

Espanola WTP

SUPPLY SYSTEM

ANNUAL SUMMARY REPORT

2012



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

SECTION 1: INTRODUCTION

This report is a summary of water quality information for the Espanola Water Treatment Facility, published in accordance with Schedule 22 of Ontario's Drinking-Water Systems Regulation for the reporting period of January 1, 2012 to December 31, 2012. The Espanola Water Treatment Facility is categorized as a Large Municipal Residential Drinking Water System.

This report is prepared by The Ontario Clean Water Agency on behalf of The Corporation of the Town of Espanola. A copy of the Summary Report must be provided to the members of the municipal council by March 31, 2013.

SECTION 2: WHAT DOES THE REPORT CONTAIN

The report must list the requirements of the Act, the regulations, the system's approval and any order that the system **failed to meet** at any time during the period covered by the report. The report must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.

For the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and future planned water uses, the following information is required to be included in this report:

- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary to the rated capacity and flow rates approved in the systems approval.

SECTION 3: DAILY FLOW RATES

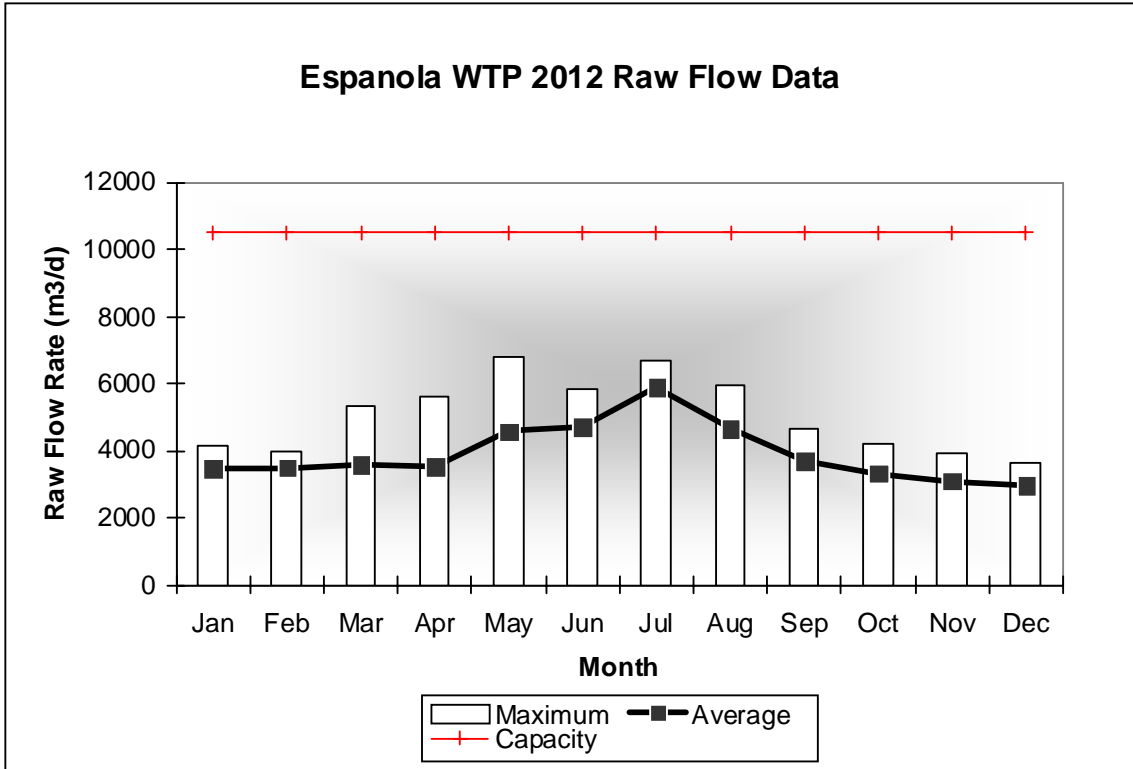
In accordance with the Municipal Drinking Water License # 210-101, the Espanola water system shall not be operated to exceed a maximum rate of flow of 10,500.0 m³/d into the distribution system.

The maximum daily flow into the distribution system in 2012 was 6,270.7m³ on July 24 and represents 60% of the maximum capacity.

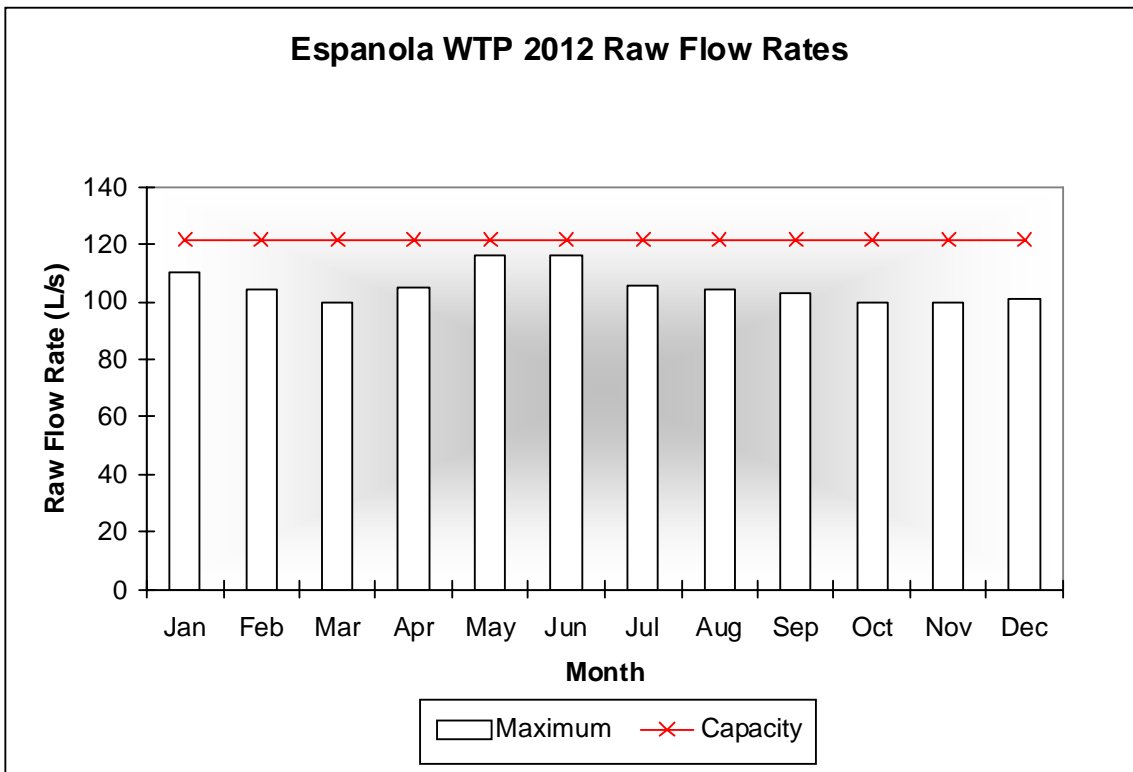
The monthly average raw water flow for this reporting period was 3,919 m³/d and the maximum daily flow for 2012 was 6,791 m³/d. Flow totals and comparison of flow rates to the rated capacity are included in the table and graph below.

