarding the content of the enclosed report, please do not hesitate to contact me.

Yours truly,



Shayna Maracle
Water Inspector/Provincial Officer
Drinking Water and Environmental Compliance Division, MECP
(613) 449 0504

Enclosure

ec: Amber Coupland, Senior Operations Manager, Ontario Clean Water Agency,
email address, acoupland@ocwa.com
- Amy Dickens, Source Water Protection Coordinator, Quinte Conservation
Authority, adickens@quinteconservation.ca
- Ethan Toumishey, Medical Officer of Health, Hastings and Prince Edward Public
Health, etoumishey@hpeph.ca
- Catherine Lovell, Assistant to the MOH, Hasting and Prince Edward Public
Health, clovell@hpeph.ca
- ehfax1@hpeph.ca

c: File SI-HA-TW-RI-540 (2023-24)



TWEED DRINKING WATER SYSTEM
430 RIVER ST W, TWEED, ON, K0K 3J0
INSPECTION REPORT

System Number: 220001557
Entity: ONTARIO CLEAN WATER
AGENCY
THE CORPORATION OF THE
MUNICIPALITY OF TWEED
Inspection Start Date: July 25, 2023
Inspection End Date: October 16, 2023
Inspected By: Shayna Maracle



(signature)

INTRODUCTION

Purpose

This announced, detailed inspection was conducted to confirm compliance with Ministry of the Environment, Conservation and Parks' (MECP) legislation and conformance with ministry drinking water policies and guidelines.

Scope

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 and the operation of the system.

The inspection of the drinking water system included both the physical inspection of the component parts of the system listed in section 4 "Systems Components" of the report and the review of data and documents associated with the operation of the drinking water system during the review 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 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.

Facility Contacts and Dates

The drinking water system is owned by The Corporation of the Municipality of Tweed and operated by Ontario Clean Water Agency (OCWA) Deloro.

The system serves an estimated population of 1,500 and is categorized as a Large Municipal Residential System (LMRS). Information reviewed for this inspection covered the time period of August 23, 2022 to July 26, 2023. The water inspector met with Amber Coupland (Senior Operations Manager) and Derek Chapman (Operator) as part of the inspection process.

Systems/Components

All locations associated with primary disinfection were visited as part of this inspection. The following sites were visited as part of the inspection of the drinking water system:

- Water Treatment Facility, and
- Elevated Storage Tank

Permissions/Approvals

This drinking water system was subject to specific conditions contained within the following permissions and/or approvals (please note this list is not exhaustive) at the time of the inspection in addition to the requirements of the SDWA and its regulations:

- Municipal Drinking Water Licence (MDWL), licence number 168-101 issue number 3 (June 3, 2021),
- Drinking Water Works Permit (DWWP), permit number 168-201 issue number 3 (June 3, 2021), and
- Permit To Take Water (PTTW), number 4464-A9NRHH (May 10, 2016).

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	DWMR1000000	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: Does this drinking water system provide primary disinfection?			
Compliance Response(s)/Corrective Action(s)/Observation(s): This drinking water system provides for both primary and secondary disinfection and distribution of water.			

Question ID	DWMR1007000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (1);			
Question: Is the owner maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner was maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials.			

Question ID	DWMR1008000	Question Type	Legislative
Legislative Requirement(s): OWRA R.R.O. 1990, Reg. 903 20 (1); OWRA R.R.O. 1990, Reg. 903 21 (3);			
Question: If there are municipal wells not being used as a raw water supply, is the owner maintaining the wells in a manner to prevent the entry of surface water and other foreign materials?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner was maintaining the municipal wells not being used as a raw water supply in a manner to prevent the entry of surface water and other foreign materials.			
Well 1 is for emergency use only and is maintained and sampled in the same manner as Well 3 the production well.			

Question ID	DWMR1009000	Question Type	Legislative
-------------	-------------	---------------	-------------

Legislative Requirement(s):

SDWA | 31 | (1);

Question:

Are measures in place to protect the groundwater and/or GUDI source in accordance with any MDWL and DWWP issued under Part V of the SDWA?

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

Measures were in place to protect the groundwater and/or GUDI source in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.

The OA reported the following measures in place to protect the groundwater source:

- well inspection program
- diesel tank inspection policy
- source water protection plan

Question ID	DWMR1010000	Question Type	BMP
<p>Legislative Requirement(s): Not Applicable</p> <p>Question: Are trends in source water quality being monitored?</p> <p>Compliance Response(s)/Corrective Action(s)/Observation(s): Trends in source water quality were being monitored.</p> <p>The O and OA have been made aware of potential sources of pollution or activities that could impair the source water quality from the local conservation authority. The OA indicated that nitrate levels are rising in the area and that raw water sampling has been increased to monitor trends in the source water.</p>			

Question ID	DWMR1014000	Question Type	Legislative
<p>Legislative Requirement(s): SDWA 31 (1);</p> <p>Question: Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?</p> <p>Compliance Response(s)/Corrective Action(s)/Observation(s): 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.</p> <p>Flow measuring devices were installed in the location and in operation to measure in accordance with the MDWL, DWWP, and the PTTW.</p>			

Question ID	DWMR1015000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Are the flow measuring devices calibrated or verified in accordance with the requirements of the MDWL issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The flow measuring devices were calibrated or verified in accordance with the requirements of the MDWL issued under Part V of the SWDA. Records reviewed indicate that the raw water flow meters and chart recorders were verified/calibrated on June 6, 2023. The treated and combined flow meters were verified by a comparison of flowrate using calibrated raw water flow meters, rather than a primary simulator. The primary simulator was not available at the time of the inspection. Verification/calibration was completed by Tower Electronics Canada Inc.			

Question ID	DWMR1016000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: 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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. The MDWL authorizes a rated capacity (maximum daily volume of treated water) of 1,633 m ³ /day. Records of flow data indicate that the maximum treated water flow was 1,043 m ³ /day in September 2022. The average treated water flow during the inspection period was 555.75 m ³ /day.			

Question ID	DWMR1017000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Were appropriate records of flows and any capacity exceedances made in accordance with the MDWL issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Appropriate records of flows and any capacity exceedances were made in accordance with the Municipal Drinking Water Licence issued under Part V of the SDWA.			

There were no exceedances of the systems authorized rated capacity during the inspection period.

Question ID	DWMR1013000	Question Type	Legislative
Legislative Requirement(s): OWRA 34 (3);			
Question: Is the owner in compliance with all conditions of the PTTW?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner was in compliance with all conditions of the PTTW.			
A review of the raw water flow data for the inspection period confirms the water taking authorized by the PTTW was not exceeded. Well# 1 is used exclusively for emergency purposes. The PTTW authorizes 1,633 m3/day for maximum taking from Well 3. Records of flow data reviewed for the inspection period indicate that the maximum volume taken was 1,043 m3/day in September 2022. Condition 4.1 record of takings of the PTTW has been met.			
Conditions 4.2 well-water level monitoring and 4.3 well-water quality monitoring of the PTTW have been met. Compliance with these monitoring requirements was confirmed through the most recent report dated July 28, 2023 prepared by professional geoscientists (hydrologist) Mark Boone of Quinte Conservation.			

Question ID	DWMR1018000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Has the owner ensured that all equipment is installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.			
At the time of the physical inspection drinking water system equipment appeared to be installed and functioning as per Schedule A of the DWWP. Schedule C is not applicable to this system.			

Question ID	DWMR1028000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Are up-to-date plans for the drinking water system kept in place, or made available in such a manner, that they may be readily viewed by all persons responsible for all or part of the			

operation of the drinking water system in accordance with the DWWP and MDWL issued under Part V of the SDWA?

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

Up-to-date plans for the drinking water system were kept in a place, or made available in such a manner, that they could be readily viewed by all persons responsible for all or part of the operation of the drinking water system in accordance with the DWWP and MDWL issued under Part V of the SDWA.

Question ID	DWMR1025000	Question Type	Legislative
<p>Legislative Requirement(s): SDWA 31 (1);</p> <p>Question: 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?</p> <p>Compliance Response(s)/Corrective Action(s)/Observation(s): All parts of the drinking water system were disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit.</p> <p>The OA has developed a standard operating procedure for watermain breaks with reference to the 2020 watermain disinfection procedure. A distribution maintenance form has also been prepared to be completed by operators to document maintenance, repairs, and installation.</p>			

Question ID	DWMR1023000	Question Type	Legislative
<p>Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);</p> <p>Question: 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?</p> <p>Compliance Response(s)/Corrective Action(s)/Observation(s): 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.</p> <p>Schedule E of the MDWL states the minimum log removal/inactivation credits for the source water (ground water under the direct influence of surface water [GUDI] with effective in-situ filtration) is a 2-log removal or inactivation of Cryptosporidium oocysts, 3-log removal or inactivation of Giardia cysts and 4-log removal or inactivation of viruses. The minimum credits are consistent with the Ministry's Procedure for Disinfection of Drinking Water in Ontario. The DWS is equipped with UV disinfection and chlorination treatment components to meet the log</p>			

removal/inactivation credits required. Two Trojan UV Swift SC UV units are installed and operated with one duty and one stand-by. Each unit has a rated capacity of 18.9 L/s and minimum dose of 40 mJ/cm². UV intensity is continuously monitored and will lock-out the plant if the intensity falls below 46.1 W/m². Electronic records indicate that during the inspection period, the minimum intensity for UV1 was 64.1 W/m² and for UV2 was 65.1 W/m². Records also indicated that during the inspection period no UV alarms were initiated. The lowest post free chlorine residual during the inspection period was 1.044 mg/L recorded on May 28, 2023. The CT calculations provided for the DWS indicate the minimum chlorine residual required to meet CT is 0.54 mg/L.

Question ID	DWMR1026000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-6 (1);			
Question: If primary disinfection equipment that does not use chlorination or chloramination is provided, is the equipment equipped with alarms or shut-off mechanisms that satisfy the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The primary disinfection equipment was equipped with alarms or shut-off mechanisms that satisfied the standards described in Section 1-6 (1) of Schedule 1 of O. Reg. 170/03. The water treatment equipment includes two ultraviolet light units which operate independently. Continuous monitoring equipment is used to record the performance of the UV equipment. If one unit fails to meet operational requirements, the second unit will be automatically switched over to start treatment. The units are equipped with an alarm which will initiate plant lock-out should the intensity fall below the set point of 46.1 W/m ² and notify a water operator.			

Question ID	DWMR1027000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Does the owner have evidence indicating that all chemicals and materials which come in contact with water within the drinking water system have met all applicable AWWA and ANSI standards in accordance with the DWWP and MDWL issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had evidence indicating that all chemicals and materials that come in contact with water within the drinking water system met the AWWA and ANSI standards in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.			

Question ID	DWMR1024000	Question Type	Legislative
-------------	-------------	---------------	-------------

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 1-2 | (2);

Question:

Do records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated as required?

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

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.

Records indicate the minimum free chlorine residual during the inspection period as 0.52mg/L on September 11, 2022.

Question ID	DWMR1033000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 7-2 (3); SDWA O. Reg. 170/03 7-2 (4);			
Question:			
Is the secondary disinfectant residual measured as required for the large municipal residential distribution system?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
The secondary disinfectant residual was measured as required for the large municipal residential distribution system.			
Continuous monitoring equipment is used to analyze and record the free chlorine residual for secondary disinfection. The residual is measured at the Tweed elevated storage tank.			

Question ID	DWMR1049000	Question Type	BMP
Legislative Requirement(s):			
Not Applicable			
Question:			
Do records confirm that disinfectant residuals are routinely checked at the extremities and dead ends of the distribution system?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
Records confirmed that disinfectant residuals were routinely checked at the extremities and dead ends of the distribution system.			

Question ID	DWMR1036000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 6-7 (1);			

Question:

Where continuous monitoring equipment is not used for chlorine residual analysis, are samples tested using an acceptable portable device?

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

Samples for chlorine residual analysis were tested using an acceptable portable device.

Question ID	DWMR1030000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (1); SDWA O. Reg. 170/03 7-2 (2);			
Question: 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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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 chlorine analyzer is obtaining a sample to analyze following the chlorine contact pipe, where CT is met.			

Question ID	DWMR1031000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Are operators aware of the operational criteria necessary to achieve primary disinfection within the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators were aware of the operational criteria necessary to achieve primary disinfection within the drinking water system.			

Question ID	DWMR1035000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10;			
Question: Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			

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

Records provided appear to indicate 72 hour reviews are completed by a certified operator for treated and distribution chlorine residuals.

Question ID	DWMR1038000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4;			
Question: 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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. The table included in Schedule 6 of O. Reg. 170/03 lists the minimum testing and recording frequency for continuous monitoring equipment. The OA confirmed the free chlorine residual is tested and recorded every 2 minutes.			

Question ID	DWMR1037000	Question Type	Legislative
Legislative Requirement(s): 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);			
Question: 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. Continuous monitoring equipment used by the DWS is reported to have the following alarm set points: <ul style="list-style-type: none"> - Pre-chlorine alarm lock-out after 1 minute delay when free chlorine residual is 0.80 mg/L. - Post-chlorine alarm lock-out when free chlorine is 1.00 mg/L. - Tower (distribution) alarms when free chlorine is 0.50 mg/L. - Turbidity alarm @ Well #3 will lock-out if turbidity is > 1.0 NTU for 10 minutes. - UV's are both set to lock out plant if intensity falls below 46.1 W/m2. 			

