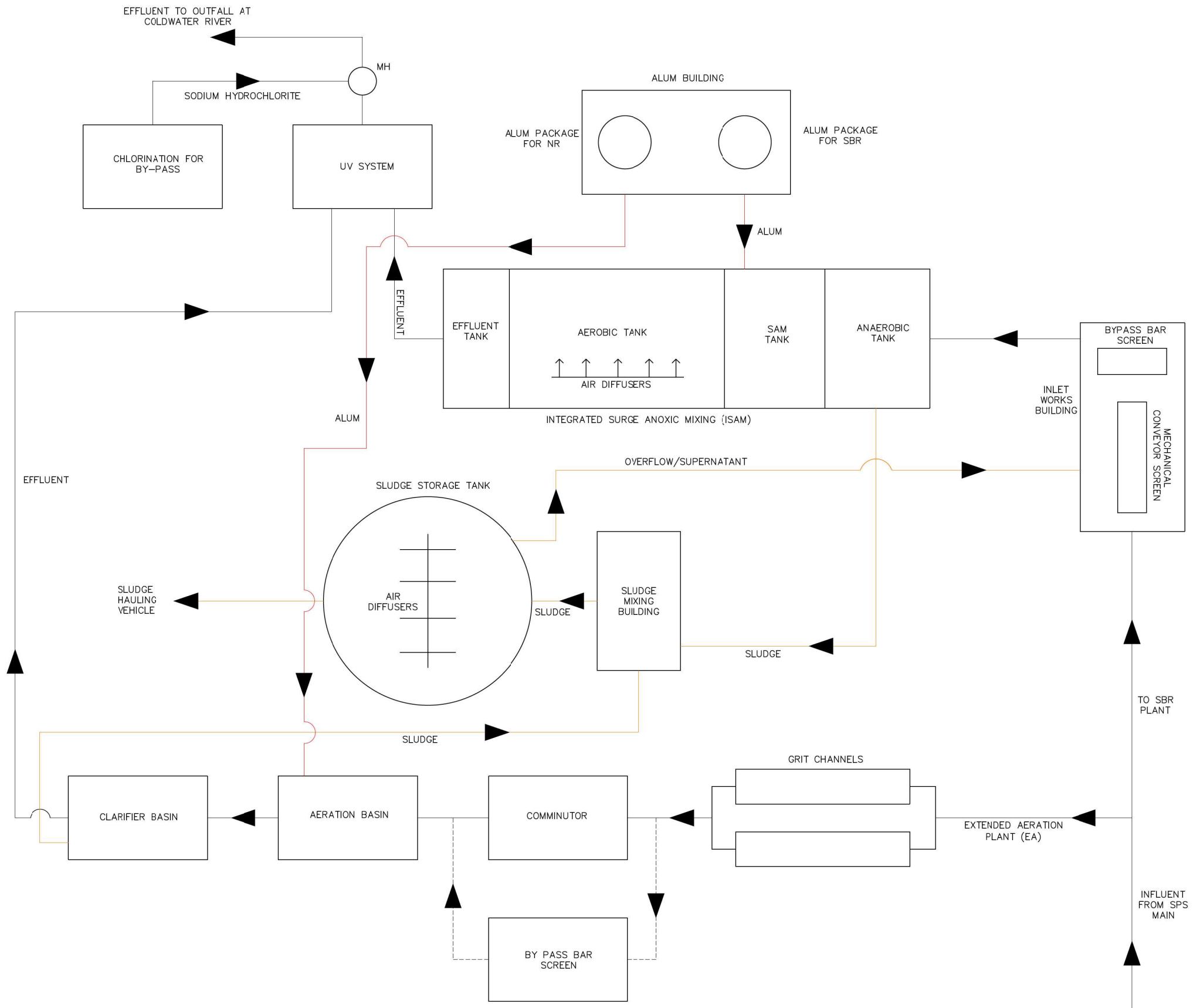


Appendix A: Coldwater WWTP Information



DISCLAIMER AND COPYRIGHT CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED. TATHAM ENGINEERING LIMITED CLAIMS COPYRIGHT TO THIS DRAWING WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE ENGINEER WITHOUT THE EXPRESS CONSENT OF TATHAM ENGINEERING LIMITED.	BENCHMARKS	NOTES	No.	REVISION DESCRIPTION	DATE	ENGINEER STAMP	COLDWATER WWTP		TATHAM ENGINEERING		
			1.	----	----						
PROCESS FLOW DIAGRAM EXISTING SYSTEM								DESIGN: EG	FILE: 321867	DWG:	PR-1
								DRAWN: AF	DATE: APRIL 2022		
								CHECK: EG	SCALE: N.T.S.		