The quantity of water supplied during the reporting period **did not** exceed the rated maximum capacity.

2012	RAW WATER FLOW DATA						
	Month	Total Monthly Raw Flow (m ³)	Average Raw Flow (m ³ /d)	Maximum Raw Flow (m ³ /d)	Maximum Raw Flow Rate (L/s)	Maximum Rated Capacity	
						L/s	m ³ /d
January	107,974.0	3,483.0	4,163.0	110.0	121.53	10,500.0	
February	101,361.0	3,495.2	3,951.0	104.0	121.53	10,500.0	
March	110,375.0	3,560.5	5,312.0	100.0	121.53	10,500.0	
April	106,139.0	3,538.0	5,602.0	104.8	121.53	10,500.0	
May	141,951.0	4,579.1	6,791.0	116.2	121.53	10,500.0	
June	140,877.0	4,695.9	5,826.0	115.9	121.53	10,500.0	
July	182,926.2	5,900.8	6,683.0	106.1	121.53	10,500.0	
August	143,794.8	4,638.5	5,963.4	103.68	121.53	10,500.0	
September	110,519.5	3,684.0	4,653.9	102.68	121.53	10,500.0	
October	103,034.0	3,323.7	4,182.0	100.26	121.53	10,500.0	
November	932,45.0	3,108.2	3,905.0	100.39	121.53	10,500.0	
December	922,31.0	2,975.2	3,660.0	101.05	121.53	10,500.0	
2012 Total	1,434,427.5						
2012 Summary		3,919.2	6,791.0	116.2	121.53	10,500.0	



Comparison of Monthly Average and Maximum Rates of Flow



COMPARISON OF DAILY MAX RAW WATER FLOW RATES VS PTTW LIMITS

In accordance with the PTTW, the allowable rate of water taking is 121.53 L/s with a maximum daily volume of 10 500.0 m³/d. Attached as Appendix A is the Annual Record of Water Taking which is a summary of water taking, including average and maximum flows.

SECTION 4: SYSTEM FAILURES AND CORRECTIONS

No Ministry of the Environment Drinking Water Inspections were conducted in 2012. The last Inspection occurred on Oct 26, 2011 Inspection #1-9IATR with no Required Actions and a 100% rating. The next Inspection is scheduled for February 2013.

SECTION 5: CONCLUSION

The Espanola WTP delivers water that, in all its treated and distribution samples, indicates the water to be free of bacteriological contamination. There were 15 instances in 2012 resulting in an Adverse Water Quality Indicator. These are outlined in the Annual Report, Appendix C and were all the result of the distribution system upgrades & subsequent localized loss of pressure.

The Espanola WTP, for the 2012 operating year, was able to meet the demand of water use within the town without exceeding the Permit to Take Water. The PTTW has been included in Appendix B along with the Municipal Drinking Water License and the Drinking Water Works Permit which replaced the C of A in February 2011.

Attached as Appendix C, find the 2012 Annual Report as required by Drinking-Water System Regulation O. Reg. 170/03.

APPENDIX A

Annual Record of Water Taking

Personal information contained on this form is collected under the authority of the Ontario Water Resources Act, Section 20. The Purpose of the form is to record details and information about the taking of water annually. Questions should be directed to the respective hub office in your area.

Les renseignements personnels qui figurent dans le présent formulaire sont recueillis en vertu de l'article 20 de la Loi sur les ressources en eau de l'Ontario. Ce formulaire sert à dossiers les détails et les renseignements concernant la prise d'eau annuelle. Prière d'adresser toutes questions au personnel du bureau régional de votre secteur.

Year(Année): 2012 Permit No.(N° de permis): Source: Apsey Lake
 Location: RW - Raw Water

Name of Permittee: Mailing Address:
Nom du titulaire du permis Adresse postale

Location Of Taking: Twp. or Municipality: Concession: Lot:
Lieu de la prise d'eau Canton ou municipalité

	Jan/2012	Feb/2012	Mar/2012	Apr/2012	May/2012	Jun/2012	Jul/2012	Aug/2012	Sep/2012	Oct/2012	Nov/2012	Dec/2012	<-- Total -->	<-- Avg. -->	<-- Max. -->	<-- Criteria-->
Avg Daily Taking(m3)	3,483.03	3,495.21	3,560.48	3,537.97	4,579.06	4,695.9	5,900.85	4,638.54	3,683.98	3,323.68	3,108.17	2,975.19		3,915.17		10,500.0
Total Amt of Taking(m3)	107,974.0	101,361.0	110,375.0	106,139.0	141,951.0	140,877.0	182,926.2	143,794.8	110,519.5	103,034.0	93,245.0	92,231.0	1,434,427.5			
Max Daily Flow(m3)	4,163.0	3,951.0	5,312.0	5,602.0	6,791.0	5,826.0	6,683.0	5,963.4	4,653.9	4,182.0	3,905.0	3,660.0			6,791.0	10,500.0

APPENDIX B

**Municipal Drinking Water License
Drinking Water Works Permit
Permit to Take Water**



DRINKING WATER WORKS PERMIT

Permit Number: 210-201

Issue Number: 1

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

The Corporation of the Town of Espanola
100 Tudhope St., Suite 2
Espanola, ON
P5E 1S6

For the following municipal residential drinking water system:

Espanola 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

DATED at TORONTO this 2nd day of February, 2011

Signature

A handwritten signature in black ink that reads "A. Ahmed". The signature is written in a cursive style and is underlined with a single horizontal line.

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

Schedule A: Drinking Water System Description

System Owner	The Corporation of the Town of Espanola
Permit Number	210-201
Drinking Water System Name	Espanola Drinking Water System
Schedule A Issue Date	February 2nd, 2011

1.0 System Description

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

Overview

The **Espanola Drinking Water System** consists of a water intake, a low lift pumping station, a conventional chemically-assisted filtration based surface water treatment plant, a high lift pumping station, an elevated water tower and a water distribution system.