Question ID	DWMR1040000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10;			
Question: Are all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation. The work order summary report reviewed indicates monthly verification/calibration was completed by operators for the treated water chlorine analyzer, distribution chlorine analyzer, and the pre-chlorine analyzer.			

Question ID	DWMR1108000	Question Type	Legislative
Legislative Requirement(s): 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);			
Question: 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.			

Question ID	DWMR1039000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-6 (3);			
Question: If primary disinfection equipment that does not use chlorination or chloramination is provided, has the owner and operating authority ensured that the equipment has a recording device that continuously records the performance of the disinfection equipment?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner and operating authority ensured that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment.			

Question ID	DWMR1042000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: If UV disinfection is used were duty sensors and reference UV sensors checked and calibrated as per the requirements of Schedule E of the MDWL or at a frequency as otherwise recommended by the UV equipment manufacturer?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All UV sensors were checked and calibrated as required. Schedule E of the MDWL states the criteria required for duty UV sensor checks and calibration. Records indicated the UV sensors were checked monthly against a reference sensor and during the inspection period never exceeded the 1.2 calibration ratio required by the MDWL. The average calibration ratio during the inspection period was 0.91 (UV1) and 0.92 (UV2).			

Question ID	DWMR1099000	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: 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)?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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	DWMR1079000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10-4 (1); SDWA O. Reg. 170/03 10-4 (2); SDWA O. Reg. 170/03 10-4 (3);			
Question: For LMR systems, are all microbiological water quality monitoring requirements for raw water samples prescribed by legislation being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All microbiological water quality monitoring requirements prescribed by legislation for raw water samples were being met. Schedule 10-4 requires raw water samples to be taken at least once a week. Schedule 6 states			

the sampling frequency for weekly sampling is at least five days and not more than 10 days after the previous sample was taken.

A review of the drinking water test result summary confirms raw water samples were collected and tested in accordance with legislative requirements during the inspection period. Raw water samples were collected between 5 and 8 days during the inspection period from both wells associated with the DWS.

Question ID	DWMR1081000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 10-2 (1); SDWA O. Reg. 170/03 10-2 (2); SDWA O. Reg. 170/03 10-2 (3);			
Question:			
For LMR systems, are all microbiological water quality monitoring requirements for distribution samples being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
All microbiological water quality monitoring requirements prescribed by legislation for distribution samples in a large municipal residential system were being met.			
Schedule 10-2 requires at least nine distribution water samples to be taken every month, with at least one of the samples being taken in each week.			
A review of the drinking water test result summary confirms distribution water samples were collected and tested in accordance with legislative requirements during the inspection period. Samples tested for <i>Escherichia coli</i> and total coliforms were reported as 0 CFU/100mL, and heterotrophic plate count ranged from 0 to 47 CFU/1mL.			

Question ID	DWMR1083000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 10-3;			
Question:			
For LMR systems, are all microbiological water quality monitoring requirements for treated samples being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
All microbiological water quality monitoring requirements prescribed by legislation for treated samples were being met.			
Schedule 10-3 requires treated water samples to be taken at least once a week.			
A review of the drinking water test result summary confirms treated water samples were taken in accordance with legislative requirements during the inspection period. Treated water samples were collected between 5 and 8 days during the inspection period.			

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

Question ID	DWMR1084000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-2;			
Question: Are all inorganic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Schedule 13-2 requires treated water samples to be taken every 12 months and tested for every parameter listed in Schedule 23. Schedule 6 states the sampling frequency for a 12-month period is not more than 30 days before or after the first anniversary of the day a sample was taken previously. A review of the drinking water test result summary confirms treated water samples were tested in accordance with legislative requirements during the inspection period. Samples were collected on March 6, 2023 and previously on March 7, 2022.			

Question ID	DWMR1085000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-4 (1); SDWA O. Reg. 170/03 13-4 (2); SDWA O. Reg. 170/03 13-4 (3);			
Question: Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.			

Schedule 13-4 requires treated water samples to be taken every 12 months and tested for every parameter listed in Schedule 24.

A review of the drinking water test result summary confirms treated water samples were tested in accordance with legislative requirements during the inspection period. Samples were collected on March 6, 2023 and previously on March 7, 2022.

Question ID	DWMR1086000	Question Type	Legislative
Legislative Requirement(s):			
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);			
Question:			
Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
All haloacetic acid water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.			
Schedule 13-6.1 requires a distribution water sample to be collected and tested for haloacetic acids in each calendar quarter (every 3 months). Schedule 6 states the sampling frequency for a calendar quarter is at least 60 days and not more than 120 days from the previous.			
A review of the drinking water test result summary confirms haloacetic acids samples were collected and tested in accordance with legislative requirements during the inspection period.			

Question ID	DWMR1087000	Question Type	Legislative
Legislative Requirement(s):			
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.			
Schedule 13-6 requires a distribution water sample to be collected and tested for trihaloemethanes in each calendar quarter.			
A review of the drinking water test results summary confirms trihalomethane samples were			

collected and tested in accordance with legislative requirements during the inspection period.

Question ID	DWMR1088000	Question Type	Legislative
<p>Legislative Requirement(s): SDWA O. Reg. 170/03 13-7;</p> <p>Question: Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted within the required frequency for the DWS?</p> <p>Compliance Response(s)/Corrective Action(s)/Observation(s): All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency.</p> <p>Schedule 13-7 requires treated water samples to be collected and tested for nitrate and nitrite every three months.</p> <p>A review of the drinking water test result summary confirms nitrate and nitrite samples were collected and tested in accordance with legislative requirements during the inspection period.</p>			

Question ID	DWMR1089000	Question Type	Legislative
<p>Legislative Requirement(s): SDWA O. Reg. 170/03 13-8;</p> <p>Question: Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?</p> <p>Compliance Response(s)/Corrective Action(s)/Observation(s): All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.</p> <p>Schedule 13-8 requires treated water samples to be collected and tested for sodium every 60 months. Schedule 6 states the sampling frequency for one sample every 60 months is not more than 90 days before or after the fifth anniversary of the day the sample was previously take.</p> <p>A review of the drinking water test result summary confirms samples were collected and tested in accordance with the legislative requirements during the inspection period.</p>			

Question ID	DWMR1090000	Question Type	Legislative
<p>Legislative Requirement(s): SDWA O. Reg. 170/03 13-9;</p> <p>Question: Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?</p>			

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

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

Schedule 13-9 requires treated water samples to be collected and tested for fluoride every 60 months.

A review of the drinking water test result summary confirms samples were collected and tested in accordance with the legislative requirements during the inspection period.

Question ID	DWMR1092000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-2;			
Question: Has the owner ensured that water samples are taken at the prescribed location?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner ensured that water samples were taken at the prescribed location.			

Question ID	DWMR1094000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Are all water quality monitoring requirements imposed by the MDWL and DWWP being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All water quality monitoring requirements imposed by the MDWL or DWWP issued under Part V of the SDWA were being met. Schedule C section 5.0 of the MDWL imposes additional sampling, testing, and monitoring requirements. Distribution samples are required to be tested for uranium quarterly. A review of the drinking water test result summary confirms samples were collected and tested as required by the MDWL.			

Question ID	DWMR1095000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 15.1-10; SDWA O. Reg. 170/03 15.1-4 (1); SDWA O. Reg. 170/03 15.1-5 (1); SDWA O. Reg. 170/03 15.1-5 (10); SDWA O. Reg. 170/03 15.1-5 (11); SDWA O. Reg. 170/03 15.1-5 (12); SDWA O. Reg. 170/03 15.1-5 (2); SDWA O. Reg. 170/03 15.1-5 (3); SDWA O. Reg. 170/03 15.1-5 (4); SDWA O. Reg. 170/03 15.1-5 (5); SDWA O. Reg. 170/03 15.1-5 (6); SDWA O. Reg. 170/03 15.1-5 (7); SDWA O. Reg. 170/03 15.1-5 (8); SDWA O. Reg. 170/03 15.1-5 (9); SDWA O. Reg. 170/03 15.1-			

7 | (1); SDWA | O. Reg. 170/03 | 15.1-7 | (2); SDWA | O. Reg. 170/03 | 15.1-7 | (3); SDWA | O. Reg. 170/03 | 15.1-7 | (4); SDWA | O. Reg. 170/03 | 15.1-9 | (1); SDWA | O. Reg. 170/03 | 15.1-9 | (2); SDWA | O. Reg. 170/03 | 15.1-9 | (3); SDWA | O. Reg. 170/03 | 15.1-9 | (4); SDWA | O. Reg. 170/03 | 15.1-9 | (5); SDWA | O. Reg. 170/03 | 15.1-9 | (6); SDWA | O. Reg. 170/03 | 15.1-9 | (7); SDWA | O. Reg. 170/03 | 15.1-9 | (8); SDWA | O. Reg. 170/03 | 15.1-9 | (9);

Question:

Have all lead sampling requirements prescribed by Schedule 15.1 of O. Reg. 170/03 been met?

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

All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were being met.

The DWS is exempt from conducting sampling and testing for lead in plumbing under Section 9 of Schedule 15.1 of O. Reg. 170/03. Section 10 of Schedule 15.1 is applicable to the DWS, requiring distribution lead sampling every 3 years and pH/alkalinity testing yearly. Two sampling locations are required to be tested.

A review of the drinking water test result summary confirms lead and alkalinity testing has been conducted in accordance with the legislative requirements since 2018. Certificate of analysis provided for review confirm pH testing has been conducted in accordance with the legislative requirements during the inspection period.

Question ID	DWMR1097000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 7-3 (1.1);			
Question:			
If the drinking water system obtains water from a ground water source, is turbidity being tested at least once every month from each well that is supplying water to the system?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
Turbidity was being tested at least once every month from each well that is supplying water to the system.			
A review of the Tweed DWS logbook confirms Turbidity was tested monthly from Well #1 and Well #3.			

Question ID	DWMR1098000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 13 (1); SDWA O. Reg. 170/03 13 (2); SDWA O. Reg. 170/03 13 (3);			
Question:			
Has the owner indicated that the required records are kept and will be kept for the required time period?			

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

The owner indicated that the required records are kept and will be kept for the required time period.

Question ID	DWMR1101000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 17-1; SDWA O. Reg. 170/03 17-10 (1); SDWA O. Reg. 170/03 17-11; SDWA O. Reg. 170/03 17-12; SDWA O. Reg. 170/03 17-13; SDWA O. Reg. 170/03 17-14; SDWA O. Reg. 170/03 17-2; SDWA O. Reg. 170/03 17-3; SDWA O. Reg. 170/03 17-4; SDWA O. Reg. 170/03 17-5; SDWA O. Reg. 170/03 17-6; SDWA O. Reg. 170/03 17-9;			
Question:			
For LMR Systems, have corrective actions (as per Schedule 17 of O. Reg. 170/03) been taken to address adverse conditions, including any other steps as directed by the Medical Officer of Health?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
Corrective actions (as per Schedule 17), including any other steps that were directed by the Medical Officer of Health, had been taken to address adverse conditions.			

Question ID	DWMR1104000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 16-6 (1); SDWA O. Reg. 170/03 16-6 (2); SDWA O. Reg. 170/03 16-6 (3); SDWA O. Reg. 170/03 16-6 (3.1); SDWA O. Reg. 170/03 16-6 (3.2); SDWA O. Reg. 170/03 16-6 (4); SDWA O. Reg. 170/03 16-6 (5); SDWA O. Reg. 170/03 16-6 (6);			
Question:			
Were all required verbal notifications of adverse water quality incidents immediately provided as per O. Reg. 170/03 16-6?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.			

Question ID	DWMR1105000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 16-7 (1); SDWA O. Reg. 170/03 16-7 (2); SDWA O. Reg. 170/03 16-7 (3); SDWA O. Reg. 170/03 16-7 (4); SDWA O. Reg. 170/03 16-7 (5);			
Question:			
Were all required written notices of adverse water quality incidents provided as per O. Reg.			

170/03 16-7?

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

All required written notices of adverse water quality incidents were provided as per O. Reg. 170/03 16-7.

Question ID	DWMR1106000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 16-9 (1); SDWA O. Reg. 170/03 16-9 (2);			
Question: Were all required written notices of issue resolution provided as per O. Reg. 170/03 16-9?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All required written notices of issue resolution were provided as per O. Reg. 170/03 16-9.			

Question ID	DWMR1110000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 11 (6);			
Question: Was an Annual Report containing the required information prepared by February 28 of the following year?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The Annual Report containing the required information was prepared by February 28th of the following year. The 2022 Annual Water Report was issued on February 24, 2023. A review of the report confirms the required information of Section 11 of O. Reg. 170/03 was included.			