Ontario

Ministry
of the
Environment

Ministère
de
l'Environnement

AMENDED CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 3832-6S2QCH
Issue Date: August 24, 2006

The Corporation of the Township of Severn
1024 Hurlwood Lane, P.O. Box 159
Orillia, Ontario
L3V 6J3

Site Location: Coldwater Water Pollution Control Plant
1130 Upper Big Chute Road
Severn Township, County of Simcoe
L0K 1E0



You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

expansion of the Coldwater Water Pollution Control Plant (WPCP) for the collection, transmission, treatment and disposal of sanitary sewage through installation of a new package treatment plant with a *Rated Capacity* of 375 m³/d to add to the existing treatment plant *Rated Capacity* of 546 m³/d for a combined *Rated Capacity* of 921 m³/d and a combined *Peak Flow Rate* of 3,240 m³/d, consisting of the following *Works*:

PROPOSED WORKS

A. New Works

1. Package Treatment Plant (SBR No. 1)

Installation of one (1) sequencing batch reactor (SBR) package treatment plant with a *Rated Capacity* of 375 m³/d, located approximately 35 m southwest of the existing control building and approximately 175 m north of County Road 17, discharging secondary effluent to the Secondary Effluent Pumping Chamber and consisting of the following:

- One (1) In-Channel Fine Screen for screenings removal, complete with auto bagging system;
- One (1) manual by-pass bar screen;
- Trash trap Influent Diffusers/Overflow pipe assemblies; and
- One (1) single SBR with integrated surge anoxic mix (ISAM) and an in-line anaerobic

digestion system with a combined tank volume of 500 m³ and 111 days undigested sludge storage.

2. Secondary Effluent Pumping Chamber

Construction of one 6.7 m by 2.5 m by 2.5 m deep integral secondary effluent pumping chamber complete with two (2) (one duty, one standby) submersible pumps, each with a rated capacity of 18.0 L/s at 10 m TDH complete with variable frequency drives.

3. Disinfection/Blower Building

Construction of a new 8.3 m x 14.3 m x 3.65 m high Disinfection/Blower Building to house effluent disinfection system, phosphorus removal system, air blowers, standby diesel generator and MCCs as follows:

Disinfection System

Disinfection works consist of the following:

- One (1) UV disinfection system rated at a peak flow of 36 L/s for disinfection of secondary effluent from both the new package treatment plant and the existing treatment system; and
- A new chlorine feed line from the new Disinfection/Blower Building to existing MH #78 for plant by-passing disinfection.

Phosphorus Removal System

Chemical storage and feed facilities consisting of the following:

- Two (2) bulk alum storage tanks, each with an approximate capacity of 5,680 L, with spill containment;
- Two (2) positive displacement metering pumps (one duty, one standby) with automatic switch-over for phosphorus removal in the existing package treatment plant, paced to flow and rated at not less than 3.75 L/hr; and
- Two (2) positive displacement metering pumps (one duty, one standby) with automatic switch-over for phosphorus removal in the proposed SBR package treatment plant, paced to flow and rated at not less than 3.75 L/hr.

Air Blowers

Air blowers consisting of the following:

- Two (2) new positive displacement air blowers (one duty, one standby) to provide air for the SBR tank at a rate not less than 70.8 L/s at 43.4 kPa ; and
- One (1) new positive displacement air blower to provide air for the sludge storage

tank at a rate not less than 226 L/s at 96.5 kPa complete with a variable frequency drive.

Standby Diesel Generator

A new 275 kW standby diesel generator complete with all ancillary equipment.

4. Sludge Storage Facilities

Sludge storage facilities consisting of:

- Installation of one (1) new 16.2 m diameter by 10.0 m high glass-fused to steel sludge storage tank with an approximate capacity of 2000 m³, capable of providing a minimum of 180 days of sludge storage for the proposed expanded plant capacity; and
- Installation of one (1) new jet aeration mixing system in the new sludge storage tank.

5. Sludge Mixing Building

Construction of one (1) new 5.9 m x 6.3 m x 3.65 m high Sludge Mixing Building to house:

- One (1) new dry pit submersible mixing pump for the sludge storage tank and one (1) new dry pit submersible sludge storage tank decant pump, rated at not less than 11.3 L/s at a TDH of 2.90 m; and
- One (1) new sludge loading arm and spill pad with curb.

6. Monitoring Equipment

Installation of monitoring equipment including the following:

- One (1) new 150 mm magnetic flow meter on the influent line from Pumping Station No. 1;
- One (1) new 100 mm magnetic flow meter on the sludge feed line to the sludge storage tank;
- One (1) new 75 mm magnetic flow meter on the decant line from the sludge storage tank; and
- One rectangular weir and ultrasonic level measuring device in the UV influent chamber for final effluent measurement.

