Ontario

DRINKING WATER WORKS PERMIT

Permit Number: 150-203
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 Trent Hills

66 Front St. N.
Cambellford ON
P.O. Box 1030
K0L 1L0

For the following municipal residential drinking water system:

Hastings 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 #150-203, all previously issued versions of permit #150-203 are revoked and replaced by this permit.

DATED at TORONTO this 25th 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 Trent Hills**
Permit Number	**150-203**
Drinking Water System Name	**Hastings Drinking Water System**
Permit Effective Date	**June 25, 2021**

1.0 System Description

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

Overview

The Hastings water treatment plant is a conventional water treatment system, which draws all of its raw water supply from the Trent River. The treatment system consists of a low lift pumping station, two (2) solids contact up flow reactor-clarifiers, two (2) dual-media filters equipped with granular activated carbon for taste and odour control, a baffled contact tank connected to the filter discharge ensuring primary disinfection, a high lift pumping station equipped with secondary disinfection capabilities accomplished by a chlorine injection system located on the plant discharge. A corrosion inhibitor is injected into the plant discharge pipe for corrosion control in the distribution system.

A 520 cubic meter off-site storage standpipe provides peak hour demands and fire flow protection. The water distribution system is comprised of various water main materials of different sizes and a single pressure zone. The **Hastings Drinking Water System** consists of approximately 12.4 kilometers of distribution watermains. The system supplies the Village of Hastings and 133-102 Trentview Estates Distribution System located in the Township of Asphodel-Norwood.

Hastings Water Treatment Plant

Treatment Plant

Name	Hastings Water Treatment Plant
Street Address	188 Front Street West in the Village of Hastings
UTM Coordinates	NAD 83, Zone 17, +/- 10 m, Easting 262685 m, Northing 4909955 m
System Type	Surface water supply and treatment
Notes	

Surface Water Supply

Intake Pipe

Description	Intake pipe and riser pipes
Equipment	Approximately 44 m of 300 mm intake pipe extending into the Trent River
	Three (3) vertical 300 mm riser pipes complete with caps, spaced 1.5 m apart at the end of the intake and located about 33 m from the north shore of the Trent River and approximately 1.5 m from the water surface
	One (1) 50 mm diameter carrier pipe installed from the intake pipe near the low lift pumping station to the chlorine room to house the three chlorinated water feed lines
Notes	

Chemical Feed and Raw Water Sample Lines

Description	Chlorinated water feed lines
Equipment	Three (3) 13 mm diameter chlorinated water feed lines installed inside the intake pipe to supply chlorinated water to the three riser pipes located at the end of the intake pipe for zebra mussel control, each feed line connected from the chlorinated water supply line located in the chlorine room to a 200 mm diameter diffuser ring located near the mouth of the riser pipe
Notes	

Low Lift Works

Low Lift Pumping Station

Description	Low lift pumping station
Location	North Shore Trent River approximately 91 m south of the high lift pumping station
Equipment	Manual screens
	Low lift wet well complete with two (2) Vertical Turbine Low Lift Pumps, rated 1.36 m^3/min at a total dynamic head (TDH) of 17.4 m, variable frequency drive, and controlled from level regulators in the high lift reservoir, a turbidimeter and a raw water sampling tap
Notes	

Clarification

Solids Contact Upflow Clarifier (Clarifier No. 1)

Description	One (1) solids contact upflow clarifier
Dimensions	Inner diameter of 8.53 m and an operating depth of 4.0 m (mixing chamber diameter of 3.76 m and an operating depth of 3.12 m
Equipment	Variable speed coagulator device
	Sludge collector system
	A circular trough at the top of the clarifier
	One (1) 200 mm magnetic flow meter on the intake line to the clarifier
	One (1) electrically actuated valve installed on inlet pipe
Notes	

Solids Contact Clarifier (Clarifier No.2

Description	One (1) Solids Contact Upflow Clarifier (Clarifier No.2),
Dimensions	6.1 m diameter and 4.4 m high
Equipment	Tube settlers
	A variable speed coagulator device
	A sludge collector system
	One (1) 200 mm magnetic flow meter on the intake line to the clarifier
	One (1) electrically actuated valve installed on inlet pipe
Notes	

Filtration

Filters

Description	Two (2) Rapid Gravity Dual Media Filter-Adsorber units
Equipment	Each filter unit with 9.07 m² surface area, packed with granular activated carbon and silica sand adsorbed/filter media (750 mm and 300 mm layer depth, respectively), complete with air scour assisted backwash and automatically controlled effluent-to-waste facilities
	Two (2) Filter-Adsorber Backwash Pumps (one duty and one standby), capable of pumping 100.8 L/s at a TDH of 13.3 m, variable frequency drive, each pump discharge connected to a common discharge header
	One (1) Air Scour Blower, rated 545 m^3/h at a backpressure of 48 kPa with discharge line connected to each filter adsorber unit
Notes	

On-Site Storage

Chlorine Contact Chamber

Description	One chlorine contact chamber
Dimensions	19.4 m by 9.4 m by 3.1 m side water depth (SWD), baffled, located upstream of the reservoir below the filters
Notes	