Raw water is obtained from Lake Apesy and conveyed to the water treatment plant for treatment via low lift pumping station. The water treatment plant consists of coagulation, flocculation, clarification, filtration, and disinfection. The treated water is pumped in to the distribution system through high lift pumping station. The water distribution system comprises approximately 38.6 km of watermains of various diameters.

Espanola Water Treatment Plant

Treatment Plant

General Information

Name	Espanola Water Treatment Plant
Street Address	1151 Bass Lake Rd, Espanola
UTM Coordinates	439891.00 m E and 5119775.00 m N
System Type	Treatment and Distribution
Notes	

Surface Water Supply

Intake Structure

Description	An intake structure housing pipes and valves
Location	Approximately 135 m from the shore into Apesy Lake at a maximum depth of 12 m
Intake pipe	A 600 mm diameter raw water intake pipe and intake crib
Additional pipes	Two (2) 40 mm diameter PE pipes installed and capped in the intake structure; one for pre-chlorination/ zebra mussel control and the other for raw water sampling
	A 450 mm diameter corrugated metal intake pipe and isolation sluice gate for use in emergency situations
Notes	Raw water flows from the intake structure to the intake chamber located at the low lift pumping station through 600 mm diameter intake pipe

Low Lift Pumping Station

General Information

Description	A low lift pump house and control room housed in a building above the intake chamber and low lift wells
Location	NAD 83: UTM Zone 17: 439966.00 m E and 5119623.00 m N
Notes	A 350 mm diameter PE raw pipeline 325 m long to 350 mm diameter discharge header of the low lift pumping station to the water treatment plant

Intake Chamber

Description	A below grade reinforced concrete intake chamber
Dimensions	4.9 m x 4.25 m x 3.2 m
Notes	Raw water flows from intake chamber to the low lift wells through screen channel

Screen Channel

Description	A below grade screen channel housing screens
Dimensions	2.2 m x 3.2 m
Screens	Two (2) 1125 mm long by 1400 mm high static water screens with 9.5 mm mesh openings installed in series in the screen channel
Notes	

Low lift Wells

Description	One (1) below grade low lift wells
Dimensions	71.5 m ³
Notes	

Low Lift Pumps

Description	Two (2) variable speed vertical turbine pumps (one duty one standby)
Pump Capacity	Each pump having a maximum rated capacity of 126 L/s at a total dynamic head (TDH) of 27.4 m for a firm capacity of 10,500 m ³ /d, discharging raw water into a 300 mm diameter discharge header in the low lift pump room
Raw Water Pipe	A 325 m long, 350 mm diameter raw water pipeline conveys raw water from the 300 mm diameter discharge header of the low lift pumping station to the water treatment plant
In-line Mixer	One (1) 250 mm in-line static chemical mixer in the low lift header, following two chemical injection points, Potassium Permanganate and Soda Ash
Notes	

Coagulation**In-line mixer**

Description	One (1) 400 mm diameter in-line mixer
Location	After primary coagulant (PAC) injection point
Notes	

Flocculation/Clarification**Solids Contact Clarifiers**

Description	Two (2) solids contact clarifiers with an automatic sludge withdrawal system
Dimensions	Each 11.55 m x 11.51 m x 4.49 m deep
Mixer	Each clarifier equipped with a mechanical mixer with a 2.24 kW re-circulator motor, set in the centre of the unit, to facilitate mixing of primary and secondary coagulant and a sludge collector rake
Notes	

Filtration

Filters

Description	Three (3) 3.81 m x 3.81 m dual media (anthracite/sand) conventional/rapid sand filters
Capacity	Total filtration area of 43.56 m ²
	Each filter rated at 10 m ³ /m ² /hr
Notes	Each filter equipped with an underdrain for air scour/water backwash

Backwash Storage Tanks

Description	Two (2) backwash wastewater settling tanks each with a hopper bottom, constructed for storage of filter backwash water, filter-to-waste water, and clarifier sludge
Capacity	Each tank having a volume of 325 m ³
Waste Pump	Each tank equipped with two (2) submersible centrifugal pumps having a rated capacity of 14.8 L/s at 39.2 m TDH to discharge supernatant to the sanitary sewer via a 100 mm forcemain
Notes	

Backwash Pumps

Description	Two (2) (one duty, one standby) vertical turbine pumps installed in the existing pump room for filter backwash
Capacity	Each pump with a rated capacity of 197 L/s at a TDH of 9.75 m
Notes	

Filter Air Scour Blower

Description	One (1) positive displacement air blower installed adjacent to the pump room for filter air scour
Capacity	1062 L/s at 40 kPa
Notes	

Instrumentation and Control

Monitoring and Control Equipment

Description	Monitoring and Control Equipment
SCADA System	A Plant SCADA system
Sample Lines	Five (5) water sample lines, four (4) with in-line centrifugal pumps each having an approximate rated capacity of 0.3 L/s to supply raw water, coagulated water, clarified water, filtered water and finished water samples to the laboratory
Equipment	One (1) on-line chlorine residual analyzer at the high lift discharge header to measure chlorine residual in the treated water leaving the plant
	One (1) fluoride analyzer to measure fluoride at plant discharge header
	Five (5) turbidimeters, as follows: <ul style="list-style-type: none"> - one (1) for raw water from the raw water discharge header, - three (3), one for each filter effluent, - one (1) for finished water leaving the plant,
	One (1) pH meter on line to measure the pH of the treated water from the high lift discharge header
	Seven (7) flowmeters, as follows: <ul style="list-style-type: none"> - one (1) 100 mm magnetic flow meter located on the sludge disposal header, - three (3) 200 mm magnetic flow meters; one located on each filter effluent pipe, - two (2) 250 mm magnetic flow meters, one located on the low lift discharge header and the other on the high lift discharge header, - one (1) 350 mm magnetic flow meter located on the backwash discharge header;
Notes	

Waste Residual Management

Sludge Transfer Pumps

Description	See backwash storage tank description
Notes	

Sump and Sump Pumps

Description	One (1) sanitary waste sump for discharge from floor drains, bathrooms sinks laboratory, etc.
Sump Capacity	11.5 m ³
Sump Pumps	Two (2) (one duty, one standby), submersible centrifugal pumps each having a rated capacity of 5.38 L/s at a TDH of 23.2 m to discharge the waste to the sanitary sewers via a 100 mm diameter forcemain
Notes	

High Lift Pumping Station**General Information**

Description	A high lift pump gallery
Location	Above clear wells
Notes	UTM coordinates of 439891.00 m E and 5119775.00 m N