Question ID	DWMR1111000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 22-2 (1); SDWA O. Reg. 170/03 22-2 (2); SDWA O. Reg. 170/03 22-2 (3); SDWA O. Reg. 170/03 22-2 (4);			
Question: Have Summary Reports for municipal council been completed on time, include the required content, and distributed in accordance with the regulatory requirements?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Summary Reports for municipal council were completed on time, included the required content, and were distributed in accordance with the regulatory requirements. The summary report was issued on February 24, 2023.			

Question ID	DWMR1113000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10.1 (3);			
Question: Have all changes to the system registration information been provided to the Ministry within ten (10) days of the change?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All changes to the system registration information were provided within ten (10) days of the change. An update DWS profile was submitted on July 27, 2023.			

Question ID	DWMR1043000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Are the process wastewater and residual solids/sludges being treated, handled and disposed of in accordance with the design requirements approved under the Drinking Water Works Permit and the Municipal Drinking Water Licence?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The process wastewater and residual solids/sludges were treated, handled and disposed of in accordance with the design requirements approved under the Drinking Water Works Permit and the Municipal Drinking Water Licence. The backwash water is discharged to the sanitary sewer as per Schedule A of the DWWP.			

Question ID	DWMR1046000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Is there a backflow prevention program, policy and/or bylaw in place that addresses cross connections and connections to high hazard facilities?			
Compliance Response(s)/Corrective Action(s)/Observation(s): There was a backflow prevention program, policy and/or bylaw in place. The Corporation of the Municipality of Tweed By-law No. 2005-53 section 11 requires the use of a backflow prevention device for commercial, industrial, and institutional premises.			

Question ID	DWMR1053000	Question Type	BMP
Legislative Requirement(s): Not Applicable			

Question:

Is the Owner able to maintain proper pressures in the distribution system and is pressure monitored to alert the operator of conditions which may lead to loss of pressure below the value under which the system is designed to operate?

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

The owner was able to maintain proper pressures in the distribution system and pressure was monitored to alert the operator of conditions which may lead to loss of pressure below the value under which the system is designed to operate.

The OA reported pressure is monitored throughout the distribution system and the low pressure alarm set point allows for significant response time.

Question ID	DWMR1047000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Does the owner have a program or maintain a schedule for routine cleanout, inspection and maintenance of reservoirs and elevated storage tanks within the distribution system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had a program or maintained a schedule for routine cleanout, inspection and maintenance of reservoirs and elevated storage tanks within the distribution system.			
The OA reported the elevated storage tank inspection occurs every 10 years and maintenance is completed as required.			

Question ID	DWMR1048000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Has the owner implemented a program for the flushing of watermains as per industry standards?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had implemented a program for the flushing of watermains as per industry standards.			
The OA reported hydrant flushing occurs twice annually, in the Spring and Fall. Records reviewed appear to confirm hydrant flushing was conducted during the inspection period.			

Question ID	DWMR1050000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question:			

Is there a program in place for inspecting and exercising valves?

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

There was a program in place for inspecting and exercising valves.

The OA reported the valve exercising/inspection program is conducted on a rotational basis every 4 years. Records provide confirm valve exercising was conducted during the inspection period.

Question ID	DWMR1051000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Is there a program in place for inspecting and operating hydrants?			
Compliance Response(s)/Corrective Action(s)/Observation(s): There was a program in place for inspecting and operating hydrants.			
The OA reported inspection and operation of hydrants is incorporated into the hydrant flushing program.			

Question ID	DWMR1052000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Is there a by-law or policy in place limiting access to hydrants?			
Compliance Response(s)/Corrective Action(s)/Observation(s): There was a by-law or policy in place limiting access to hydrants.			
The Corporation of the Municipality of Tweed By-law No. 2005-53 section 15 limits hydrant use to water distribution operators and the Tweed Fire Department.			

Question ID	DWMR1058000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 28;			
Question: Do operators and maintenance personnel have ready access to operations and maintenance manuals?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators and maintenance personnel had ready access to operations and maintenance manuals.			
The operation and maintenance manuals are housed onsite at the drinking water treatment			

plant.

Question ID	DWMMR1059000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 28;			
Question: Do the operations and maintenance manuals contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.			

Question ID	DWMMR1060000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. An onsite review of the operations and maintenance manuals appears to confirm the requirements of section 16.2 of the MDWL.			

Question ID	DWMMR1061000	Question Type	Legislative
Legislative Requirement(s): 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);			
Question: Are logbooks properly maintained and contain the required information?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Logbooks were properly maintained and contained the required information. The OA uses eRIS software to maintain electronic logbooks. The electronic logbooks include entry time, operator identification, entry text (operators record of events), label (facility checks, sampling, maintenance, etc.). Logbook entries are made in chronological order and appear to meet the legislative requirements of Section 27 of O. Reg. 128/04.			

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

Question ID	DWMR1063000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-10 (1);			
Question: For every required operational test and for every required sample, is a record made of the date, time, location, name of the person conducting the test and result of the test?			
Compliance Response(s)/Corrective Action(s)/Observation(s): For every required operational test and every required sample, a record was made of the date, time, location, name of the person conducting the test and result of the test.			

Question ID	DWMR1064000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 26 (2);			
Question: Did the operator-in-charge ensure that records were maintained of all adjustments made to the processes within his or her responsibility?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The operator-in-charge ensured that records were maintained of all adjustments made to the processes within his or her responsibility.			

Question ID	DWMR1065000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 27 (6);			
Question: Are logs and other record keeping mechanisms available for at least five (5) years?			

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

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

Question ID	DWMR1066000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Is spill containment provided for process chemicals and standby power generator fuel?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Spill containment was provided for process chemicals and/or standby power generator fuel.			

Question ID	DWMR1067000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Are clean-up equipment and materials in place for the clean up of spills?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Clean-up equipment and materials were in place for the clean up of spills.			

Question ID	DWMR1068000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: If available, are standby power generators tested under normal load conditions?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Standby power generators were tested under normal load conditions. A review of the DWS workout summary report confirms the generator is tested on a monthly basis and serviced yearly.			

Question ID	DWMR1069000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Are all storage facilities completely covered and secure?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			

All storage facilities were completely covered and secure.

Question ID	DWMR1070000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Are air vents and overflows associated with reservoirs and elevated storage structures equipped with screens?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Air vents and overflows associated with reservoirs and elevated storage structures were equipped with screens. The OA reported that the previous elevated storage tower inspection confirmed screens are associated with these components.			

Question ID	DWMR1071000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Has the owner provided security measures to protect components of the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had provided security measures to protect components of the drinking water system. Security measures are in place for the water treatment plant and the elevated storage tower. Security measures include: - intrusion alarm - fenced parameter - locked gate			

Question ID	DWMR1072000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Has the owner and/or operating authority undertaken efforts to promote water conservation and reduce water losses in their system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner and/or operating authority undertook efforts to promote water conservation and reduce water losses in their system. The OA reported that when needed communication will be sent out to users of the system to			

requesting conservation of water. It was confirmed that all consumers of the water system are fully metered.

Question ID	DWMR1073000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 23 (1);			
Question: Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The overall responsible operator had been designated for each subsystem. A review of the Tweed DWS Logbook confirms an overall responsible operator (ORO) has been designated since the time of the last inspection. On the day of inspection Derek Chapman was designated as ORO, Derek holds a valid certification for the type of operated subsystem(s).			

Question ID	DWMR1074000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 25 (1);			
Question: Have operators-in-charge been designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators-in-charge had been designated for all subsystems which comprise the drinking water system. A review of the Tweed DWS Logbook confirms an operator-in-charge (OIC) has been designated since the time of the last inspection. On the day of inspection Derek Chapman was designated as OIC, Derek holds a valid certification for the type of operated subsystem(s).			

Question ID	DWMR1075000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 22;			
Question: Do all operators possess the required certification?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All operators possessed the required certification.			

Question ID	DWMR1076000	Question Type	Legislative
-------------	-------------	---------------	-------------

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 1-2 | (2);

Question:

Do only certified operators make adjustments to the treatment equipment?

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

Only certified operators made adjustments to the treatment equipment.

APPENDIX A
**DRINKING WATER LICENCE AND
WORKS PERMIT**



MUNICIPAL DRINKING WATER LICENCE

Licence Number: 168-101

Issue Number: 3

Pursuant to the *Safe Drinking Water Act, 2002*, S.O. 2002, c. 32, and the regulations made thereunder and subject to the limitations thereof, I hereby issue this municipal drinking water licence under Part V of the *Safe Drinking Water Act, 2002*, S.O. 2002, c. 32 to:

The Corporation of the Municipality of Tweed

255 Metcalf St
Tweed, ON K0K 3J0

For the following municipal residential drinking water system:

Tweed Drinking Water System

This municipal drinking water licence includes the following:

Schedule	Description
Schedule A	Drinking Water System Information
Schedule B	General Conditions
Schedule C	System-Specific Conditions
Schedule D	Conditions for Relief from Regulatory Requirements
Schedule E	Pathogen Log Removal/Inactivation Credits

Upon the effective date of this drinking water licence # 168-101, all previously issued versions of licence # 168-101 are revoked and replaced by this licence.

DATED at TORONTO this 3rd day of June, 2021

Signature

Aziz Ahmed, P.Eng.
Director
Part V, *Safe Drinking Water Act, 2002*

Schedule A: Drinking Water System Information

System Owner	The Corporation of the Municipality of Tweed
Licence Number	168-101
Drinking Water System Name	Tweed Drinking Water System
Licence Effective Date	June 3, 2021

1.0 Licence Information

Licence Issue Date	June 3, 2021
Licence Effective Date	June 3, 2021
Licence Expiry Date	June 2, 2026
Application for Licence Renewal Date	December 3, 2025

2.0 Incorporated Documents

The following documents are applicable to the above drinking water system and form part of this licence:

2.1 Drinking Water Works Permit

Drinking Water System Name	Permit Number	Issue Date
Tweed Drinking Water System	168-201	June 3, 2021

2.2 Permits to Take Water

Water Taking Location	Permit Number	Issue Date
Well 1, Well 3	4464-A9NRHH	May 10, 2016

3.0 Financial Plans

The Financial Plan Number for the Financial Plan required to be developed for this drinking water system in accordance with O. Reg. 453/07 shall be:	168-301
Alternately, if one Financial Plan is developed for all drinking water systems owned by the owner, the Financial Plan Number shall be:	168-301A

4.0 Accredited Operating Authority

Drinking Water System or Operational Subsystems	Accredited Operating Authority	Operational Plan No.	Operating Authority No.
Tweed Drinking Water System	Ontario Clean Water Agency	168-401	168-OA1

Schedule B: General Conditions

System Owner	The Corporation of the Municipality of Tweed
Licence Number	168-101
Drinking Water System Name	Tweed Drinking Water System
Licence Effective Date	June 3, 2021

1.0 Definitions

1.1 Words and phrases not defined in this licence and the associated drinking water works permit shall be given the same meaning as those set out in the SDWA and any regulations made in accordance with that act, unless the context requires otherwise.

1.2 In this licence and the associated drinking water works permit:

“**adverse effect**”, “**contaminant**” and “**natural environment**” shall have the same meanings as in the EPA;

“**alteration**” may include the following in respect of this drinking water system:

- (a) An addition to the system,
- (b) A modification of the system,
- (c) A replacement of part of the system, and
- (d) An extension of the system;

“**compound of concern**” means a contaminant described in paragraph 4 subsection 26 (1) of O. Reg. 419/05, namely, a contaminant that is discharged to the air from a component of the drinking water system in an amount that is not negligible;

“**CT**” means the CT Disinfection Concept, as described in subsection 3.1.1 of the Ministry’s Procedure for Disinfection of Drinking Water in Ontario, dated July 29 2016.

“**Director**” means a Director appointed pursuant to section 6 of the SDWA for the purposes of Part V of the SDWA;

“**drinking water works permit**” means the drinking water works permit for the drinking water system, as identified in Schedule A of this licence and as amended from time to time;

“**emission summary table**” means a table described in paragraph 14 of subsection 26 (1) of O. Reg. 419/05;

“**EPA**” means the *Environmental Protection Act*, R.S.O. 1990, c. E.19;

“**financial plan**” means the financial plan required by O. Reg. 453/07;

“**Harmful Algal Bloom (HAB)**” means an overgrowth of aquatic algal bacteria that produce or have the potential to produce toxins in the surrounding water, when the algal

cells are damaged or die. Such bacteria are harmful to people and animals and include microcystins produced by cyanobacterial blooms.