Reservoir

Description	One (1) reservoir with two baffled interconnected independent cells
Dimensions	Total volume of 772 m^3
Notes	

Instrumentation and Control

SCADA System

Description	Supervisory Control and Data Acquisition (SCADA) System
Equipment	Six (6) Flow Metering Devices, one located on each of the two filter-adsorber effluents, one located on each of the Clarifier influent pipes, one located on the filter-adsorber backwash pump common discharge header and one located on the high lift pump common discharge header
	Chlorine residual analyzers sampling water from low lift pump common discharge header, downstream of chlorine contact chamber and high lift pump common discharge header
	Four (4) Turbidimeters connected to the low lift pump common discharge, each filtrate line and the highlift pump discharge header, all complete with 4-20 mA output to SCADA
	One (1) Chlorine Residual Analyzer measuring the concentration of free chlorine residuals, connected to the standpipe fill/drain pipe, complete with 4-20 mA signal output to SCADA
	One (1) pH Metering Device located on the contact effluent piping, complete with 4-20 mA output to SCADA (to be completed summer 2021)
Notes	The water levels of the Hastings Standpipe are monitored by SCADA.

Emergency Power

Backup Power Supply

Description	A 210 kW Diesel Engine Standby Power Generator set
Notes	

Fuel Oil Systems

Hastings Water Treatment Plant

Location	Hastings Water Treatment Plant - 188 Front Street West, Hastings 44*18'23"N 77*47'58"W
Description	1100 liters fuel tank with spill containment, located within the Hastings WTP building.
Fuel Type	Diesel
Source Protection Area	Lower Trent
Notes	

Waste Residual Management

Backwash Wastewater Holding Tanks

Description	Two (2) backwash wastewater holding tanks operating in parallel to store and treat backwash wastewater and clarifier sludge
Location	Adjacent to the high lift wet wells below the electrical, chlorine, lavatory, and generator rooms
Dimensions	Total volume of 265 m^3
Equipment	Two (2) submersible pumps capable of pumping at 1,356 m^3/d at 4.9 m TDH, piped such that settled sludge from both tanks is discharged to the sludge holding tank for further settling to occur
	Two (2) Centrifugal Pumps, each capable of pumping 10 L/s at a TDH of 3 m discharging process residual settling tank supernatant to the Trent River through the plant drain sewer via a floating suction head system
Notes	

Sludge Holding Tank

Description	One (1) sludge holding tank collecting sludge from second backwash wastewater holding tanks and clarifier, and permitting discharge of sludge to the existing sanitary collector sewer system,
Dimensions	Total volume of 23 m^3
Equipment	One (1) submersible pump capable of pumping a1,356 m^3/d at 4.9 m TDH
Notes	

Sewage Pumping Station

Description	One (1) sewage pumping station discharging sanitary waste to the existing sanitary collector sewer system
Equipment	Submersible pump rated at 1,356 m^3/d at 4.9 m TDH
Notes	

High Lift Works

Wet Well and High Lift Pumps

Description	Three (3) separate suction wet well chambers with three (3) domestic pumps
Dimensions	Total volume of 106 m^3
Equipment	Two (2) 4-stage vertical turbine domestic pumps (one standby) each capable of pumping 2,938 m^3/d at 56.7 m TDH and driven by a 30 kW electric motor and located in separate chambers
	One (1) 3-stage vertical turbine pump capable of pumping 5,443 m^3/d at 61.3 m TDH driven by a 56 kW electric motor in a separate chamber
Notes	

Chemical Addition

Chlorination System

Description	Gas Chlorination System located in the water treatment plant building
Equipment	One chlorinator rated 22 kg/d with feed line connected to the interior of the raw water intake
	Two chlorinators rated 9 kg/d each, with feed lines connected to the chlorine contact chamber influent and the high lift pump common discharge header, each chlorinator complete with 4-20 mA signal input/output to SCADA
	One dual-platform cylinder weigh scale
	Two vacuum regulators complete with an automatic cylinder switch-over device
	One chlorine booster pump for the post-chlorination process, capable of pumping 0.6 L/s at a TDH of 95m
	One (1) chlorine detector
Notes	

Polyaluminium Chloride (PACl) feed system

Description	Polyaluminium Chloride (PACl) (coagulant) feed system located in the HLPS
Equipment	One (1) 20,000 L chemical solution tank
	One (1) 2,000 L day tank
	Two (2) chemical metering pumps (one for each clarifier), each capable of pumping 10.2 L/h at a backpressure of 690 kPa with feed lines discharging polyaluminum chloride solution to each of the two solids contact clarifiers
Notes	

Polymer Feed System

Description	Polymer (coagulant aid) Feed System
Equipment	Two (2) chemical metering pumps (one duty and one standby) each capable of pumping 3.8 L/h with feed lines discharging a polymer solution to each of the two solids contact clarifiers, downstream of the coagulant application points
	One (1) batch make-up emulsion polymer system
Notes	

Sodium Silicate System

Description	Sodium Silicate System located in the main building (pH control)
Equipment	One (1) 2,000 L chemical solution tank
	Two (2) chemical metering pumps (one duty and one standby), each rated 1.92 L/h at a backpressure of 690 kPa with feed lines discharging sodium silicate solution to the high lift pump common discharge header
Notes	

Off-Site Storage

Standpipe

Description	Hastings Standpipe located at 45 Division St. East
UTM Coordinates	NAD 83, Zone 17, +/- 10 m, Easting 264127 m, Northing 4910959 m
Dimensions	520 m^3 total and 249 m^3 useable
Notes	

Watermains

1.1 Watermains within the distribution system comprise:

1.1.1 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
TrentHills Hastings Water - v010.pdf 2018	October 5, 2018

1.1.2 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.