High Lift Pumps

Description	Three (3) vertical turbine pumps (two duty, one standby) installed in the pump gallery
Capacity	Each pump having a rated capacity of 60 L/s at a TDH of 73.5 m, for a rated station capacity of 120 L/s
Notes	

On-Site Storage**Reservoir**

Description	A reservoir for treated water storage and chlorine contact time
Volume	588 m ³
Notes	

Clearwells

Description	Two (2) clearwells for treated water storage
Volume	One 443 m ³ and one 412 m ³
Notes	

Emergency Power

Backup Power Supply

Description	One (1) 275 kW radiator cooled standby diesel generator set, including two (2) 1135 L fuel storage tanks
Notes	

Chemical Addition

Polyaluminum Chloride

Primary Coagulation

Description	A primary coagulant storage and feed system
Feed Point	Low lift discharge header upstream of in-line mixer
Equipment	Three (3) 9500 L bulk storage tanks Two (2) positive displacement metering pumps (one duty and one standby), each capable of feeding 108 L/hr
Notes	

Secondary Coagulation

Description	A secondary coagulant storage preparation and feed system
Feed Point	Dual chemical feed lines into each clarifier
Equipment	Two (2) 4500 L storage tanks with tank mixers Four (4) (two duty, two standby) positive displacement metering pumps, each capable of feeding 108 L/hr
Notes	

Soda Ash

Description	A Soda Ash feed system for alkalinity and pH control
Feed Point	Dual chemical feed lines to low lift discharge header and filter discharge line both points upstream of a 250 mm static mixer
Equipment	1350 L storage tank with a tank mixer Three (3) pumps (two (2) duty, one (1) standby) peristaltic type pumps with rated capacity from 0.23-590 L/hr
Notes	

Sodium Hydroxide

Description	A sodium hydroxide (caustic soda) feed system for alkalinity and pH control
Feed Point	Pipe feed treated water from reservoir to clear wells
Equipment	Two (2) bulk storage tanks (approximately 3,200 L capacity each) Two (2) metering pumps (duty and standby), peristaltic type pumps with rated capacity from 0.042-90 L/hr
Notes	

Fluoride

Description	A fluoride feed system
Feed Point	Filter discharge header upstream of 250 mm static mixer
Equipment	One (1) 100 L storage tank Two (2) (one duty and one standby), positive displacement metering pumps, having rated capacities of 3.6 L/hr at a discharge pressure of 875 kPa A drum scale
Notes	

Polyphosphate

Description	A Polyphosphate feed system for corrosion control
Feed Point	High lift header
Equipment	One (1) 200 L storage tank with spill containment Two (2) chemical dosing pumps, capable of feeding 6.8 L/h
Notes	

Potassium Permanganate

Description	A potassium permanganate feed system to act as an oxidizing agent
Feed Point	Raw water inlet
Equipment	Two (2) bulk storage drums with weight scales; Two (2) eductors (one duty and one standby) for mixing dry chemicals with water to form solution Three (3) mixing tanks (approximately 1,250 L capacity each) with mechanical mixer Two (2) metering pumps (one duty and one standby), peristaltic type pumps each capable of feeding 96 L/h
Notes	

Carbon Dioxide

Description	A CO ₂ liquid gas bulk storage feed system for pH adjustment including storage tank, evaporator, refrigeration system, pressure regulating and other controls, all installed in an enclosure located at north-west part of the parking lot complete with gas transmission line into the treatment plant building
Feed Point	Filter effluent line
Equipment	A CO ₂ gas dissolution system with feed control panel, located inside a dedicated room in the building extension, discharging CO ₂ solution into filter effluent line
Notes	

Sodium Hypochlorite

Description	A pre, post and trim chlorination disinfection system
Feed Point # 1 (Pre)	Clarifier effluent line upstream of filters
Feed Point #2(Post)	Filter discharge header upstream of the static mixer
Feed Point #3 (Trim)	High lift pump discharge header
Equipment	Four (4) solution storage tanks, three having a volume of 1150 L and the fourth having a volume of 1025 L Two (2) pre-chlorination solution feed pumps, one duty and one standby, each capable of feeding 60 L/h, equipped with auto switchover controls Two (2) post-chlorination solution feed pumps (duty, standby) each rated at 3.6 L/hr, equipped with auto switchover controls Two (2) trim chlorination solution feed pumps, one duty and one standby, each capable of feeding 7.5 L/h, equipped with auto switchover controls
Notes	

Espanola Water Distribution System**Elevated Storage Tanks****Espanola Water Storage Tank**

Location	596 Second Avenue next to the Public Works Dept
Description	An overhead water tower
Capacity	3410 m ³
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
OverallSchematicMapOfExistWM_2009 11 05Espanola.pdf	November 05, 2009

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 Town of Espanola
Permit Number	210-201
Drinking Water System Name	Espanola Drinking Water System
Schedule B Issue Date	February 2nd, 2011

1.0 Applicability

- 1.1 In addition to any other 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.
- 1.2 The definitions and conditions of the licence shall also apply to this drinking water works permit.

2.0 Alterations to the Drinking Water System

- 2.1 Any document issued by the Director as a Schedule C to this drinking water works permit shall provide authority to alter the drinking water system in accordance, where applicable, with the conditions of this drinking water works permit and the licence.
- 2.2 All Schedule C documents issued by the Director for the drinking water system shall form part of this drinking water works permit.
- 2.3 All parts of the drinking water system in contact with drinking water which are:
 - 2.3.1 Added, modified, replaced, extended; or
 - 2.3.2 Taken out of service for inspection, repair or other activities that may lead to contamination,shall be disinfected before being put into service in accordance with the provisions of the AWWA C651 – Standard for Disinfecting Water Mains; AWWA C652 – Standard for Disinfection of Water-Storage Facilities; AWWA C653 – Standard for Disinfection of Water Treatment Plants; or AWWA C654 – Standard for Disinfection of Wells; or an equivalent procedure.
- 2.4 The owner shall notify the Director within thirty (30) days of the placing into service or the completion of any addition, modification, replacement 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 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 For greater certainty, the notification requirements set out in condition 2.4 do not apply to any addition, modification, replacement or extension in respect of the drinking water system which:
- 2.5.1 Is exempt from subsection 31(1) of the SDWA by subsection 9.(2) of O. Reg. 170/03;
- 2.5.2 Constitutes maintenance or repair of the drinking water system; or
- 2.5.3 Is a watermain authorized by condition 3.1 of Schedule B of this drinking water works permit.
- 2.6 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.
- 2.7 For greater certainty, any alteration to the drinking water system made in accordance with this drinking water works permit may only be carried out after other legal obligations have been complied with 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 drinking water system may be altered 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:
- Has been prepared by a Professional Engineer;
 - Has been designed only to transmit water and has not been designed to treat water;
 - Satisfies the design criteria set out in the Ministry of the Environment publication "Watermain Design Criteria for Future Alterations Authorized under a Drinking Water Works Permit – March 2009", as amended from time to time; and
 - Is consistent with or otherwise addresses, the design objectives contained within the Ministry of the Environment 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 to the watermain addition, modification, replacement or extension.
 - 3.1.7 A Professional Engineer 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 Connects to another drinking water system; or
 - 3.2.4 Results in the fragmentation of the drinking water system.
- 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 of the Environment; 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.