“**licence**” means this municipal drinking water licence for the municipal drinking water system identified in Schedule A of this licence;

“**Ministry**” means the Ontario Ministry of the Environment, Conservation and Parks;

“**operational plan**” means an operational plan developed in accordance with the Director’s Directions – Minimum Requirements for Operational Plans made under the authority of subsection 15(1) of the SDWA;

“**owner**” means the owner of the drinking water system as identified in Schedule A of this licence;

“**OWRA**” means the *Ontario Water Resources Act*, R.S.O. 1990, c. 0.40;

“**permit to take water**” means the permit to take water that is associated with the taking of water for purposes of the operation of the drinking water system, as identified in Schedule A of this licence and as amended from time to time;

“**point of impingement**” has the same meaning as in section 2 of O. Reg. 419/05 under the EPA;

“**point of impingement limit**” means the appropriate standard from Schedule 2 or 3 of O. Reg. 419/05 under the EPA and if a standard is not provided for a compound of concern, the concentration set out for the compound of concern in the document titled “Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants”, as amended from time to time and published by the Ministry and available on a government of Ontario website;

“**licensed engineering practitioner**” means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act;

“**provincial officer**” means a provincial officer designated pursuant to section 8 of the SDWA;

“**publication NPC-300**” means the Ministry publication titled “Environmental Noise Guideline: Stationary and Transportation Sources – Approval and Planning” dated August 2013, as amended;

“**SCADA system**” means a supervisory control and data acquisition system used for process monitoring, automation, recording and/or reporting within the drinking water system;

“**SDWA**” means the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32;

"**sensitive receptor**" means any location where routine or normal activities occurring at reasonably expected times would experience adverse effect(s) from a discharge to air from an emergency generator that is a component of the drinking water system, including one or a combination of:

- (a) private residences or public facilities where people sleep (e.g.: single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.),
- (b) institutional facilities (e.g.: schools, churches, community centres, day care centres, recreational centres, etc.),
- (c) outdoor public recreational areas (e.g.: trailer parks, play grounds, picnic areas, etc.), and
- (d) other outdoor public areas where there are continuous human activities (e.g.: commercial plazas and office buildings).

"**sub-system**" has the same meaning as in Ontario Regulation 128/04 (Certification of Drinking Water System Operators and Water Quality Analysts) under the SDWA;

"**surface water**" means water bodies (lakes, wetlands, ponds - including dug-outs), water courses (rivers, streams, water-filled drainage ditches), infiltration trenches, and areas of seasonal wetlands;

"**UV**" means ultraviolet, as in ultraviolet light produced from an ultraviolet reactor.

2.0 Applicability

- 2.1 In addition to any other applicable legal requirements, the drinking water system identified above shall be established, altered and operated in accordance with the conditions of the drinking water works permit and this licence.

3.0 Licence Expiry

- 3.1 This licence expires on the date identified as the licence expiry date in Schedule A of this licence.

4.0 Licence Renewal

- 4.1 Any application to renew this licence shall be made on or before the date identified as the application for licence renewal date set out in Schedule A of this licence.

5.0 Compliance

- 5.1 The owner and operating authority shall ensure that any person authorized to carry out work on or to operate any aspect of the drinking water system has been informed of the SDWA, all applicable regulations made in accordance with that act, the drinking water works permit and this licence and shall take all reasonable measures to ensure any such person complies with the same.

6.0 Licence and Drinking Water Works Permit Availability

- 6.1 At least one copy of this licence and the drinking water works permit shall be stored in such a manner that they are readily viewable by all persons involved in the operation of the drinking water system.

7.0 Permit to Take Water and Drinking Water Works Permit

- 7.1 A permit to take water identified in Schedule A of this licence is the applicable permit on the date identified as the Effective Date of this licence.
- 7.2 A drinking water works permit identified in Schedule A of this licence is the applicable permit on the date identified as the Effective Date of this licence.

8.0 Financial Plan

- 8.1 For every financial plan prepared in accordance with subsections 2(1) and 3(1) of O. Reg. 453/07, the owner of the drinking water system shall:
- 8.1.1 Ensure that the financial plan contains on the front page of the financial plan, the appropriate financial plan number as set out in Schedule A of this licence; and
- 8.1.2 Submit a copy of the financial plan to the Ministry of Municipal Affairs and Housing within three (3) months of receiving approval by a resolution of municipal council or the governing body of the owner.

9.0 Interpretation

- 9.1 Where there is a conflict between the provisions of this licence and any other document, the following hierarchy shall be used to determine the provision that takes precedence:
- 9.1.1 The SDWA;
- 9.1.2 A condition imposed in this licence that explicitly overrides a prescribed regulatory requirement;
- 9.1.3 A condition imposed in the drinking water works permit that explicitly overrides a prescribed regulatory requirement;
- 9.1.4 Any regulation made under the SDWA;
- 9.1.5 Any provision of this licence that does not explicitly override a prescribed regulatory requirement;
- 9.1.6 Any provision of the drinking water works permit that does not explicitly override a prescribed regulatory requirement;
- 9.1.7 Any application documents listed in this licence, or the drinking water works permit from the most recent to the earliest; and

-
- 9.1.8 All other documents listed in this licence, or the drinking water works permit from the most recent to the earliest.
- 9.1.9 Any other technical bulletin or procedure issued by the Ministry from the most recent to the earliest.
- 9.2 If any requirement of this licence or the drinking water works permit is found to be invalid by a court of competent jurisdiction, the remaining requirements of this licence and the drinking water works permit shall continue to apply.
- 9.3 The issuance of and compliance with the conditions of this licence and the drinking water works permit does not:
- 9.3.1 Relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including the *Environmental Assessment Act*, R.S.O. 1990, c. E.18; and
- 9.3.2 Limit in any way the authority of the appointed Directors and provincial officers of the Ministry to require certain steps be taken or to require the owner to furnish any further information related to compliance with the conditions of this licence or the drinking water works permit.
- 9.4 For greater certainty, nothing in this licence or the drinking water works permit shall be read to provide relief from regulatory requirements in accordance with section 46 of the SDWA, except as expressly provided in the licence or the drinking water works permit.

10.0 Adverse Effects

- 10.1 Nothing in this licence or the drinking water works permit shall be read as to permit:
- 10.1.1 The discharge of a contaminant into the natural environment that causes or is likely to cause an adverse effect; or
- 10.1.2 The discharge of any material of any kind into or in any waters or on any shore or bank thereof or into or in any place that may impair the quality of the water of any waters.
- 10.2 All reasonable steps shall be taken to minimize and ameliorate any adverse effect on the natural environment or impairment of the quality of water of any waters resulting from the operation of the drinking water system including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.
- 10.3 Fulfillment of one or more conditions imposed by this licence or the drinking water works permit does not eliminate the requirement to fulfill any other condition of this licence or the drinking water works permit.

11.0 Change of Owner or Operating Authority

- 11.1 This licence is not transferable without the prior written consent of the Director.
- 11.2 The owner shall notify the Director in writing at least 30 days prior to a change of any operating authority identified in Schedule A of this licence.
 - 11.2.1 Where the change of operating authority is the result of an emergency situation, the owner shall notify the Director in writing of the change as soon as practicable.

12.0 Information to be Provided

- 12.1 Any information requested by a Director or a provincial officer concerning the drinking water system and its operation, including but not limited to any records required to be kept by this licence or the drinking water works permit, shall be provided upon request.

13.0 Records Retention

- 13.1 Except as otherwise required in this licence or the drinking water works permit, any records required by or created in accordance with this licence or the drinking water works permit, other than the records specifically referenced in section 12 or section 13 of O. Reg. 170/03, shall be retained for at least 5 years and made available for inspection by a provincial officer, upon request.

14.0 Chemicals and Materials

- 14.1 All chemicals and materials used in the alteration or operation of the drinking water system that come into contact with water within the system shall meet all applicable standards set by both the American Water Works Association ("AWWA") and the American National Standards Institute ("ANSI") safety criteria standards NSF/60, NSF/61 and NSF/372.
 - 14.1.1 In the event that the standards are updated, the owner may request authorization from the Director to use any on hand chemicals and materials that previously met the applicable standards.
- 14.2 The most current chemical and material product registration documentation from a testing institution accredited by either the Standards Council of Canada or by the American National Standards Institution ("ANSI") shall be available at all times for each chemical and material used in the operation of the drinking water system that comes into contact with water within the system.
- 14.3 Conditions 14.1 and 14.2 do not apply in the case of the following:
 - 14.3.1 Water pipe and pipe fittings meeting AWWA specifications made from ductile iron, cast iron, PVC, fibre and/or steel wire reinforced cement pipe or high density polyethylene (HDPE);
 - 14.3.2 Articles made from stainless steel, glass, HDPE or Teflon®;
 - 14.3.3 Cement mortar for watermain lining and for water contacting surfaces of concrete structures made from washed aggregates and Portland cement;

- 14.3.4 Gaskets that are made from NSF approved materials;
- 14.3.5 Food grade oils and lubricants, food grade anti-freeze, and other food grade chemicals and materials that are compatible for drinking water use that may come into contact with drinking water, but are not added directly to the drinking water; or
- 14.3.6 Any particular chemical or material where the owner has written documentation signed by the Director that indicates that the Ministry is satisfied that the chemical or material is acceptable for use within the drinking water system and the chemical or material is only used as permitted by the documentation.

15.0 Drawings

- 15.1 All drawings and diagrams in the possession of the owner that show any treatment subsystem as constructed shall be retained by the owner unless the drawings and diagrams are replaced by a revised or updated version showing the subsystem as constructed subsequent to the alteration.
- 15.2 Any alteration to any treatment subsystem shall be incorporated into process flow diagrams, process and instrumentation diagrams, and record drawings and diagrams within one year of the alteration being completed or placed into service.
- 15.3 Process flow diagrams and process and instrumentation diagrams for any treatment subsystem shall be kept in a place, or made available in such a manner, that they may be readily viewed by all persons responsible for all or part of the operation of the drinking water system.

16.0 Operations and Maintenance Manual

- 16.1 An up-to-date operations and maintenance manual or manuals shall be maintained and applicable parts of the manual or manuals shall be made available for reference to all persons responsible for all or part of the operation or maintenance of the drinking water system.
- 16.2 The operations and maintenance manual or manuals, shall include at a minimum:
 - 16.2.1 The requirements of this licence and associated procedures;
 - 16.2.2 The requirements of the drinking water works permit for the drinking water system;
 - 16.2.3 A description of the processes used to achieve primary and secondary disinfection within the drinking water system including where applicable:
 - a) A copy of the CT calculations that were used as the basis for primary disinfection under worst case operating conditions and other operating conditions, if applicable; and
 - b) The validated operating conditions for UV disinfection equipment, including a copy of the validation certificate;

- 16.2.4 Procedures for monitoring and recording the in-process parameters necessary for the control of any treatment subsystem and for assessing the performance of the drinking water system;
 - 16.2.5 Procedures for the operation and maintenance of monitoring equipment;
 - 16.2.6 Contingency plans and procedures for the provision of adequate equipment and material to deal with emergencies, upset conditions and equipment breakdown;
 - 16.2.7 Procedures for dealing with complaints related to the drinking water system, including the recording of the nature of the complaint and any investigation and corrective action taken in respect of the complaint;
 - 16.2.8 An inspection schedule for all wells associated with the drinking water system, including all production wells, standby wells, test wells and monitoring wells;
 - 16.2.9 Well inspection and maintenance procedures that consider the entire well structure of each well including all above and below grade well components; and
 - 16.2.10 Remedial action plans for situations where an inspection indicates non-compliance with respect to regulatory requirements and/or risk to raw well water quality.
- 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.
- 16.4** All of the procedures included or referenced within the operations and maintenance manual must be implemented.

Schedule C: System-Specific Conditions

System Owner	The Corporation of the Municipality of Tweed
Licence Number	168-101
Drinking Water System Name	Tweed Drinking Water System
Licence Effective Date	June 3, 2021

1.0 System Performance

Rated Capacity

- 1.1 For each treatment subsystem listed in column 1 of Table 1, the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system shall not exceed the value identified as the rated capacity in column 2 of the same row.

Table 1: Rated Capacity	
Column 1 Treatment Subsystem Name	Column 2 Rated Capacity (m ³ /day)
Water Treatment Facility	1,633

Maximum Flow Rates

- 1.2 For each treatment subsystem listed in column 1 of Table 2, the maximum flow rate of water that flows into a treatment subsystem component listed in column 2 shall not exceed the value listed in column 3 of the same row.

Table 2: Maximum Flow Rates		
Column 1 Treatment Subsystem Name	Column 2 Treatment Subsystem Component	Column 3 Maximum Flow Rate (L/s)
Not Applicable	Not Applicable	Not Applicable

- 1.3 Despite conditions 1.1 and 1.2, a treatment subsystem may be operated temporarily at a maximum daily volume and/or a maximum flow rate above the values set out in column 2 of Table 1 and column 3 of Table 2 respectively for the purposes of fighting a large fire or for the maintenance of the drinking water system.
- 1.4 Condition 1.3 does not authorize the discharge into the distribution system of any water that does not meet all of the requirements of this licence and all other regulatory requirements, including compliance with the Ontario Drinking Water Quality Standards.

Residuals Management

- 1.5 In respect of an effluent discharged into the natural environment from a treatment subsystem or treatment subsystem component listed in column 1 of Table 3:
- 1.5.1 The annual average concentration of a test parameter identified in column 2 shall:
- not exceed the value in column 3 of the same row; and
 - be calculated at least once monthly as the running annual average based on the previous twelve months of results;
- 1.5.2 Where the average concentration of a test parameter identified in column 2 exceeds the value in column 3, the concentration shall be reported to the local Ministry district office within 72 hours of receipt of the last lab result used in the calculation;
- 1.5.3 The maximum concentration of a test parameter identified in column 2 shall not exceed the value in column 4 of the same row;
- 1.5.4 Where the maximum concentration of a test parameter identified in column 2 exceeds the value in column 4, the discharge shall be reported in accordance with s.13.2 of O. Reg. 675.98 and recorded in accordance with s.12.2 of O. Reg. 675.98 within 24 hours of receipt of the lab result; and,
- 1.5.5 The test parameters listed in column 2 of Table 3 shall be sampled in accordance with conditions 5.2, 5.3 and 5.4 of Schedule C in this Licence.