B. Modifications to the Existing Works

7. Pumping Station No. 1

Construction of approximately 760 m of 200 mm diameter raw wastewater forcemain from Pumping Station No. 1 to the treatment plant.

8. Other

Other works include the following:

- Removal of the existing alum feed system located in the Alum Shed;
- Relocation of existing chlorination equipment to the new Disinfection/Blower Building; and
- Installation/upgrading of all controls and sensors, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned *Works*.

EXISTING WORKS (Approved previously)

1. Pumping Station No. 1

A submersible pumping station, located at the intersection of River Street and County Road No. 17, equipped with three (3) submersible pumps (two duty, one standby), with a pumping capacity of 18.8 L/s at 16 m TDH with two (2) pumps in operation, which pump raw sewage directly to the Coldwater WPCP.

2. Pumping Station No. 2

A submersible pumping station, located on Reinbird Street on the west side of the Coldwater River and River Drive, equipped with one (1) submersible pump. Raw sewage is pumped from the station via a forcemain under the Coldwater River to the sewer system on River Drive.

3. Pumping Station No. 3

A submersible pumping station, located at the intersection of River Street and Sturgeon Bay Road, equipped with two (2) submersible pumps. Sewage flows are received from approximately one-half of the Community. The raw sewage is pumped from the station via a forcemain to the sanitary sewer on River Street immediately north of Sturgeon Bay Road.

4. Pumping Station No. 4

A submersible pumping station, located on Community Centre Drive, equipped with one (1) submersible pump. Raw sewage is pumped via a sewage forcemain to the sanitary sewer on Coldwater Road.

5. Extended Aeration Package Plant

A proprietary extended aeration package plant with a design capacity of 546 m³/d, consisting of a grit channel, comminutor, aeration tank, clarifier or settling tank, sludge holding tank, and a chlorine contact tank.

6. Alum Feed System

An alum feed and storage system consisting of one (1) 4500 L polyethylene storage tank and two (2) positive displacement metering pumps (one duty, one standby), installed in a 3.66 m by 3.66 m by 2.44 m high building located west of the existing control building and south of the existing extended aeration package plant. The duty metering pump having a rated capacity of 3.75 L/hr at a discharge pressure of 690 kPa with chemical feed lines, paced with wastewater flow to inject alum into the inlet of the aeration tank and the inlet channel of the secondary clarifier for phosphorous removal; the standby metering pump having a rated capacity of 21 L/hr at a discharge pressure of 154 kPa.

7. Outfall Sewer

Approximately 430 m of 400 mm diameter outfall sewer discharging to the Coldwater River.

8. Control Building

A control building including an office/laboratory, locker room, blower room, storage area and chlorine room.

9. Other

All controls and sensors, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned *Existing Works*.

all in accordance with the following supporting documents:

1. Application for Approval of Municipal and Private Sewage Works submitted by The Corporation of the Township of Severn dated May 12, 2006 (received May 26, 2006) along with the following supporting documents:

- (a) A copy of the Design Brief titled "Township of Severn Community of Coldwater

Water Pollution Control Plant Upgrades" dated April 2006 prepared by TSH Associates; and

- (b) An information package dated July 06, 2006 from Colin Kent, P.Eng. consisting of revised SBR calculations, excerpts of ESR dated October 1996, a report titled "Water Quality Evaluation and Assimilation Study - Coldwater Creek" dated September 1996 prepared by Michael Michalski Associates, and hydraulic calculations of the Coldwater WPCP upgrades;
2. A copy of contract specifications dated May 2006 and a set of drawings prepared by TSH Associates; and
3. All data, drawings, reports, and supporting information submitted for obtaining previous Certificate(s) of Approval.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

"*Act*" means the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended;

"*Annual Average Concentration*" means the arithmetic mean of the *Monthly Average Concentrations* of a contaminant in the effluent calculated for any particular calendar year;

"*Average Daily Flow*" means the cumulative total sewage flow to the sewage works during a calendar year divided by the number of days during which sewage was flowing to the sewage works that year;

"*By-pass*" means any discharge from the *Works* that does not undergo full treatment before it is discharged to the environment;

"*BOD₅*" (also known as TBOD₅) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demands;

"*CBOD₅*" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;

"*Certificate*" means this entire certificate of approval document, issued in accordance with Section 53 of the *Act*, and includes any schedules;