4.0 Minor Modifications to the Drinking Water System

- 4.1** The drinking water system may be altered by modifying or replacing the following components:
- 4.1.1 Raw water, treatment process or treated water pumps;
 - 4.1.2 Chemical metering or chemical handling pumps;
 - 4.1.3 Valves;
 - 4.1.4 Instrumentation and controls;
 - 4.1.5 Cathodic corrosion protection; or
 - 4.1.6 Spill containment works.
- 4.2** The drinking water system may be altered by replacing the following:
- 4.2.1 Raw water, treatment process or treated water piping within the treatment subsystem.
- 4.3** The modification or replacement of a drinking water system component set out in condition 4.1 or the replacement of a drinking water system component set out in condition 4.2 must not result in:
- 4.3.1 An exceedance of a treatment subsystem rated capacity or a treatment subsystem component maximum flow rate as specified in the licence;
 - 4.3.2 The bypassing of any unit process within a treatment subsystem;
 - 4.3.3 A deterioration in the quality of drinking water provided to consumers;
 - 4.3.4 A reduction in the reliability or redundancy of any component of the drinking water system;
 - 4.3.5 A negative impact on the ability to undertake compliance and other monitoring; or
 - 4.3.6 An adverse effect on the environment.
- 4.4** The owner shall verify in writing that the modification or replacement of drinking water system components in accordance with conditions 4.1 and 4.2 has met the requirements of the conditions listed in condition 4.3.

- 4.5** The verifications required in condition 4.4 shall be:
- 4.5.1 Recorded on “Form 2 – Record of Minor Modifications or Replacements to the Drinking Water System” as published by the Ministry of the Environment; and
 - 4.5.2 Retained for a period of ten (10) years by the owner.
- 4.6** For greater certainty, the verification requirements set out in conditions 4.4 and 4.5 do not apply to any modification or replacement in respect of the drinking water system which:
- 4.6.1 Is exempt from subsection 31(1) of the SDWA by subsection 9.(2) of O. Reg. 170/03; or
 - 4.6.2 Constitutes maintenance or repair of the drinking water system.
- 4.7** 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 atmosphere:
- 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;
 - 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 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; and

5.1.12 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 add, modify or replace a drinking water system component set out in condition 5.1 for an activity that is not directly related to the treatment and distribution of drinking water.

5.3 The emergency generators identified in condition 5.1.12 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 oxide emissions only, for each addition, modification or replacement of emergency generators identified in condition 5.1.12.

Performance Limits

5.5 The owner shall ensure that a drinking water system component identified in conditions 5.1.1 to 5.1.12 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 populations shall not exceed the applicable point of impingement limit, and at non-sensitive populations shall not exceed the Ministry of the Environment half-hourly screening level of 1880 ug/m³ as amended;

5.5.3 The noise emissions comply at all times with the limits set out in publication NPC-205 and/or publication NPC-232, as applicable; and

5.5.4 The vibration emissions comply at all times with the limits set out in publication NPC-207.

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 5.5.3 and 5.5.4 is being achieved, through noise abatement equipment and/or operational procedures.

5.8 The verifications required in condition 5.6 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 of the Environment.

5.8.2 Retained for a period of ten (10) years by the owner.

5.9 For greater certainty, the verification 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



MUNICIPAL DRINKING WATER LICENCE

Licence Number: 210-101

Issue Number: 1

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

The Corporation of the Town of Espanola
100 Tudhope St. Suite 2
Espanola, ON
P5E 1S6

For the following municipal residential drinking water system:

Espanola 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

DATED at TORONTO this 3rd day of February, 2011

Signature

A handwritten signature in black ink, appearing to read "I. Prashad".

Indra R. Prashad, P.Eng.
Director
Part V, *Safe Drinking Water Act, 2002*

Schedule A: Drinking Water System Information

System Owner	The Corporation of the Town of Espanola
Licence Number	210-101
Drinking Water System Name	Espanola Drinking Water System
Schedule A Issue Date	February 3rd, 2011

The following information is applicable to the above drinking water system and forms part of this licence:

Licence

Licence Issue Date	February 3, 2011
Licence Expiry Date	February 2, 2016
Application for Licence Renewal Date	August 3, 2015

Drinking Water Works Permit

Drinking Water System Name	Permit Number	Issue Date
Espanola Drinking Water System	210-201	February 2, 2011

Permits to Take Water

Water Taking Location	Permit Number	Issue Date
Lake Apesy	3154-7E7N9V	May 02, 2008

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:	210-301
Alternately, if one Financial Plan is developed for all drinking water systems owned by the owner, the Financial Plan Number shall be:	210-301A

Accredited Operating Authority

Drinking Water System or Operational Subsystems	Accredited Operating Authority	Operational Plan Number
Espanola Drinking Water System	Ontario Clean Water Agency	210-401

Schedule B: General Conditions

System Owner	The Corporation of the Town of Espanola
Licence Number	210-101
Drinking Water System Name	Espanola Drinking Water System
Schedule B Issue Date	February 3rd, 2011

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 that, based on generally available information, may be emitted from a component of the drinking water system to the atmosphere in a quantity that is significant either in comparison to the relevant point of impingement limit or if a point of impingement limit is not available for the compound, then based on generally available toxicological information, the compound has the potential to cause an adverse effect as defined by the EPA at a point of impingement;

“**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;

“**emission summary table**” means the table that was prepared by a Professional Engineer in accordance with O. Reg. 419/05 and the procedure document listing the appropriate point of impingement concentrations of each compound of concern emitted from a component of the drinking water system and providing comparison to the corresponding point of impingement limit;

“**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 and the conditions of this licence;

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

“**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;

“**point of impingement**” means any point in the natural environment that is not on the same property as the source of the contaminant and as defined by section 2 of O. Reg. 419/05;