Table 3: Residuals Management			
Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Test Parameter	Column 3 Annual Average Concentration (mg/L)	Column 4 Maximum Concentration (mg/L)
Not Applicable	Not Applicable	Not Applicable	Not Applicable

UV Disinfection Equipment Performance

- 1.6 For each treatment subsystem or treatment subsystem component listed in column 1 of Table 4, and while directing water to the distribution system and being used to meet pathogen log removal/inactivation credits specified in Schedule E:
- 1.6.1 The UV disinfection equipment shall be operated within the validated limits for the equipment at all times such that a continuous pass-through UV dose is maintained throughout the life time of the UV lamp(s) that is at least the minimum continuous pass-through UV dose set out in column 2 of the same row

- 1.6.2 In addition to any other sampling, analysis and recording that may be required, the ultraviolet light disinfection equipment shall test for the test parameters set out in column 4 of the same row at a testing frequency of once every five (5) minutes or less and record the test data at a recording frequency of once every four (4) hours or less;
- 1.6.3 If there is a UV disinfection equipment alarm signaling that the disinfection equipment is malfunctioning, has lost power, or is not providing the appropriate level of disinfection the test parameters set out in column 4 of the same row shall be recorded at a recording frequency of once every five minutes or less until the alarm condition has been corrected;
- 1.6.4 A monthly summary report shall be prepared at the end of each calendar month which sets out the time, date and duration of each UV equipment alarm described in condition 1.6.3, the volume of water treated during each alarm period and the actions taken by the operating authority to correct the alarm situation;

Table 4: UV Disinfection Equipment			
Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Minimum Continuous Pass-Through UV Dose (mJ/cm ²)	Column 3 Control Strategy	Column 4 Test Parameter
UV Light Disinfection Unit	40 mJ/cm ²	UV Intensity Set Point	Flow Rate
			UV Light Intensity
			UV Lamp Status

2.0 Flow Measurement and Recording Requirements

- 2.1 For each treatment subsystem identified in column 1 of Table 1 and in addition to any other flow measurement and recording that may be required, continuous flow measurement and recording shall be undertaken for:
 - 2.1.1 The flow rate (L/s) and daily volume (m³/day) of treated water that flows from the treatment subsystem to the distribution system.
 - 2.1.2 The flow rate (L/s) and daily volume (m³/day) of water that flows into the treatment subsystem.
- 2.2 For each treatment subsystem component identified in column 2 of Table 2 and in addition to any other flow measurement and recording that may be required, continuous flow measurement and recording shall be undertaken for the flow rate and daily volume of water that flows into the treatment subsystem component.

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

3.0 Calibration of Flow Measuring Devices

- 3.1 All flow measuring devices that are required by regulation, by a condition in the drinking water works permit 168-201, or by a condition otherwise imposed by the Ministry, shall be checked and where necessary calibrated in accordance with the manufacturer's instructions.
- 3.2 If the manufacturer's instructions do not indicate how often to check and calibrate a flow measuring device, the equipment shall be checked and where necessary calibrated at least once every 12 months during which the drinking water system is in operation.
- 3.2.1 For greater certainty, if condition 3.2 applies, the equipment shall be checked and where necessary calibrated not more than 30 days after the first anniversary of the day the equipment was checked and calibrated in the previous 12-month period.

4.0 Calibration of CT Monitoring System

- 4.1 Any measuring instrumentation that forms part of the monitoring system for CT shall be checked and where necessary calibrated at least once every 12 months during which the drinking water system is in operation, or more frequently in accordance with the manufacturer's instructions.
- 4.1.1 For greater certainty, if condition 4.1 applies, the instrumentation shall be checked and where necessary calibrated not more than 30 days after the first anniversary of the day the equipment was checked and calibrated in the previous 12-month period.

5.0 Additional Sampling, Testing and Monitoring

Drinking Water Health and Non-Health Related Parameters

- 5.1 For each treatment subsystem or treatment subsystem component identified in column 1 of Tables 5 and 6 and in addition to any other sampling, testing and monitoring that may be required, sampling, testing and monitoring shall be undertaken for a test parameter

listed in column 2 at the sampling frequency listed in column 3 and at the monitoring location listed in column 4 of the same row.

Table 5: Drinking Water Health Related Parameters			
Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Test Parameter	Column 3 Sampling Frequency	Column 4 Monitoring Location
Tweed Water Distribution System	Uranium	Quarterly	Distribution

Table 6: Drinking Water Non-Health Related Parameters			
Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Test Parameter	Column 3 Sampling Frequency	Column 4 Monitoring Location
Not Applicable	Not Applicable	Not Applicable	Not Applicable

Environmental Discharge Parameters

- 5.2** For each treatment subsystem or treatment subsystem component identified in column 1 of Table 7 and in addition to any other sampling, testing and monitoring that may be required, sampling, testing and monitoring shall be undertaken for a test parameter listed in column 2 using the sample type identified in column 3 at the sampling frequency listed in column 4 and at the monitoring location listed in column 5 of the same row.
- 5.3** For the purposes of Table 7:
- 5.3.1 Manual Composite means the mean of at least three grab samples taken during a discharge event, with one sample being taken immediately following the commencement of the discharge event, one sample being taken approximately at the mid-point of the discharge event and one sample being taken immediately before the end of the discharge event; and
- 5.3.2 Automated Composite means samples must be taken during a discharge event by an automated sampler at a minimum sampling frequency of once per hour.
- 5.4** Any sampling, testing and monitoring for the test parameter Total Suspended Solids shall be performed in accordance with the requirements set out in the publication "Standard Methods for the Examination of Water and Wastewater", 23rd Edition, 2017, or as amended from time to time by more recently published editions.

Table 7: Environmental Discharge Parameters				
Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Test Parameter	Column 3 Sample Type	Column 4 Sampling Frequency	Column 5 Monitoring Location
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

5.5 Pursuant to Condition 10 of Schedule B of this licence, the owner may undertake the following environmental discharges associated with the maintenance and/or repair of the drinking water system:

5.5.1 The discharge of potable water from a watermain to a road or storm sewer;

5.5.2 The discharge of potable water from a water storage facility or pumping station:

a) To a road or storm sewer; or

b) To a watercourse where the discharge has been dechlorinated and if necessary, sediment and erosion control measures have been implemented.

5.5.3 The discharge of dechlorinated non-potable water from a watermain, water storage facility or pumping station to a road or storm sewer;

5.5.4 The discharge of raw water from a groundwater well to the environment where if necessary, sediment and erosion control measures have been implemented; and

5.5.5 The discharge of raw water, potable water or non-potable water from a treatment subsystem to the environment where if necessary, the discharge has been dechlorinated and sediment and erosion control measures have been implemented.

5.5.6 The discharge of any excess water to a road, storm sewer or the environment, associated with the management of materials excavated as part of watermain construction or repair, where necessary sediment, erosion and environmental control measures have been implemented.

6.0 Studies Required

6.1 Not Applicable

7.0 Source Protection

- 7.1 The owner of the drinking water system shall implement risk management measures, as appropriate, to manage any potential threat to drinking water that results from the operation of the drinking water system.
- 7.2 The owner of the system shall notify the Director in writing within thirty (30) days of any approved changes to an applicable source protection plan that impact the assessed threat level of a fuel oil system identified in Schedule A of drinking water works permit.
- 7.3 The notification required in condition 7.2 shall include:
 - 7.3.1 A description of the changes and their impact on the assessed threat level of the fuel oil system(s); and,
 - 7.3.2 A timeline for re-assessing the threat level and providing the results of the assessment to the Director.

Schedule D: Conditions for Relief from Regulatory Requirements

System Owner	The Corporation of the Municipality of Tweed
Licence Number	168-101
Drinking Water System Name	Tweed Drinking Water System
Licence Effective Date	June 3, 2021

Effective June 3, 2021, no relief from regulatory requirements is authorized by the Director under section 46 of the SDWA in respect of the drinking water system.

Schedule E: Pathogen Log Removal/Inactivation Credits

System Owner	The Corporation of the Municipality of Tweed
Licence Number	168-101
Drinking Water System Name	Tweed Drinking Water System
Licence Effective Date	June 3, 2021

1.0 Primary Disinfection Pathogen Log Removal/Inactivation Credits

Tweed Water Treatment Facility

Well No.1 & Well No. 3 [GUDI with Effective In-situ filtration]

Minimum Log Removal/ Inactivation Required	Cryptosporidium Oocysts	Giardia Cysts	Viruses
Tweed Water Treatment Facility	2	3	4

Log Removal/Inactivation Credits Assigned ^a	Cryptosporidium Oocysts	Giardia Cysts	Viruses
UV Disinfection [40 mJ/cm ²]	2	3	2
Chlorination [CT: Contact Pipe]	-	-	2+

^a Log removal/inactivation credit assignment is based on each treatment process being fully operational and the applicable log removal/inactivation credit assignment criteria being met.

Treatment Component	Log Removal/Inactivation Credit Assignment Criteria
UV Disinfection	<p data-bbox="513 327 878 348">Duty UV Sensor Checks and Calibration</p> <ol data-bbox="513 373 1382 632" style="list-style-type: none"> 1. Duty UV sensors shall be checked on at least a monthly basis against a reference UV sensor; 2. When comparing a duty UV sensor to a reference UV sensor, the calibration ratio (intensity measured with the duty UV sensor/intensity measured with the reference UV sensor) shall be less than or equal to 1.2; 3. If the calibration ratio is greater than 1.2, the duty UV sensor shall be replaced with a calibrated UV sensor or a UV sensor correction factor shall be applied while the problem with the UV sensor is being resolved; 4. Reference UV sensors shall be checked against a Master Reference Assembly at a minimum frequency of once every three years or on a more frequent basis depending upon the recommendations of the equipment manufacturer; <p data-bbox="513 657 753 678">Operational Requirements</p> <ol data-bbox="513 703 1382 961" style="list-style-type: none"> 5. Ultraviolet light disinfection equipment shall have a feature that ensures that no water is directed to users of water treated by the equipment or that causes an alarm to sound in the event that the equipment malfunctions, loses power or ceases to provide the appropriate level of disinfection; 6. Water shall not flow through a UV reactor when the reactor's UV lights are off or not fully energized; 7. UV lamp status shall indicate whether each UV lamp is on or off; 8. All UV sensors shall operate within their calibration range or corrective measures shall be taken; and 9. Installed or replaced UV equipment components shall be equal or better than the components used during validation testing unless the UV equipment was revalidated.
Chlorination	<ol data-bbox="513 978 1382 1108" style="list-style-type: none"> 1. Sampling and testing for free chlorine residual shall be carried out by continuous monitoring equipment in the treatment process at or near a location where the intended contact time has just been completed in accordance with the Ministry's <i>Procedure for Disinfection of Drinking Water in Ontario</i>; and 2. At all times, CT provided shall be greater than or equal to the CT required to achieve the log removal credits assigned.
Primary Disinfection Notes	



DRINKING WATER WORKS PERMIT

Permit Number: 168-201

Issue Number: 3

Pursuant to the *Safe Drinking Water Act, 2002*, S.O. 2002, c. 32, and the regulations made thereunder and subject to the limitations thereof, I hereby issue this drinking water works permit under Part V of the *Safe Drinking Water Act, 2002*, S.O. 2002, c. 32 to:

The Corporation of the Municipality of Tweed

255 Metcalf St
Tweed, ON K0K 3J0

For the following municipal residential drinking water system:

Tweed Drinking Water System

This drinking water works permit includes the following:

Schedule	Description
Schedule A	Drinking Water System Description
Schedule B	General
Schedule C	All documents issued as Schedule C to this drinking water works permit which authorize alterations to the drinking water system
Schedule D	Process Flow Diagrams

Upon the effective date of this drinking water works permit #168-201, all previously issued versions of permit #168-201 are revoked and replaced by this permit.

DATED at TORONTO this 3rd day of June, 2021

Signature

Aziz Ahmed, P.Eng.
Director
Part V, *Safe Drinking Water Act, 2002*

Schedule A: Drinking Water System Description

System Owner	The Corporation of the Municipality of Tweed
Permit Number	168-201
Drinking Water System Name	Tweed Drinking Water System
Permit Effective Date	June 3, 2021

1.0 System Description

- 1.1 The following is a summary description of the works comprising the above drinking water system:

Overview

The **Tweed Drinking Water System** services the Village of Tweed and consists of two groundwater wells, a water treatment facility and a water distribution system. The water treatment facility includes an ion exchange unit and a disinfection system utilizing ultraviolet (UV) light and sodium hypochlorite. The distribution system consists of an elevated storage tank and approximately 18.2 km of watermains.