"*Daily Concentration*" means the concentration of a contaminant in the effluent discharged over any single day, as measured by a composite or grab sample, whichever is required;

"*Director*" means any *Ministry* employee appointed by the Minister pursuant to section 5 of the *Act*;

"*District Manager*" means the District Manager of the Barrie District Office of the Ministry;

"*E. Coli*" refers to the thermally tolerant forms of *Escherichia* that can survive at 44.5 degrees Celsius;

"*Existing Works*" means those portions of the sewage works previously approved and constructed, and existing on-site on the date of issuance of this *Certificate*;

"*Geometric Mean Density*" is the n^{th} root of the product of multiplication of the results of n number of samples over the period specified;

"*Ministry*" means the Ontario Ministry of the Environment;

"*Monthly Average Concentration*" means the arithmetic mean of all *Daily Concentrations* of a contaminant in the effluent sampled or measured, or both, during a calendar month;

"*Monthly Average Loading*" means the value obtained by multiplying the *Monthly Average Concentration* of a contaminant by the average daily flow over the same calendar month;

"*Owner*" means The Corporation of the Township of Severn and includes its successors and assignees;

"*Peak Flow Rate*" means the maximum rate of sewage flow for which the plant or process unit was designed;

"*Proposed Works*" means the sewage works described in the *Owner's* application, this *Certificate* and in the supporting documentation referred to herein, to the extent approved by this *Certificate*;

"*Rated Capacity*" means the *Average Daily Flow* for which the *Works* are approved to handle;

"*Regional Director*" means the Regional Director of the Southwestern Region of the Ministry;

"*Substantial Completion*" has the same meaning as "*substantial performance*" in the Construction Lien Act;

"*Total Annual Loading*" means the value obtained by multiplying the *Annual Average Concentration* of a contaminant by the *Total Sewage Flow* for any particular calendar year;

"*Total Sewage Flow*" means cumulative total sewage flow to the sewage works during any particular calendar year; and

"*Works*" means the sewage works described in the *Owner's* application, this *Certificate* and in the supporting documentation referred to herein, to the extent approved by this *Certificate* and includes both *Existing Works* and *Proposed Works*.

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

TERMS AND CONDITIONS

1. GENERAL PROVISIONS

- (1) The *Owner* shall ensure that any person authorized to carry out work on or operate any aspect of the *Works* is notified of this *Certificate* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- (2) Except as otherwise provided by these Conditions, the *Owner* shall design, build, install, operate and maintain the *Works* in accordance with the description given in this *Certificate*, the application for approval of the works and the submitted supporting documents and plans and specifications as listed in this *Certificate*.
- (3) Where there is a conflict between a provision of any submitted document referred to in this *Certificate* and the Conditions of this *Certificate*, the Conditions in this *Certificate* shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.
- (4) Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.
- (5) The requirements of this *Certificate* are severable. If any requirement of this *Certificate* or the application of any requirement of this *Certificate* to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this certificate shall not be affected thereby.

2. EXPIRY OF APPROVAL

The approval issued by this *Certificate* will cease to apply to those parts of the *Works* which have not been constructed within five (5) years of the date of this *Certificate*.

3. CHANGE OF OWNER

- (1) The *Owner* shall notify the *District Manager* and the *Director*, in writing, of any of the following changes within 30 days of the change occurring:
 - (a) change of *Owner*;
 - (b) change of address of the *Owner*;
 - (c) change of partners where the *Owner* is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c.B17 shall be included in the notification to the *District Manager*; and

- (d) change of name of the corporation where the *Owner* is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Informations Act, R.S.O. 1990, c. C39 shall be included in the notification to the *District Manager*.
- (2) In the event of any change in ownership of the *Works*, other than a change to a successor municipality, the *Owner* shall notify in writing the succeeding owner of the existence of this *Certificate*, and a copy of such notice shall be forwarded to the *District Manager* and the *Director*.

4. UPON THE SUBSTANTIAL COMPLETION OF THE WORKS

- (1) Upon the *Substantial Completion* of the *Proposed Works*, the *Owner* shall prepare a statement, certified by a Professional Engineer, that the works are constructed in accordance with this *Certificate*, and upon request, shall make the written statement available for inspection by *Ministry* personnel.
- (2) Within one year of the *Substantial Completion* of the *Proposed Works*, a set of as-built drawings showing the *Works* "as constructed" shall be prepared. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the *Works* for the operational life of the *Works*.