“**point of impingement limit**” means the appropriate standard from Schedule 1, 2 or 3 of O. Reg. 419/05 and if a standard is not provided for a compound of concern, the appropriate criteria listed in the Ministry of the Environment publication titled “Summary of Standards and Guidelines to support Ontario Regulation 419: Air Pollution – Local Air Quality (including Schedule 6 of O. Reg. 419 on Upper Risk Thresholds)”, dated February 2008, as amended;

“**procedure document**” means the Ministry of the Environment procedure titled “Procedure for Preparing an Emission Summary and Dispersion Modelling Report” dated July 2005, as amended;

“**Professional Engineer**” means a Professional Engineer who has been licenced to practice in the Province of Ontario;

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

“**publication NPC-205**” means the Ministry of the Environment publication titled “Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)” dated October 1995, as amended;

“**publication NPC-207**” means the Ministry of the Environment draft technical publication titled “Impulse Vibration in Residential Buildings” dated November 1983, supplementing the Ministry of the Environment “Model Municipal Noise Control By-law, Final Report” dated August 1978;

“**publication NPC-232**” means the Ministry of the Environment publication titled “Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)” dated October 1995, as amended;

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

“**sensitive populations**” means any one or a combination of the following locations where the health effects of nitrogen oxides emissions from emergency generator(s) shall be considered using the point of impingement limit instead of the Ministry of the Environment screening level for emergency generator(s):

- (a) health care units (e.g., hospitals and nursing homes),
- (b) primary/junior public schools,
- (c) day-care facilities, and
- (d) playgrounds;

2.0 Applicability

- 2.1 In addition to any other 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 Permits to Take Water

- 7.1 A permit to take water identified in Schedule A of this licence is associated with the taking of water for purposes of the operation of the drinking water system and is the applicable permit on the date identified as the Schedule A Issue Date.

8.0 Financial Plan

- 8.1** The owner of the drinking water system, by the later of July 1, 2010 and the date that is six months after the date the first licence for the system is issued, shall prepare and approve financial plans for the system that satisfy the requirements prescribed under section 3 of O. Reg. 453/07.
- 8.2** The owner of the drinking water system shall ensure that every financial plan prepared in accordance with subsections 2 (1) and 3 (1) of O. Reg. 453/07 contains on the front page of the financial plan, the appropriate financial plan number as set out in Schedule A of this licence.

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.
- 9.2** 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 of the Environment 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 of a change of any operating authority identified in Schedule A of this licence.

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 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 and NSF/61.
- 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 Food grade oils and lubricants; or
 - 14.3.5 Any particular chemical or material where the owner has written documentation signed by the Director that indicates that the Ministry of the Environment 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 substantial completion of the alteration.
- 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 by 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 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;
 - 16.2.4 Procedures for the operation and maintenance of monitoring equipment;
 - 16.2.5 Contingency plans and procedures for the provision of adequate equipment and material to deal with emergencies, upset conditions and equipment breakdown;
 - 16.2.6 Procedures for dealing with complaints related to the drinking water system, including the recording of the nature of the complaint and any investigation and corrective action taken in respect of the complaint;
- 16.3** Procedures necessary for the operation and maintenance of any alterations to the drinking water system shall be incorporated into the operations and maintenance manual or manuals prior to those alterations coming into operation.

Schedule C: System-Specific Conditions

System Owner	The Corporation of the Town of Espanola
Licence Number	210-101
Drinking Water System Name	Espanola Drinking Water System
Schedule C Issue Date	February 3rd, 2011

1.0 Performance Limits

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)
Espanola Water Treatment Plant	10,500

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

Maximum Flow Rates

- 1.4 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

Residue 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
- 1.5.2 The maximum concentration of a test parameter identified in column 2 shall not exceed the value in column 4 of the same row.

Table 3: Residue 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, the UV disinfection equipment shall be operated 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.

Table 4: UV Disinfection Equipment Performance	
Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Minimum Continuous Pass-Through UV Dose (mJ/cm²)
Not Applicable	Not Applicable

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 and daily volume of treated water that flows from the treatment subsystem to the distribution system.
- 2.1.2 The flow rate and daily volume 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 must be checked and 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 must be checked and calibrated at least once every year during which the drinking water system is in operation.

4.0 Additional Sampling, Testing and Monitoring

Drinking Water Health and Non-Health Related Parameters

- 4.1** 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
Not Applicable	Not Applicable	Not Applicable	Not Applicable

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

- 4.2** 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.
- 4.3** For the purposes of Table 7:
- 4.3.1 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
- 4.3.2 Automated Composite means samples must be taken during a discharge event by an automated sampler at a minimum sampling frequency of once per hour.
- 4.4** 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", 21st Edition, 2005, 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

UV Disinfection Equipment

- 4.5** For each treatment subsystem or treatment subsystem component listed in column 1 of Table 8 and in addition to any other sampling, analysis and recording that may be required, continuous monitoring and recording with a minimum testing/reading and recording frequency of every four (4) hours shall be carried out for the test parameters set out in column 3 of the same row.

Table 8: UV Disinfection Equipment		
Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Control Strategy	Column 3 Test Parameter
Not Applicable	Not Applicable	Not Applicable

5.0 Studies Required

5.1 Not Applicable.

Schedule D: Conditions for Relief from Regulatory Requirements

System Owner	The Corporation of the Town of Espanola
Licence Number	210-101
Drinking Water System Name	Espanola Drinking Water System
Schedule D Issue Date	February 3rd, 2011

1.0 Lead Regulatory Relief

- 1.1** Any relief from regulatory requirements previously authorized by the Director in respect of the drinking water system under section 38 of the SDWA in relation to the sampling, testing or monitoring requirements contained in Schedule 15.1 of O. Reg. 170/03 shall remain in force until such time as Schedule 15.1 of O. Reg. 170/03 is amended after June 1, 2009.

2.0 Other Regulatory Relief

- 2.1** Not Applicable.

Ministry of the Environment
Northern Region
Technical Support Section
Water Resources
331-435 James St S
Thunder Bay ON P7E 6S7
Fax: (807)475-1754
Tel: (807) 475-1546

Ministère de l'Environnement
Bureau principal de la région du Nord
Section du Soutien Technique
Ressource en eau
331-435 rue James S
Thunder Bay ON P7E 6S7
Télécopieur: (807)475-1754
Tél:(807) 475-1546



May 2, 2008

The Corporation of the Town of Espanola
596 Second Ave
Espanola, Ontario, P5E 1C4
Canada

Attention: Dave Parker

Dear Sir/Madam:

RE: Permit to Take Water 3154-7E7N9V

Reference Number [REDACTED]

Please find attached the Permit To Take Water (PTTW) 3154-7E7N9V, which grants the taking of water from Lake Apsey, in the Town of Espanola, District of Sudbury, for the purpose of municipal water supply. The rate of taking shall not exceed a maximum of 7,274 litres per minute or 10,500,000 litres per day. The permit is valid until May 1, 2018.