Tweed Water Treatment Facility

Groundwater Supply

Well No. 1 (For Emergency Use Only)

Location	351 Hungerford Road (adjacent to elevated water storage tank)
UTM Coordinates	NAD 27: UTM Zone 18: 315376.00 E, 4927669 N
Description	Drilled groundwater well cased in bedrock, a 4m x 4m x 2.5m concrete block well house, and appurtenances
Source Type	Groundwater
Well Dimensions	250 mm diameter, 132 m deep
Well Pump	Submersible well pump with a rated capacity of 15.1 L/s at a TDH of 87.9m to convey raw water from Well No. 1 to the Treatment Facility
Equipment	Pump discharge piping including pump-to-waste connection, raw water flowmeter and flow control valve
	Approximately 875 m of 150 mm diameter watermain from Well No. 1 site to the Treatment Facility
Notes	

Well No. 3 (Crookston Well)

Location	430 Crookston Road (54m north of County Road 38, 188 m west of College Street)
UTM Coordinates	NAD 27: UTM Zone 18: 315426.00 E, 4926973.00 N
Description	Drilled groundwater well cased in bedrock, a 14.1m x 7.8m x 3.5m high concrete block treatment plant, and 100mm diameter raw water supply line to the main treatment plant
Source Type	Groundwater under the direct influence of surface water (GUDI) with effective in-situ filtration
Well Dimensions	250mm diameter, 122.2m deep
Well Pump	Submersible well pump with a rated capacity of 18.9 L/s at a TDH of 110m
Equipment	Pump discharge piping from Well No. 3 to the Treatment Facility
	Pump-to-waste connection, raw water flowmeter, flow control valve, sample line and air release valve
Notes	Located outside on the south west side of the treatment building

Water Treatment Facility

Location	430 Crookston Road (54m north of County Road 38, 188 m west of College Street)
UTM Coordinates	NAD 27: UTM Zone 18: 315426.00 E, 4926973.00 N
Description	Houses Ion Exchange unit, UV light disinfection unit, and sodium hypochlorite disinfection system
Notes	

Ion Exchange System**Ion Exchange Unit**

Description	Ion exchange treatment system for both nitrate and/or uranium removal
Capacity	1,513 m ³ /day
Equipment	One (1) ion exchange unit containing 3.12 m ³ of resin and inlet, outlet and bypass piping
	Electrically actuated valves and flowmeters to permit blending of raw and treated water
Notes	

Regeneration System

Description	Ion exchange regeneration system
Equipment	One (1) 1,200 L capacity brine storage day tank and
	One (1) transfer pump
	One (1) 31 m ³ twin compartment reinforced concrete brine make-up/bulk storage tank, transfer pump and piping to brine day tank
Notes	

Backwash System

Description	Ion exchange back flush system with softened water after every 9999 m ³
Equipment	One (1) water softener with rated capacity of 100 L/min, and discharge piping to wastewater holding tank
	One (1) 3,100 L capacity softened water storage tank
	One (1) transfer pump
	One (1) 29.3 m ³ reinforced concrete wastewater holding tank equipped with a gravity outlet and 50 mm diameter outlet orifice to limit the maximum discharge rate to 3.0 L/s
Notes	The backwash water discharged to the sanitary sewer

Disinfection**Ultraviolet (UV) Light Units**

Description	UV light for primary disinfection
Capacity	18.9 L/s, each
Equipment	Two (2) UV light reactors (one duty and one standby)
	UV intensity sensor, a portable UV transmittance photometer and manual cleaning facilities
Notes	Minimum UV dose of 40 mJ/cm ²

Chlorination

Description	A sodium hypochlorite feed system for secondary disinfection
Equipment	One (1) solution tank
	Two (2) metering pumps
	A 17 m ³ capacity (750 mm diameter) chlorine contact pipe located prior to the distribution system to provide chlorine contact time
	One pre-chlorine and one post-chlorine residual analyzers/recorder and treated water sample line
Notes	

Emergency Power

Standby Power Supply

Description	One (1) 80 Kilowatts standby diesel generator set to provide power for the drinking-water facility during emergency situations
Notes	The standby diesel generator is located outside on the north west end of the treatment building

Fuel Oil Systems

Fuel Storage Locations

Location	NAD 27: UTM Zone 18: 315426.00 E, 4926973.00 N
Description	One (1) 150 L double walled diesel fuel tank located outside on the north west end of the treatment building attached to the generator unit.
Fuel Type	Diesel
Source Protection Area	Quinte Source Water Protection Area
Notes	Vulnerability Score 10 Threat Level Significant

Instrumentation and Control

SCADA System

Description	No SCADA System
Flow Measurement Locations	One (1) raw flowmeter on inlet pipe
	One (1) flowmeter before regen unit (Treatment)
	One (1) flowmeter for water that by-passes regen-unit(raw)
	One (1) flowmeter total of Raw and Treated
Regulatory Analyzer Locations	One (1) post contact tank analyzer
Process Analyzer Locations	One (1) pre contact tank analyzer
Notes	

Elevated Storage Tanks

Tweed Elevated Storage Tank

Location	351 Hungerford Road (adjacent to Well No. 1)
UTM Coordinates	NAD 27: UTM Zone 18: 315428.00 E, 4927580 N
Description	Elevated water storage tank
Capacity	1,370 m ³
Equipment	Chlorine residual analyzer/recorder
Notes	

Watermains

1.2 Watermains within the distribution system comprise:

1.2.1 Watermains that have been set out in each document or file identified in column 1 of Table 1.

Table 1: Watermains	
Column 1 Document or File Name	Column 2 Date
TWEEDMAPDRAINAGE - Greyscale.pdf	November 2006

1.2.2 Watermains that have been added, modified, replaced or extended further to the provisions of Schedule C of this drinking water works permit on or after the date identified in column 2 of Table 1 for each document or file identified in column 1.

1.2.3 Watermains that have been added, modified, replaced or extended further to an authorization by the Director on or after the date identified in column 2 of Table 1 for each document or file identified in column 1.

Schedule B: General

System Owner	The Corporation of the Municipality of Tweed
Permit Number	168-201
Drinking Water System Name	Tweed Drinking Water System
Permit Effective Date	June 3, 2021

1.0 Applicability

- 1.1 In addition to any other applicable legal requirements, the drinking water system identified above shall be altered and operated in accordance with the conditions of this drinking water works permit and the licence #168-101.
- 1.2 The definitions and conditions of licence #168-101 are incorporated into this permit and also apply to this drinking water system.

2.0 Alterations to the Drinking Water System

- 2.1 Any document issued by the Director to be incorporated into Schedule C to this drinking water works permit shall provide authority to alter the drinking water system in accordance with the applicable conditions of this drinking water works permit and licence #168-101.
- 2.2 All documents issued by the Director as described in condition 2.1 shall form part of this drinking water works permit.
- 2.3 All parts of the drinking water system in contact with drinking water that are added, modified, replaced, extended shall be disinfected in accordance with a procedure approved by the Director or in accordance with the applicable provisions of the following documents:
 - a) Until December 2, 2021 the ministry's Watermain Disinfection Procedure, dated November 2015. As of December 3, 2021 the ministry's Watermain Disinfection Procedure, dated August 1, 2020;
 - b) Subject to condition 2.3.2, any updated version of the ministry's Watermain Disinfection Procedure;
 - c) AWWA C652 – Standard for Disinfection of Water-Storage Facilities;
 - d) AWWA C653 – Standard for Disinfection of Water Treatment Plants; and
 - e) AWWA C654 – Standard for Disinfection of Wells.
- 2.3.1 For greater clarity, where an activity has occurred that could introduce contamination, including but not limited to repair, maintenance, or physical / video inspection, all equipment that may come in contact with the drinking water system shall be disinfected in accordance with the requirements of condition 2.3. above.
- 2.3.2 Updated requirements described in condition 2.3 b) are effective six months from the date of publication of the updated Watermain Disinfection Procedure.

-
- 2.4 The owner shall notify the Director in writing within thirty (30) days of the placing into service or the completion of any addition, modification, replacement, removal or extension of the drinking water system which had been authorized through:
- 2.4.1 Schedule B to this drinking water works permit which would require an alteration of the description of a drinking water system component described in Schedule A of this drinking water works permit;
 - 2.4.2 Any document to be incorporated in Schedule C to this drinking water works permit respecting works other than watermains; or
 - 2.4.3 Any approval issued prior to the issue date of the first drinking water works permit respecting works other than watermains which were not in service at the time of the issuance of the first drinking water works permit.
- 2.5 The notification required in condition 2.4 shall be submitted using the "Director Notification Form" published by the Ministry.
- 2.6 For greater certainty, the notification requirements set out in condition 2.4 do not apply to any addition, modification, replacement, removal or extension in respect of the drinking water system which:
- 2.6.1 Is exempt from subsection 31(1) of the SDWA by subsection 9.(2) of O. Reg. 170/03;
 - 2.6.2 Constitutes maintenance or repair of the drinking water system; or
 - 2.6.3 Is a watermain authorized by condition 3.1 of Schedule B of this drinking water works permit.
- 2.7 The owner shall notify the legal owner of any part of the drinking water system that is prescribed as a municipal drinking water system by section 2 of O. Reg. 172/03 of the requirements of the licence and this drinking water works permit as applicable to the prescribed system.
- 2.8 For greater certainty, the owner may only carry out alterations to the drinking water system in accordance with this drinking water works permit after having satisfied other applicable legal obligations, including those arising from the *Environmental Assessment Act*, *Niagara Escarpment Planning and Development Act*, *Oak Ridges Moraine Conservation Act, 2001* and *Greenbelt Act, 2005*.

3.0 Watermain Additions, Modifications, Replacements and Extensions

- 3.1 The owner may alter the drinking water system, or permit it to be altered by a person acting on the owner's behalf, by adding, modifying, replacing or extending a watermain within the distribution system subject to the following conditions:
- 3.1.1 The design of the watermain addition, modification, replacement or extension:
 - a) Has been prepared by a licensed engineering practitioner;
 - b) Has been designed only to transmit water and has not been designed to treat water;

-
- c) Satisfies the design criteria set out in the Ministry publication "Watermain Design Criteria for Future Alterations Authorized under a Drinking Water Works Permit – June 2012", as amended from time to time; and
 - d) Is consistent with or otherwise addresses the design objectives contained within the Ministry publication "Design Guidelines for Drinking Water Systems, 2008", as amended from time to time.
- 3.1.2 The maximum demand for water exerted by consumers who are serviced by the addition, modification, replacement or extension of the watermain will not result in an exceedance of the rated capacity of a treatment subsystem or the maximum flow rate for a treatment subsystem component as specified in the licence, or the creation of adverse conditions within the drinking water system.
 - 3.1.3 The watermain addition, modification, replacement or extension will not adversely affect the distribution system's ability to maintain a minimum pressure of 140 kPa at ground level at all points in the distribution system under maximum day demand plus fire flow conditions.
 - 3.1.4 Secondary disinfection will be provided to water within the added, modified, replaced or extended watermain to meet the requirements of O. Reg. 170/03.
 - 3.1.5 The watermain addition, modification, replacement or extension is wholly located within the municipal boundary over which the owner has jurisdiction.
 - 3.1.6 The owner of the drinking water system consents in writing to the watermain addition, modification, replacement or extension.
 - 3.1.7 A licensed engineering practitioner has verified in writing that the watermain addition, modification, replacement or extension meets the requirements of condition 3.1.1.
 - 3.1.8 The owner of the drinking water system has verified in writing that the watermain addition, modification, replacement or extension meets the requirements of conditions 3.1.2 to 3.1.6.
- 3.2 The authorization for the addition, modification, replacement or extension of a watermain provided for in condition 3.1 does not include the addition, modification, replacement or extension of a watermain that:
 - 3.2.1 Passes under or through a body of surface water, unless trenchless construction methods are used;
 - 3.2.2 Has a nominal diameter greater than 750 mm;
 - 3.2.3 Results in the fragmentation of the drinking water system; or
 - 3.2.4 Connects to another drinking water system, unless:
 - a) Prior to construction, the owner of the drinking water system seeking the connection obtains written consent from the owner or owner's delegate of the drinking water system being connected to; and

- b) The owner of the drinking water system seeking the connection retains a copy of the written consent from the owner or owner's delegate of the drinking water system being connected to as part of the record that is recorded and retained under condition 3.3.
- 3.3 The verifications required in conditions 3.1.7 and 3.1.8 shall be:
- 3.3.1 Recorded on "Form 1 – Record of Watermains Authorized as a Future Alteration", as published by the Ministry, prior to the watermain addition, modification, replacement or extension being placed into service; and
- 3.3.2 Retained for a period of ten (10) years by the owner.
- 3.4 For greater certainty, the verification requirements set out in condition 3.3 do not apply to any addition, modification, replacement or extension in respect of the drinking water system which:
- 3.4.1 Is exempt from subsection 31(1) of the SDWA by subsection 9.(2) of O. Reg. 170/03; or
- 3.4.2 Constitutes maintenance or repair of the drinking water system.
- 3.5 The document or file referenced in Column 1 of Table 1 of Schedule A of this drinking water works permit that sets out watermains shall be retained by the owner and shall be updated to include watermain additions, modifications, replacements and extensions within 12 months of the addition, modification, replacement or extension.
- 3.6 The updates required by condition 3.5 shall include watermain location relative to named streets or easements and watermain diameter.
- 3.7 Despite clause (a) of condition 3.1.1 and condition 3.1.7, with respect to the replacement of an existing watermain or section of watermain that is 6.1 meters in length or less, if a licensed engineering practitioner has:
- 3.7.1 inspected the replacement prior to it being put into service;
- 3.7.2 prepared a report confirming that the replacement satisfies clauses (b), (c) and (d) of condition 3.1.1 (i.e. "Form 1 – Record of Watermains Authorized by a Future Alteration" (Form 1), Part 3, items No. 2, 3 and 4); and
- 3.7.3 appended the report referred to in condition 3.7.2 to the completed Form 1,
- the replacement is exempt from the requirements that the design of the replacement be prepared by a licensed engineering practitioner and that a licensed engineering practitioner verify on Form 1, Part 3, item No. 1 that a licensed engineering practitioner prepared the design of the replacement.
- 3.8 For greater certainty, the exemption in condition 3.7 does not apply to the replacement of an existing watermain or section of watermain if two or more sections of pipe, each of which is 6.1 meters in length or less, are joined together, if the total length of replacement pipes joined together is greater than 6.1 meters.