5. BY-PASSES

- (1) Any *By-pass* of sewage from any portion of the *Works* is prohibited, except where:
 - (a) it is necessary to avoid loss of life, personal injury, danger to public health or severe property damage;
 - (b) the *District Manager* agrees that it is necessary for the purpose of carrying out essential maintenance and the *District Manager* has given prior written acknowledgment of the *by-pass*; or
 - (c) the *Regional Director* has given prior written acknowledgment of the *By-pass*.
- (2) The *Owner* shall collect at least one (1) grab sample of the *By-pass* and have it analyzed for the parameters outlined in Condition 7 using the protocols in Condition 9.
- (3) The *Owner* shall maintain a logbook of all *By-pass* events which shall include, at a minimum, the time, location, duration, quantity of *By-pass*, the authority for *By-pass* pursuant to subsection (1), and the reasons for the occurrence.
- (4) The *Owner* shall, in the event of a *By-pass* event pursuant to subsection (1), disinfect the by-passed effluent prior to it reaching the receiver such that the receiver is not negatively impacted.

6. EFFLUENT OBJECTIVES

- (1) The *Owner* shall use best efforts to design, construct and operate the *Works* with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the *Works*.

Table 1 - Effluent Objectives		
Effluent Parameter	Concentration Objective (milligrams per litre unless otherwise indicated)	Loading Objective (kilograms per day unless otherwise indicated)
Column 1	Column 2	Column 3
<i>CBOD₅</i>	10	9.21
Total Suspended Solids	10	9.21
Total Phosphorus	0.3	0.28
Total Ammonia Nitrogen		
- May 15 to Oct. 15	1.0	0.92
- Oct. 16 to May 14	3.0	2.76
<i>E. Coli</i>	200 counts/100 mL (monthly <i>Geometric Mean Density</i>)	-
Total Chlorine Residual	0.5	-

- (2) The *Owner* shall use best efforts to:
- (a) maintain the pH of the effluent from the *Works* within the range of 6.5 to 8.5 at all times;
 - (b) operate the works within the *Rated Capacity* of the *Works*; and
 - (c) ensure that the effluent from the *Works* is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters.
- (3) The *Owner* shall include in all reports submitted in accordance with Condition 10 a summary of the efforts made and results achieved under this Condition.

7. EFFLUENT LIMITS

- (1) The *Owner* shall design, construct, operate and maintain the *Works* such that the concentrations of the of the materials named below as effluent parameters are not exceeded in the effluent from the *Works*.

Table 2 - Effluent Limits		
Effluent Parameter	Monthly Average Concentration (milligrams per litre)	Monthly Average or Total Annual Loading (kilograms per day or kilograms per year as specified in Subsection (2) below)
Column 1	Column 2	Column 3
<i>CBOD₅</i>	15	13.8
Total Suspended Solids	15	13.8
Total Phosphorus	0.5	110

- (2) For the purposes of determining compliance with and enforcing subsection (1):
- (a) The *Monthly Average Concentration* of *CBOD₅*, total suspended solids and total phosphorus as named in Column 1 of Table 2 of subsection (1) shall not exceed the corresponding *Monthly Average Concentration* set out in Column 2 of Table 2 of subsection (1).
 - (b) The *Monthly Average Loading* of *CBOD₅* and total suspended solids (in kilograms per day) as named in Column 1 of Table 2 of subsection (1) shall not exceed the corresponding *Monthly Average Loading* set out in Column 3 of Table 2 of subsection (1).
 - (c) The *Total Annual Loading* of total phosphorus (in kilograms per year) as named in Column 1 of Table 2 of subsection (1) shall not exceed the corresponding *Total Annual Loading* set out in Column 3 of Table 2 of subsection (1).
 - (d) The pH of the effluent from the *Works* shall be maintained between 6.0 to 9.5 at all times.
- (3) Paragraph (a) to (d) of subsection (2), shall apply upon the date of issuance of this *Certificate*.
- (4) Only those monitoring results collected during the corresponding time period shall be used in calculating the *Monthly Average Concentration*, *Monthly Average Loading* and *Total Annual Loading* for this *Certificate*.

8. OPERATION AND MAINTENANCE

- (1) The *Owner* shall exercise due diligence in ensuring that, at all times, the *Works* and the related equipment and appurtenances used to achieve compliance with this *Certificate* are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this *Certificate* and the *Act*

and regulations, adequate laboratory facilities, process controls and alarms and the use of process chemicals and other substances used in the *Works*.