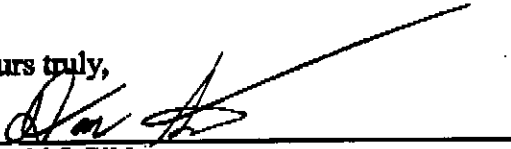
The terms and conditions are shown on pages 2-5 of the Permit.

This Permit does not relieve you, or the Corporation of the Town of Espanola as the proponent, from compliance with provisions of any of the applicable Federal or Provincial statutes, regulations or other legal requirements.

The Water Taking and Transfer Regulation, O.Reg. 387/04, requires that permit holders track the volume of water they take daily and report these volumes to the Ministry of the Environment (MOE) the following year. Please ensure that you have familiarized yourself with the monitoring and reporting requirements related to your permit. You can find additional information on the MOE web site at www.ene.gov.on.ca or by calling the nearest MOE office.

Should you have any questions or concerns, please contact this office as soon as possible.

Yours truly,



Donald J Gibb
Jr. Scientist
Northern Region

File Storage Number: TS 31-02 PTTW 92-P-5001, THE CORPORATION OF THE TOWN OF
ESPANOLA (LAKE APSEY)
c. Keith Stringer, Ontario Clean Water Agency

PERMIT TO TAKE WATER
Surface Water
NUMBER 3154-7E7N9V

Pursuant to Section 34 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

The Corporation of the Town of Espanola
596 Second Ave
Espanola, Ontario, P5E 1C4
Canada

For the water Lake Apesy
taking from:
Located at: 1151 Bass Lake Rd
Espanola, District of Sudbury

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, OWRA.
- (b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.
- (c) "Ministry" means Ontario Ministry of the Environment.
- (d) "District Office" means the Sudbury District Office.
- (e) "Permit" means this Permit to Take Water No. 3154-7E7N9V including its Schedules, if any, issued in accordance with Section 34 of the OWRA.
- (f) "Permit Holder" means The Corporation of the Town of Espanola.
- (g) "OWRA " means the *Ontario Water Resources Act, R.S.O. 1990, c. O. 40, as amended.*

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 February 11, 2008 and signed by Dave Parker, 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, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and 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 requirements, 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.

2.2.1 Prior to the taking of any water under the authorization of the Permit to Take Water, the Permit Holder shall ensure full compliance with the *Safe Drinking Water Act, 2002* and its regulations. At no time does this permit authorize the taking of water when out of compliance with the *Safe Drinking Water Act, 2002* and its regulations.

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 any 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 other 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 and 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, and 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 1, 2018**. 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. Months Taken per Year	Zone / District / Noting
1	Lake Apeay	Lake	Municipal	Water Supply	7,274	24	10,500,000	365	17 439966 5119623
							Total Taking:	10,500,000	

4. Monitoring

4.1 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 or calculated amounts of water pumped per day for each day that water is taken under the authorization of this Permit. 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.

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 Surface-Water Takings

The taking of water (including the taking of water into storage and the subsequent or simultaneous withdrawal from storage) shall be carried out in such a manner that streamflow is not stopped and is not reduced to a rate that will cause interference with downstream uses of water or with the natural functions of the stream.

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 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 and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, as amended, provides that the Notice requiring the 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:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. 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
MSG 1E5*

AND

*The Director, Section 34
Ministry of the Environment
331-435 James St S
Thunder Bay ON P7E 6S7
Fax: (807)475-1754*

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

by telephone at (416) 314-4600

by fax at (416) 314-4506

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

This Permit cancels and replaces Permit Number 92-P-5001, issued on 1992/09/01.

Dated at Thunder Bay this 2nd day of May, 2008.



**Patrick Morash
Director, Section 34
Ontario Water Resources Act , R.S.O. 1990**

Schedule A

This Schedule "A" forms part of Permit To Take Water 3154-7E7N9V, dated May 2, 2008.

APPENDIX C

**Annual Report:
2012 Operating Year**

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:	210000746
Drinking-Water System Name:	Espanola Water Treatment Facility
Drinking-Water System Owner:	The Corporation of the Town of Espanola
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2012 – December 31, 2012

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Town of Espanola, Municipal Office 100 Tudhope Street, Suite 2 Espanola, Ontario P5E 1S6</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [] No []

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method - Mail out Notice with tax bill or hydro bill

Describe your Drinking-Water System

A water treatment plant completed in December 1996, located on part of Lot 9, Conc. 3, Merritt Township, rated at 10,500 m³/day with an intake from Lake Apsey and pumping station with low lift pumps, two solids contact clarifiers, three dual media filters, 1424 m³ clear well, three high lift pumps, two backwash pumps, backwash water holding tank (500 m³) with pumps discharging to the sanitary sewer system. The chemical treatment systems consists of coagulant feed system, sodium hypochlorite (disinfection), caustic soda (pH & Alkalinity control), polymer(coagulant aid), fluoride feed system, corrosion inhibitor feed system.

Upgrades in 2009 added a Carbon Dioxide feed system (pH control) and Potassium Permanganate (oxidizing agent for iron & manganese control).

There is a 275KW diesel generator on site for emergency power.

Also included in the distribution system is an elevated tower with a maximum volume of 3410 m³.

List all water treatment chemicals used over this reporting period

Poly Aluminum Chloride (PAC)
 Magnafloc LT 27 AG (Polymer)
 Sodium Hypochlorite 12% (Disinfection)
 Hydrofluorosilic Acid (25% HFS)
 Soda Ash
 Poly Ortho Phosphate
 Carbon Dioxide
 Potassium Permanganate
 Sodium Hydroxide

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

1. Annual work on HVAC system \$1255
2. Hypochlorite tank, chem. pumps & board, spill containment coating \$8793
3. Backwash pump flow meter \$1890
4. Chlorine Panel installation \$6839
5. Dehumidifier unit repair \$787
6. Disconnect & reconnection of chemical board \$ 1290
7. Lighting replacement – Fluorescent to LED \$8500
8. Post Chlorine feed line replacement \$538
9. Watermain swabbing \$10810
10. Generator Load Bank testing \$2168
11. Replace furnace & tube heaters \$13,168
12. Replace clarifier drives with VFD's \$21,453
13. Replace SRC modules in electric heater units \$1330