4.0 Minor Modifications to the Drinking Water System

- 4.1 The drinking water system may be altered by adding, modifying or replacing the following components in the drinking water system:
- 4.1.1 Coagulant feed systems in the treatment system, including the location and number of dosing points:
 - a) Prior to making any alteration to the drinking water system under condition 4.1.1, the owner shall undertake a review of the impacts that the alteration might have on corrosion control or other treatment processes; and
 - b) The owner shall notify the Director in writing within thirty (30) days of any alteration made under condition 4.1.1 and shall provide the Director with a copy of the review.
 - c) The notification required in condition 4.1.1 b) shall be submitted using the "Director Notification Form" published by the Ministry
 - 4.1.2 Instrumentation and controls, including new SCADA systems and upgrades to SCADA system hardware;
 - 4.1.3 SCADA system software or programming that:
 - a) Measures, monitors or reports on a regulated parameter;
 - b) Measures, monitor or reports on a parameter that is used to calculate CT; or,
 - c) Calculates CT for the system or is part of the process algorithm that calculates log removal, where the impacts of addition, modification or replacement have been reviewed by a licensed engineering practitioner;
 - 4.1.4 Filter media, backwashing equipment, filter troughs, and under-drains and associated equipment in the treatment system;
 - 4.1.5 Spill containment works; or,
 - 4.1.6 Coarse screens and fine screens
- 4.2 The drinking water system may be altered by adding, modifying, replacing or removing the following components in the drinking water system:
- 4.2.1 Treated water pumps, pressure tanks, and associated equipment;
 - 4.2.2 Raw water pumps and process pumps in the treatment system;
 - 4.2.3 Inline booster pumping stations that are not associated with distribution system storage facilities and are on a watermain with a nominal diameter not exceeding 200 mm;
 - 4.2.4 Re-circulation devices within distribution system storage facilities;
 - 4.2.5 In-line mixing equipment;

- 4.2.6 Chemical metering pumps and chemical handling pumps;
 - 4.2.7 Chemical storage tanks (excluding fuel storage tanks) and associated equipment; or,
 - 4.2.8 Measuring and monitoring devices that are not required by regulation, by a condition in the Drinking Water Works Permit, or by a condition otherwise imposed by the Ministry.
 - 4.2.9 Chemical injection points;
 - 4.2.10 Valves.
- 4.3 The drinking water system may be altered by replacing the following:
- 4.3.1 Raw water piping, treatment process piping or treated water piping within the treatment subsystem;
 - 4.3.2 Measuring and monitoring devices that are required by regulation, by a condition in the Drinking Water Works Permit or by a condition otherwise imposed by the Ministry.
 - 4.3.3 Coagulants and pH adjustment chemicals, where the replacement chemicals perform the same function;
 - a) Prior to making any alteration to the drinking water system under condition 4.3.3, the owner shall undertake a review of the impacts that the alteration might have on corrosion control or other treatment processes; and
 - b) The owner shall notify the Director in writing within thirty (30) days of any alteration made under condition 4.3.3 and shall provide the Director with a copy of the review.
 - c) The notification required in condition 4.3.3 b) shall be submitted using the "Director Notification Form" published by the Ministry.
- 4.4 Any alteration of the drinking water system made under conditions 4.1, 4.2 or 4.3 shall not result in:
- 4.4.1 An exceedance of a treatment subsystem rated capacity or a treatment subsystem component maximum flow rate as specified in the licence;
 - 4.4.2 The bypassing or removal of any unit process within a treatment subsystem;
 - 4.4.3 The addition of any new unit process other than coagulation within a treatment subsystem;
 - 4.4.4 A deterioration in the quality of drinking water provided to consumers;

-
- 4.4.5 A reduction in the reliability or redundancy of any component of the drinking water system;
 - 4.4.6 A negative impact on the ability to undertake compliance and other monitoring necessary for the operation of the drinking water system; or
 - 4.4.7 An adverse effect on the environment.
- 4.5 The owner shall verify in writing that any addition, modification, replacement or removal of drinking water system components in accordance with conditions 4.1, 4.2 or 4.3 has met the requirements of the conditions listed in condition 4.4.
- 4.6 The verifications and documentation required in condition 4.5 shall be:
- 4.6.1 Recorded on "Form 2 – Record of Minor Modifications or Replacements to the Drinking Water System" published by the Ministry, prior to the modified or replaced components being placed into service; and
 - 4.6.2 Retained for a period of ten (10) years by the owner.
- 4.7 For greater certainty, the verification requirements set out in conditions 4.5 and 4.6 do not apply to any addition, modification, replacement or removal in respect of the drinking water system which:
- 4.7.1 Is exempt from subsection 31(1) of the SDWA by subsection 9.(2) of O. Reg. 170/03; or
 - 4.7.2 Constitutes maintenance or repair of the drinking water system, including software changes to a SCADA system that are not listed in condition 4.1.3
- 4.8 The owner shall update any drawings maintained for the drinking water system to reflect the modification or replacement of the works, where applicable.

5.0 Equipment with Emissions to the Air

- 5.1 The drinking water system may be altered by adding, modifying or replacing any of the following drinking water system components that may discharge or alter the rate or manner of a discharge of a compound of concern to the air:
- 5.1.1 Any equipment, apparatus, mechanism or thing that is used for the transfer of outdoor air into a building or structure that is not a cooling tower;
 - 5.1.2 Any equipment, apparatus, mechanism or thing that is used for the transfer of indoor air out of a space used for the production, processing, repair, maintenance or storage of goods or materials, including chemical storage;
 - 5.1.3 Laboratory fume hoods used for drinking water testing, quality control and quality assurance purposes;
 - 5.1.4 Low temperature handling of compounds with a vapor pressure of less than 1 kilopascal;

-
- 5.1.5 Maintenance welding stations;
 - 5.1.6 Minor painting operations used for maintenance purposes;
 - 5.1.7 Parts washers for maintenance shops;
 - 5.1.8 Emergency chlorine and ammonia gas scrubbers and absorbers;
 - 5.1.9 Venting for activated carbon units for drinking water taste and odour control;
 - 5.1.10 Venting for a stripping unit for methane removal from a groundwater supply;
 - 5.1.11 Venting for an ozone treatment unit;
 - 5.1.12 Natural gas or propane fired boilers, water heaters, space heaters and make-up air units with a total facility-wide heat input rating of less than 20 million kilojoules per hour, and with an individual fuel energy input of less than or equal to 10.5 gigajoules per hour; or
 - 5.1.13 Emergency generators that fire No. 2 fuel oil (diesel fuel) with a sulphur content of 0.5 per cent or less measured by weight, natural gas, propane, gasoline or biofuel, and that are used for emergency duty only with periodic testing.
- 5.2 The owner shall not make an addition, modification, or replacement described in condition 5.1 in relation to an activity that is not related to the treatment and/or distribution of drinking water.
- 5.3 The emergency generators identified in condition 5.1.13 shall not be used for non-emergency purposes including the generation of electricity for sale or for peak shaving purposes.
- 5.4 The owner shall prepare an emission summary table for nitrogen oxides emissions only, for each addition, modification or replacement of emergency generators identified in condition 5.1.13.

Performance Limits

- 5.5 The owner shall ensure that a drinking water system component identified in conditions 5.1.1 to 5.1.13 is operated at all times to comply with the following limits:
- 5.5.1 For equipment other than emergency generators, the maximum concentration of any compound of concern at a point of impingement shall not exceed the corresponding point of impingement limit;
 - 5.5.2 For emergency generators, the maximum concentration of nitrogen oxides at sensitive receptors shall not exceed the applicable point of impingement limit, and at non-sensitive receptors shall not exceed the Ministry half-hourly screening level of 1880 ug/m³ as amended; and
 - 5.5.3 The noise emissions comply at all times with the limits set out in publication NPC-300, as applicable.

- 5.6 The owner shall verify in writing that any addition, modification or replacement of works in accordance with condition 5.1 has met the requirements of the conditions listed in condition 5.5.
- 5.7 The owner shall document how compliance with the performance limits outlined in condition 5.5.3 is being achieved, through noise abatement equipment and/or operational procedures.
- 5.8 The verifications and documentation required in conditions 5.6 and 5.7 shall be:
- 5.8.1 Recorded on "Form 3 – Record of Addition, Modification or Replacement of Equipment Discharging a Contaminant of Concern to the Atmosphere", as published by the Ministry, prior to the additional, modified or replacement equipment being placed into service; and
- 5.8.2 Retained for a period of ten (10) years by the owner.
- 5.9 For greater certainty, the verification and documentation requirements set out in conditions 5.6 and 5.8 do not apply to any addition, modification or replacement in respect of the drinking water system which:
- 5.9.1 Is exempt from subsection 31(1) of the SDWA by subsection 9.(2) of O. Reg. 170/03; or
- 5.9.2 Constitutes maintenance or repair of the drinking water system.
- 5.10 The owner shall update any drawings maintained for the works to reflect the addition, modification or replacement of the works, where applicable.

6.0 Previously Approved Works

- 6.1 The owner may add, modify, replace or extend, and operate part of a municipal drinking water system if:
- 6.1.1 An approval was issued after January 1, 2004 under section 36 of the SDWA in respect of the addition, modification, replacement or extension and operation of that part of the municipal drinking water system;
- 6.1.2 The approval expired by virtue of subsection 36(4) of the SDWA; and
- 6.1.3 The addition, modification, replacement or extension commenced within five years of the date that activity was approved by the expired approval.

7.0 System-Specific Conditions

- 7.1 Not Applicable

8.0 Source Protection

- 8.1 Not Applicable

Schedule C: Authorization to Alter the Drinking Water System

System Owner	The Corporation of the Municipality of Tweed
Permit Number	168-201
Drinking Water System Name	Tweed Drinking Water System
Permit Effective Date	June 3, 2021

1.0 General

1.1 Table 2 provides a reference list of all documents to be incorporated into Schedule C that have been issued as of the date that this permit was issued.

1.1.1 Table 2 is not intended to be a comprehensive list of all documents that are part of Schedule C. For clarity, any document issued by the Director to be incorporated into Schedule C after this permit has been issued is considered part of this drinking water works permit.

Table 2: Schedule C Documents

Column 1 Issue #	Column 2 Issued Date	Column 3 Description	Column 4 Status	Column 5 DN#
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

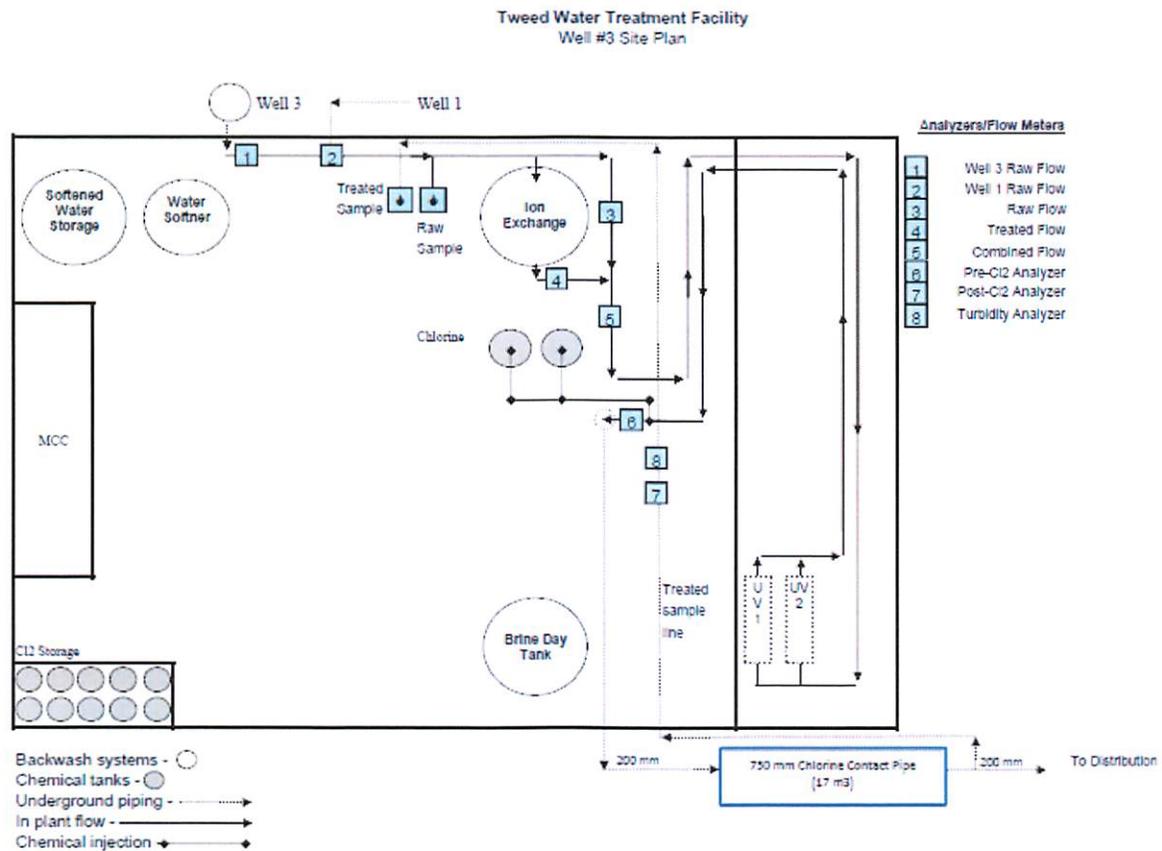
1.2 For each document described in columns 1, 2 and 3 of Table 2, the status of the document is indicated in column 4. Where this status is listed as 'Archived', the approved alterations have been completed and relevant portions of this permit have been updated to reflect the altered works. These 'Archived' Schedule C documents remain as a record of the alterations.