- (2) The *Owner* shall prepare or update an operations manual within six (6) months of the date of issuance of this *Certificate*, that includes, but not necessarily limited to, the following information:
 - (a) operating procedures for routine operation of the *Works*;
 - (b) inspection programs, including frequency of inspection, for the *Works* and the methods or tests employed to detect when maintenance is necessary;
 - (c) repair and maintenance programs, including the frequency of repair and maintenance for the *Works*;
 - (d) procedures for the inspection and calibration of monitoring equipment;
 - (e) a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the *District Manager*; and
 - (f) procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.
- (3) The *Owner* shall maintain the operations manual current and retain a copy at the location of the *Works* for the operational life of the *Works*. Upon request, the *Owner* shall make the manual available to *Ministry* staff.
- (4) The *Owner* shall provide for the overall operation of the *Works* with an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 129/04.

9. **MONITORING AND RECORDING**

The *Owner* shall, upon commencement of operation of the *Works*, carry out the following monitoring program:

- (1) All samples and measurements taken for the purposes of this *Certificate* are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.
- (2) For the purposes of this condition, weekly means once every week and monthly means once every month.
- (3) Samples shall be collected at the following sampling points, at the frequency specified, b,

means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 3 - Raw Sewage Monitoring (Sampling point at the raw sewage pumping station or at the inlet chamber of the <i>Works</i>)		
Parameter	Sample Type	Frequency
Column 1	Column 2	Column 3
<i>BOD₅</i>	24-hour composite	Weekly
Total Suspended Solids	24-hour composite	Weekly
Total Phosphorus	24-hour composite	Weekly
Total Kjeldahl Nitrogen	24-hour composite	Weekly

Table 4 - Effluent Monitoring (Sampling point at the outlet of the disinfection unit or at the outfall sewer as close as possible to the <i>Works</i>)		
Parameter	Sample Type	Frequency
Column 1	Column 2	Column 3
<i>CBOD₅</i>	24-hour composite	Weekly
Total Suspended Solids	24-hour composite	Weekly
Total Phosphorus	24-hour composite	Weekly
Total Ammonia Nitrogen (Ammonia + Ammonium Nitrogen)	24-hour composite	Weekly
Nitrate Nitrogen	24-hour composite	Weekly
<i>E. Coli</i>	grab	Weekly
Total Chlorine Residual	grab	Weekly
pH	grab/probe	Weekly
Temperature	grab/probe	Weekly

(Note: Definitions for grab and composite samples are included in one or more documents below. 24-hour composite sample means a time-composite sample and constitutes of an integrated sample made up of blending 24 hourly aliquots taken by refrigerated autosampler, which are obtained at an hourly frequency having same sample volume).

- (4) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:
- (a) the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;
 - (b) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions; and

- (c) the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions.
- (5) The temperature and pH of the effluent from the *Works* shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of unionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (unionized).
- (6) The measurement frequencies specified in subsection (2) in respect to any parameter are minimum requirements which may, after twelve (12) months of monitoring in accordance with this Condition, be modified by the *District Manager* in writing from time to time.
- (7) The *Owner* shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate of the effluent from the *Works* with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flowrate for the entire design range of the flow measuring device, and record the flowrate at a daily frequency. Additional flow measuring devices shall be installed if required to determine the "average daily flow" as defined in this *Certificate*.
- (8) The *Owner* shall retain for a minimum of three (3) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this *Certificate*.

10. REPORTING

- (1) Ten (10) days prior to the start up of the operation of the *Proposed Works*, the *Owner* shall notify the *District Manager* (in writing) of the pending start up date.
- (2) Ten (10) days prior to the date of a planned *By-pass* being conducted pursuant to Condition 5 and as soon as possible for an unplanned *By-pass*, the *Owner* shall notify the *District Manager* (in writing) of the pending start date, in addition to an assessment of the potential adverse effects on the environment and the duration of the *By-pass*.
- (3) The *Owner* shall report to the *District Manager* or designate, any exceedence of any parameter specified in Condition 7 orally, as soon as reasonably possible, and in writing within seven (7) days after all laboratory results of the exceedence have been received and tabulated.
- (4) In addition to the obligations under Part X of the Environmental Protection Act, the *Owner* shall, within 10 working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by product, intermediate product, oils, solvents, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the *District Manager*.

describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

- (5) The *Owner* shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to *Ministry* staff.
- (6) The *Owner* shall prepare and submit to the *District Manager* a performance report, on an annual basis, within 90 days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the *Works* and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:
 - (a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the *Works*;
 - (b) a description of any operating problems encountered and corrective actions taken;
 - (c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the *Works*;
 - (d) a summary of any effluent quality assurance or control measures undertaken in the reporting period;
 - (e) a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and
 - (f) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6.
 - (g) a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and an outline of the proposed sludge handling methods;
 - (h) a summary of any complaints received during the reporting period and any steps taken to address the complaints;
 - (i) a summary of all *By-pass*, spill or abnormal discharge events; and
 - (j) any other information the *District Manager* requires from time to time.