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrected Action Date
12-Feb-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	3-Mar-12
9-Apr-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	12-Apr-12
19-Apr-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	24-Apr-12
8-May-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	16-May-12
28-May-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	4-June-12
30-May-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	11-June-12
31-May-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	5-June-12
8-June-12	Pressure – Watermain maintenance	0	psi	Repair/flush/sample	11-June-12
8-June-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	11-June-12
18-June-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	28-June-12
19-June-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	21-June-12
4-July-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	6-July-12
17-July-12	Pressure – Watermain maintenance	0	psi	Repair/flush/sample	20-July-12
23-July-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	26-July-12
21-Aug-12	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	28-Aug-12

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC /Background Samples	Range of HPC Results (min #)-(max #)
Raw	52	0-4	0-199		
Treated	52	0-0	0-0	52	0-3
Distribution	208	0-0	0-2	52	0-88

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity (Filter 1)	8760	0.0 – 0.65 NTU
Turbidity(Filter 2)	8760	0.0 – 0.75 NTU
Turbidity(Filter 3)	8760	0.0 – 0.70 NTU
Chlorine (Plant-TW)	8760	0.41 - 3.67
Chlorine (Dist)	8760	0.114 – 3.81
Fluoride (If the DWS provides fluoridation)	8760	0.0 – 1.05

NOTE: For continuous monitors use 8760 as the number of samples.

*NOTE: Record the unit of measure if it is **not** milligrams per litre.*

Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Plumbing	0	N/A	ug/L	0
Distribution	0	N/A	ug/L	0

MAC for Lead: 10 ug/L

Location Type	Number of Samples	Range of pH Results (min#) – (max #)	Range of Alkalinity Results mg/L as CaCO ₃ (min#) – (max#)
Plumbing	0	N/A	N/A
Distribution	6	7.0-7.2	30-37

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
N/A				

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date (mm/dd/yyyy)	Result Value	Unit of Measure	Exceedance
Antimony	01/09/2012	0.02	ug/L	No
Arsenic	01/09/2012	0.4	ug/L	No
Barium	01/09/2012	5.31	ug/L	No
Boron	01/09/2012	5.7	ug/L	No
Cadmium	01/09/2012	<0.003	ug/L	No
Chromium	01/09/2012	<0.5	ug/L	No
*Lead(Dist)	N/A			
Mercury	01/09/2012	<0.02	ug/L	No
Selenium	01/09/2012	<1.0	ug/L	No
Sodium	01/09/2012	18.9	mg/L	No
Uranium	01/09/2012	0.010	ug/L	No
Fluoride(Avg)	2012	0.537	mg/L	No
Nitrite	09/17/2012	<0.005	mg/L	No
Nitrate	09/17/2012	0.038	mg/L	No

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date (mm/dd/yyyy)	Result Value	Unit of Measure	Exceedance
Alachlor	01/09/2012	<0.02	ug/L	No
Aldicarb	01/09/2012	<0.01	ug/L	No
Aldrin + Dieldrin	01/09/2012	<0.01	ug/L	No
Atrazine + N-dealkylated metabolites	01/09/2012	<0.01	ug/L	No
Azinphos-methyl	01/09/2012	<0.02	ug/L	No
Bendiocarb	01/09/2012	<0.01	ug/L	No
Benzene	01/09/2012	<0.32	ug/L	No
Benzo(a)pyrene	01/09/2012	<0.004	ug/L	No
Bromoxynil	01/09/2012	<0.33	ug/L	No
Carbaryl	01/09/2012	<0.01	ug/L	No
Carbofuran	01/09/2012	<0.01	ug/L	No
Carbon Tetrachloride	01/09/2012	<0.16	ug/L	No
Chlordane (Total)	01/09/2012	<0.01	ug/L	No
Chlorpyrifos	01/09/2012	<0.02	ug/L	No
Cyanazine	01/09/2012	<0.03	ug/L	No
Diazinon	01/09/2012	<0.02	ug/L	No
Dicamba	01/09/2012	<0.20	ug/L	No
1,2-Dichlorobenzene	01/09/2012	<0.41	ug/L	No
1,4-Dichlorobenzene	01/09/2012	<0.36	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	01/09/2012	<0.01	ug/L	No
1,2-Dichloroethane	01/09/2012	<0.35	ug/L	No

1,1-Dichloroethylene (vinylidene chloride)	01/09/2012	<0.33	ug/L	No
Dichloromethane	01/09/2012	<0.35	ug/L	No
2,4 Dichlorophenol	01/09/2012	<0.15	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	01/09/2012	<0.19	ug/L	No
Diclofop-methyl	01/09/2012	<0.40	ug/L	No
Dimethoate	01/09/2012	<0.03	ug/L	No
Dinoseb	01/09/2012	<0.36	ug/L	No
Diquat	01/09/2012	<1.0	ug/L	No
Diuron	01/09/2012	<0.03	ug/L	No
Glyphosate	01/09/2012	<6.0	ug/L	No
Heptachlor + Heptachlor Epoxide	01/09/2012	<0.01	ug/L	No
Lindane (Total)	01/09/2012	<0.01	ug/L	No
Malathion	01/09/2012	<0.02	ug/L	No
Methoxychlor	01/09/2012	<0.01	ug/L	No
Metolachlor	01/09/2012	<0.01	ug/L	No
Metribuzin	01/09/2012	<0.02	ug/L	No
Monochlorobenzene	01/09/2012	<0.30	ug/L	No
Paraquat	01/09/2012	<1.0	ug/L	No
Parathion	01/09/2012	<0.02	ug/L	No
Pentachlorophenol	01/09/2012	<0.15	ug/L	No
Phorate	01/09/2012	<0.01	ug/L	No
Picloram	01/09/2012	<0.25	ug/L	No
Polychlorinated Biphenyls(PCB)	01/09/2012	<0.04	ug/L	No
Prometryne	01/09/2012	<0.03	ug/L	No
Simazine	01/09/2012	<0.01	ug/L	No
THM (NOTE: show latest annual average)	2012	38.5	ug/L	No
Temephos	01/09/2012	<0.01	ug/L	No
Terbufos	01/09/2012	<0.01	ug/L	No
Tetrachloroethylene	01/09/2012	<0.35	ug/L	No
2,3,4,6-Tetrachlorophenol	01/09/2012	<0.14	ug/L	No
Triallate	01/09/2012	<0.01	ug/L	No
Trichloroethylene	01/09/2012	<0.44	ug/L	No
2,4,6-Trichlorophenol	01/09/2012	<0.25	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	01/09/2012	<0.22	ug/L	No
Trifluralin	01/09/2012	<0.02	ug/L	No
Vinyl Chloride	01/09/2012	<0.17	ug/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Sodium	16.7	mg/L	09-Jan-12

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)