Schedule D: Process Flow Diagrams

System Owner	The Corporation of the Municipality of Tweed
Permit Number	168-201
Drinking Water System Name	Tweed Drinking Water System
Permit Effective Date	June 3, 2021

1.0 Process Flow Diagrams

Tweed Water Treatment Facility



[Source: Tweed Operational Plan Nov 20 2020]

Note: this process flow diagram is for reference only, and represents a high level overview of the system as of November 20, 2020.

APPENDIX B
PERMIT TO TAKE WATER

CONTENT COPY OF ORIGINAL



Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

PERMIT TO TAKE WATER
Ground Water

NUMBER 4464-A9NR

Reference Number 2584-A63K

Pursuant to Section 34.1 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

The Corporation of the Municipality of Tweed
255 Metcalf Street
Tweed, Ontario K0K 3J0
Canada

For the water taking from: Well 1, Well 3

Located at: 404 Hungerford Road Village of Tweed
Tweed, County of Hastings

430 River Street West Village of Tweed
Tweed, County of Hastings

For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:

DEFINITIONS

- (a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34.1, OWRA.
- (b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 10 of the OWRA.
- (c) "Ministry" means Ontario Ministry of the Environment and Climate Change.
- (d) "District Office" means the Belleville District Office.
- (e) "Permit" means this Permit to Take Water No. 4464-A9NRHH including its Schedules, if any, issued in accordance with Section 34.1 of the OWRA.
- (f) "Permit Holder" means The Corporation of the Municipality of Tweed.
- (g) "OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O. 40, as amended.

CONTENT COPY OF ORIGINAL

You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. Compliance with Permit

1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated December 11, 2015 and signed by Betty Gallagher, and all Schedules included in this Permit.

1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.

1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.

1.4 This Permit is not transferable to another person.

1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation. The issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.

1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.

1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

2. General Conditions and Interpretation

2.1 Inspections

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the *Environmental Protection Act*, R.S.O. 1990, the *Pesticides Act*, R.S.O. 1990, or the *Safe Drinking Water Act*, S. O. 2002.

2.2 Other Approvals

The issuance of, and compliance with this Permit, does not:

(a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirement including the provisions of the *Ontario Water Resources Act*, and the *Environmental Protection Act*, and any regulations made thereunder; or

(b) limit in any way any authority of the Ministry, a Director, or a Provincial Officer, including the authority to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

CONTENT COPY OF ORIGINAL

2.3 Information

The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take an action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information shall not be construed as:

- (a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or legal requirement; or
- (b) acceptance by the Ministry of the information's completeness or accuracy.

2.4 Rights of Action

The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

2.5 Severability

The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances at the remainder of this Permit shall not be affected thereby.

2.6 Conflicts

Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, the conditions of this Permit, the conditions in this Permit shall take precedence.

3. Water Takings Authorized by This Permit

3.1 Expiry

This Permit expires on **May 3, 2026**. No water shall be taken under authority of this Permit after the expiry date.

3.2 Amounts of Taking Permitted

The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

Table A

	Source Name / Description:	Source: Type:	Taking Specific Purpose:	Taking Major Category:	Max. Taken per Minute (litres):	Max. Num. of Hrs Taken per Day:	Max. Taken per Day (litres):	Max. Num. of Days Taken per Year:	Zone/ Easting Northing
1	Well 1	Well Drilled	Municipal	Water Supply	1,090	24	950,000	365	18 31537e 492766
2	Well 3	Well Drilled	Municipal	Water Supply	1,134	24	1,633,000	365	18 31542e 492697
Total Taking:							2,583,000		

3.3 The Permit Holder shall take well-water exclusively from Well # 3 (also known as the Crookston Well) for the municipal supply and the Permit Holder shall only use well-water from Well # 1 (also known as the Main Well) as a back up well-water supply to supplement the municipal supply as prescribed in section G of the Permit Holder's December 6, 2004 Permit To Take Water application that was signed by Patricia Bergeron.

4. Monitoring

4.1 Record of Takings

4.1.1 The Permit Holder shall maintain a record of all water takings. This record shall include the dates and times of water takings and the total measured amounts of water pumped per day for each day that water is taken under the authorization of Permit. A separate record shall be maintained for each source. The Permit Holder shall keep all required records up to date available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The total amounts of water pumped shall be measured using a manufactured flow meter and totalizer.

4.2 Well-Water Level Monitoring

4.2.1 The Permit Holder shall identify the locations of wells numbered TW 05-01, TW 05-02 by using Figure 1 titled *Well Locations* attached to a two (2) page February 8, 2006 letter to the Corporation of the Municipality of Tweed from Hydroterra Limited regarding Draft Permit To Take Water, Tweed Water System HT File: 1635M.

4.2.2 The Permit Holder shall measure water levels to the nearest centimetre at Well # 1 (or the Main Supply Well) and Well (the Crookson Well) on a daily basis using electronic water level measuring devices and the Permit Holder shall measure water levels to the nearest centimetre using an electronic water level indicator at three month intervals at TW 05-01, TW 05-02 commencing within one month of the date of issuance of this Permit and as recommended in a two (2) page February 8, 2006 letter to the Corporation of the Municipality of Tweed from Hydroterra Limited regarding Draft Permit To Take Water, Tweed Water System HT File: 1635M.

4.2.3 The Permit Holder shall record and maintain a record of all water level measurements from the wells. This record shall include the dates and times of water level measurements. A separate record shall be maintained for each well. The Permit Holder shall keep all required records up to date and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request.

4.2.4 The Permit Holder shall provide the well-water level information to a practicing professional engineer or practicing professional geoscientist at two year intervals who shall review the information and determine if water use interference is occurring as recommended in a two (2) page February 8, 2006 letter to the Corporation of the Municipality of Tweed from Hydroterra Limited regarding Draft Permit To Take Water, Tweed Water System HT File: 1635M.

4.3 Well-Water Quality Monitoring

4.3.1 The Permit Holder shall obtain well-water samples from Well # 1 (or the Main Supply Well) and Well # 3 (the Crookson Well) for nitrate, nitrite, ammonia, uranium and other parameters in accordance with its Drinking-water Permit made under *Safe Drinking Water Act*, and the Permit Holder shall obtain well-water samples at a three month interval for nitrite, nitrate, ammonia, uranium, Escherichia coli (E. coli) bacteria and Total Coliform bacteria parameters from Domestic Well 3 commencing within one month of the date of issuance of this Permit and as recommended in a two (2) page February 8, 2006 letter to the Corporation of the Municipality of Tweed from Hydroterra Limited regarding Draft Permit To Take Water, Tweed Water System HT File: 1635M.

4.3.2 The Permit Holder shall take the well-water samples identified in section 4.3.1 of this Permit to a laboratory licensed under the *Safe Drinking Water Act* and shall ensure that the laboratory analyses and reports the concentration of at least nitrite, nitrate, ammonia, uranium, Escherichia coli (E. coli) bacteria and Total Coliform bacteria for each water sample.

CONTENT COPY OF ORIGINAL

4.3.3 The Permit Holder shall record and maintain a record of all well water laboratory analyses from the wells. This record shall include the dates and times of water samples and reports from the laboratory. A separate record shall be maintained for each well. The Permit Holder shall keep all required records up to date and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request.

4.3.4 The Permit Holder shall provide the well-water sample analysis information to a practicing professional engineer or practicing professional geoscientist at two year intervals who shall review the information and determine if quality interference is occurring as recommended in a two (2) page February 8, 2006 letter to the Corporation of the Municipality of Tweed from Hydroterra Limited regarding Draft Permit To Take Water, Tweed Water System HT File: 1635M.

5. Impacts of the Water Taking

5.1 Notification

The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry's Spills Action Centre at 1-800-268-6060.

5.2 For Groundwater Takings

If the taking of water is observed to cause any negative impact to other water supplies obtained from any adequate sources were in use prior to initial issuance of a Permit for this water taking, the Permit Holder shall take such action necessary to make available to those affected, a supply of water equivalent in quantity and quality to their normal takings, or shall compensate such persons for their reasonable costs of so doing, or shall reduce the rate and amount of taking to prevent or alleviate the observed negative impact. Pending permanent restoration of the affected supplies, the Permit Holder shall provide, to those affected, temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

If permanent interference is caused by the water taking, the Permit Holder shall restore the water supplies of those permanently affected.

5.3 Should the Permit Holder receive a well-water shortage complaint from the owners of TW 2-93 (presently owned by Granite Springs Water Company) or any other well near Well # 1 or Well # 3, or should the practicing professional engineer or practicing professional geoscientist determine water use interference is occurring with off-site wells, the Permit Holder shall immediately arrange to provide temporary water supplies at its expense to the allegedly affected resident, shall undertake a scientific investigation to evaluate the validity of the well water problem, shall undertake mitigative action to permanently restore the well owner(s) supply and shall advise the District Office of the findings and the mitigative action as recommended in sections 1 and 2 of a four page September 5, 1997 letter to Totten Sims Hubicki Associates from Hydroterra Limited regarding Monitoring/Contingency Modifications, New Well Permit, Village of Tweed, TSH Project No. 52-20648, HT File: 1089M.

6. Director May Amend Permit

The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director in the letter. The suspension or reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or

CONTENT COPY OF ORIGINAL

reduction in taking to the Environmental Review Tribunal under the *Ontario Water Resources Act*, Section 100 (4).

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.
2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.
3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

*In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written notice served upon me the Environmental Review Tribunal and the Environmental Commissioner, **Environmental Bill of Rights**, R.S.O. 1993, Chapter 28, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner place notice of your appeal on the Environmental Registry. Section 101 of the Ontario Water Resources Act, as amended provides that the Notice requiring a hearing shall state:*

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

- a. The name of the appellant;
- b. The address of the appellant;
- c. The Permit to Take Water number;
- d. The date of the Permit to Take Water;
- e. The name of the Director;
- f. The municipality within which the works are located;

This notice must be served upon:

The Secretary
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto ON
M5G 1E5
Fax: (416) 326-5370
ERTTribunalsecretary@ontario.ca

AND

The Environmental Commissioner
1075 Bay Street
6th Floor, Suite 605
Toronto, Ontario M5S 2W5

AND

The Director, Section 34.1,
Ministry of the Environment and Climate
Change
1259 Gardiners Rd. PO Box 22032
Kingston, ON
K7P 3J6

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

by Telephone at
(416) 212-6349
Toll Free 1(866) 448-2248

by Fax at
(416) 326-5370
Toll Free 1(844) 213-3474

by e-mail at
www.ert.gov.on.ca

*This instrument is subject to Section 38 of the **Environmental Bill of Rights** that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek to appeal for 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry, you can determine when the leave to appeal period ends.*

This Permit cancels and replaces Permit Number 1674-8WAL9T, issued on 2012/09/27.

CONTENT COPY OF ORIGINAL

Dated at Kingston this 10th day of May, 2016.

A handwritten signature in black ink, appearing to read 'Greg Faaren', with a long horizontal flourish extending to the right.

Greg Faaren
Director, Section 34.1
Ontario Water Resources Act, R.S.O. 1990

Schedule A

This Schedule "A" forms part of Permit To Take Water 4464-A9NRHH, dated May 10, 2016.

APPENDIX C
STAKEHOLDER SUPPORT

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.

For more information on Ontario's drinking water visit www.ontario.ca/drinkingwater



PUBLICATION TITLE	PUBLICATION NUMBER
FORMS:	
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

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 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

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