11. REVOCATION OF EXISTING APPROVALS

- (1) The descriptions of the approved works and conditions of approval in this *Certificate*

apply in place of all existing descriptions and conditions in the Certificates of Approval under the Ontario water Resources Act for sewage works which are part of the *Works* approved by this *Certificate*.

- (2) Notwithstanding Condition 11(1) above, the original Applications for Approval, including design calculations, engineering drawings, and reports prepared in support of the existing Certificate(s) of Approval whose descriptions of the approved works and conditions are now replaced pursuant to Condition 11(1) above, shall form part of this *Certificate*.
- (3) Where an existing Certificate of Approval referred in Condition 11(1) above applies to works in addition to the *Works* approved by this *Certificate*, it shall continue to apply to those additional works.

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

1. Condition 1 is imposed to ensure that the *Works* are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the *Certificate* and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the *Owners* their responsibility to notify any person they authorized to carry out work pursuant to this *Certificate* the existence of this *Certificate*.
2. Condition 2 is included to ensure that, when the *Works* are constructed, the *Works* will meet the standards that apply at the time of construction to ensure the ongoing protection of the environment.
3. Condition 3 is included to ensure that the *Ministry* records are kept accurate and current with respect to the approved works and to ensure that subsequent owners of the *Works* are made aware of the *Certificate* and continue to operate the *Works* in compliance with it.
4. Condition 4 is included to ensure that the *Works* are constructed in accordance with the approval and that record drawings of the *Works* "as constructed" are maintained for future references.
5. Condition 5 is included to indicate that by-passes of untreated sewage to the receiving watercourse is prohibited, save in certain limited circumstances where the failure to *By-pass* could result in greater injury to the public interest than the *By-pass* itself where a *By-pass* will not violate the approved effluent requirements, or where the *By-pass* can be limited or otherwise mitigated by handling it in accordance with an approved contingency plan. The notification and documentation requirements allow the *Ministry* to take action in an informed manner and will ensure the *Owner* is aware of the extent and frequency of *By-pass* events.
6. Condition 6 is imposed to establish non-enforceable effluent quality objectives which the *Owner* is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before

environmental impairment occurs and before the compliance limits of Condition 7 are exceeded.

7. Condition 7 is imposed to ensure that the effluent discharged from the *Works* to Coldwater River meets the *Ministry's* effluent quality requirements thus minimizing environmental impact on the receiver and to protect water quality, fish and other aquatic life in the River.
8. Condition 8 is included to require that the *Works* be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the owner and made available to the *Ministry*. Such a manual is an integral part of the operation of the *Works*. Its compilation and use should assist the *Owner* in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for *Ministry* staff when reviewing the *Owner's* operation of the *Works*.
9. Condition 9 is included to enable the *Owner* to evaluate and demonstrate the performance of the *Works*, on a continual basis, so that the *Works* are properly operated and maintained at a level which is consistent with the design objectives and effluent limits specified in the *Certificate* and that the *Works* does not cause any impairment to the receiving River.
10. Condition 10 is included to provide a performance record for future references, to ensure that the *Ministry* is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this *Certificate*, so that the *Ministry* can work with the *Owner* in resolving any problems in a timely manner.
11. Condition 11 is included to stipulate that this *Certificate* replaces all previous approvals for the works being the subject of this *Certificate*, and that the existing approvals remain in force for the purpose of any work which are not subject to this *Certificate*.

This Certificate of Approval revokes and replaces Certificate(s) of Approval No. 3-1773-98-996, 1-0020-66-742236, and 3-1211-75-006 issued on January 13, 1999, July 5, 1974, and December 1, 1975, respectively.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, 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, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval 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.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;

5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
2300 Yonge St., Suite 1700
P.O. Box 2382
Toronto, Ontario
M4P 1E4

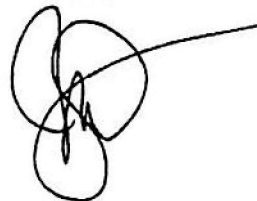
AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 24th day of August, 2006

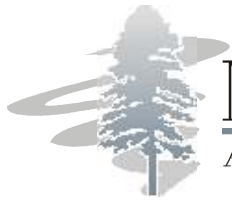


Mohamed Dhalla, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

ZB/

c: District Manager, MOE Barrie
Rick Groves, Totten Sims Hubicki Associates (1997) Limited
Water Standards Section, Standards Development Branch, MOE Toronto