1.1.3 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 Trent Hills**
Permit Number	**150-203**
Drinking Water System Name	**Hastings Drinking Water System**
Permit Effective Date	**June 25, 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 #150-103.

1.2 The definitions and conditions of licence #150-103 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 #150-103.

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 14, 2021 the ministry's Watermain Disinfection Procedure, dated November 2015. As of December 15, 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/m^3 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 Trent Hills**
Permit Number	**150-203**
Drinking Water System Name	**Hastings Drinking Water System**
Permit Effective Date	**June 25, 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.

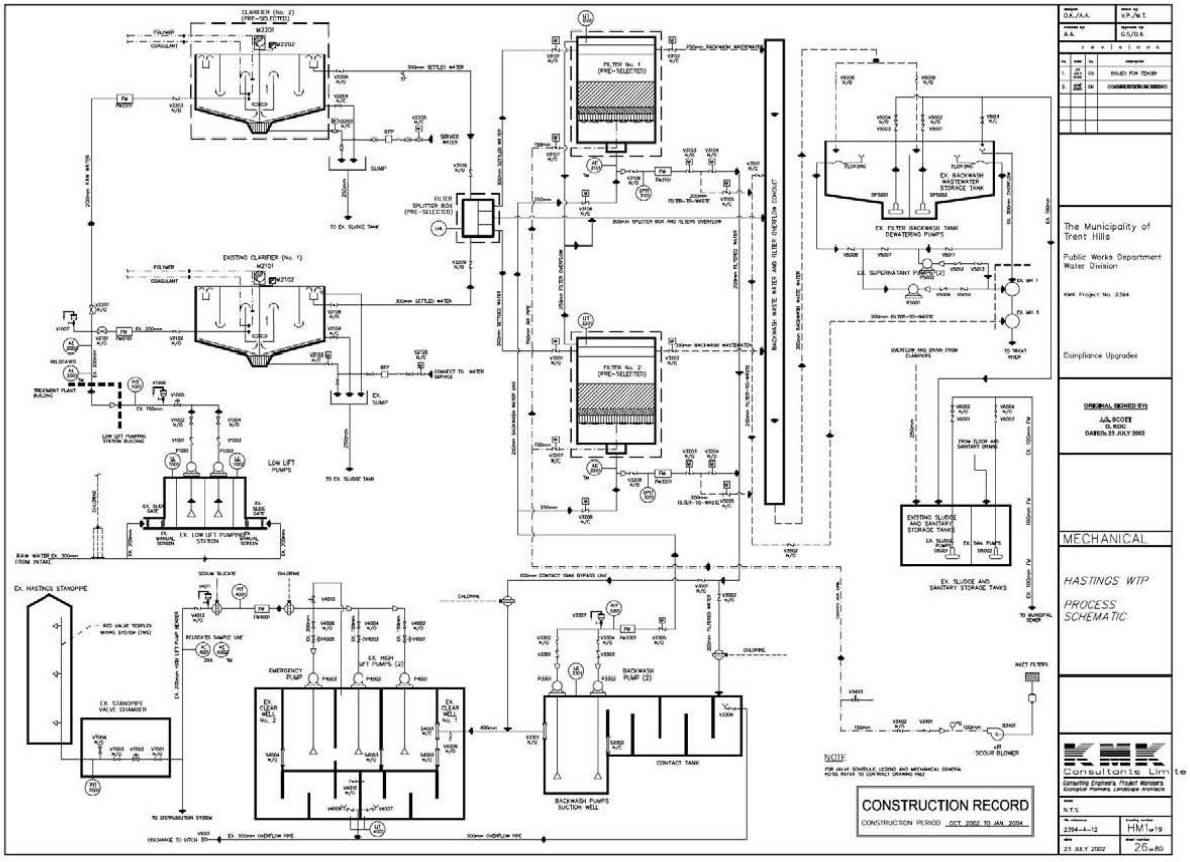
Schedule D: Process Flow Diagrams

System Owner	**The Corporation of the Municipality of Trent Hills**
Permit Number	**150-203**
Drinking Water System Name	**Hastings Drinking Water System**
Permit Effective Date	**June 25, 2021**

1.0 Process Flow Diagrams

Hastings Water Treatment Plant

Appendix 3 Water Treatment Plant – Hastings



[Source: Operational Plan, Municipality of Trent Hills for the drinking water systems; Campbellford, Hastings and Warkworth, Revision 8, August 13, 2015]

Note: this process flow diagram is for reference only, and represents a high level overview of the system as of August 13, 2015.