Appendix B: Natural Environment Report on WWTP Site



Michalski Nielsen

ASSOCIATES LIMITED

March 29, 2023

Ms. Suzanne Troxler P.Eng.
Manager - Water & Wastewater
Tatham Engineering
115 Sandford Fleming Drive, Suite 200,
Collingwood, Ontario L9Y 5A6

Re: Coldwater Wastewater Treatment Plant, Existing Site Conditions; Our File 4021

Dear Ms. Troxler:

Further to the information earlier provided to your office regarding water quality conditions upgradient and downgradient of the Coldwater Wastewater Treatment Plant within the Coldwater River, we are pleased to provide you with information on existing conditions within the fenced off wastewater treatment plant property, shown by the red boundary on **Figure 1**. This information was collected by a terrestrial ecologist in association with a site inspection we made on June 30, 2021 and is intended to assist with decisions regarding how and where this facility can be expanded.

The entire Coldwater Wastewater Treatment Plant is surrounded by a 6 foot tall chain link barrier fence. A review of the background information available from the Province's Land Information Ontario (LIO) database (**Map A**), indicates that the property contains woodland (outdated information), and is surrounded by wetlands, including portions of the Matchedash Bay Provincially Significant Wetland (PSW).



Map A: Coldwater WTP surrounded by Wetland communities (blue dots) and PSW wetland (blue polygon).

16 Robert Boyer Lane, Bracebridge, Ontario P1L 1R9
(705) 645-1413 www.mnal.ca E-mail: info@mnal.ca

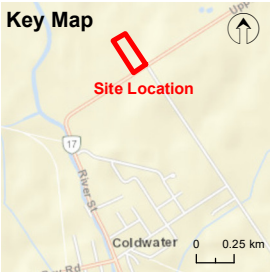


LEGEND

 Watercourse (OHN)

 Study Area

Key Map



0 50 100 150 200 250

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:8,000
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: RM
Date: Apr 29, 2022

Source Notes:
Base imagery provided by Simcoe (2018) open GIS REST services.


NORTH

CLIENT	MNAL	
PROJECT	Coldwater WWTP Environmental Monitoring	
TITLE	Site Location	
REF. NO.	1603391-1-1	
	Figure 1	



More detailed mapping of the subject property is provided on **Figure 2**. The property includes the existing treatment plant and associated infrastructure, manicured lawn, cultural meadow, and some forest and wetland within the easterly portion of these lands. A small portion of the wetland within the property has been identified as being within the limits of the Matchedash Bay PSW, as are adjacent areas of wetland to the immediate north and northwest of these lands; portions of the wetland area within the subject property, and portions of the wetland on adjacent lands, are not identified as being within the PSW, although contiguous with, and have similar properties to, wetlands which are identified as being part of the PSW.

Plant community descriptions within the subject property are provided in the paragraphs following.

Anthropogenic (ANT)

Anthropogenic areas of the property include the existing wastewater treatment buildings and associated infrastructure and manicured lawn (**Photograph 1**).

Mineral Cultural Upland Meadow (CUM1)

The Mineral Cultural Meadow occurs on the east side of the property, beyond the limits of the forested community. It is a small area dominated almost entirely by Smooth Brome (*Bromus inermis*), with small amounts of Timothy Grass (*Phleum pratense*), Tall Goldenrod (*Solidago altissima*), Common Milkweed (*Asclepias syriaca*), Common Selfheal (*Prunella vulgaris*) and Common Plantain (*Plantago major*) (**Photograph 2**).

Dry to Fresh White Ash Deciduous Forest (FOD4-2)

This woodland type occurs within the east portion of the property and is dominated by White Ash (*Fraxinus americana*) (**Photograph 3**). The northern fragment of this woodland is adjacent to the MAS3-1 wetland, and contains some wetland indicator species around its periphery (i.e. Reed Canary Grass, Red-osier Dogwood). The understory of the forest is otherwise represented by common upland forest species, including Spiked Sedge (*Carex spicata*), Eastern Woodland Sedge (*Carex blanda*), Broad-leaved Enchanters Nightshade (*Circaea canadensis*), Red Trillium (*Triullium erectum*), Wild Sarsaparilla (*Aralia nudicaulus*) and Rough-stemmed Goldenrod (*Solidago rugosa*).

Organic Cattail Shallow Marsh (MAS3-1)

This wetland community is found in the northeast corner of the property, as well as along the north and west boundaries, with portions of it being within the identified PSW. It occurs as part of a much larger wetland complex, with that portion within and adjacent to the subject property being dominated by Broad-leaved Cattail (*Typha latifolia*). Other species noted include Reed Canary Grass (*Phalaris arundinacea*), Red-osier Dogwood (*Cornus sericea*), Lance-leaved Aster (*Symphyotrichum lanceolatum*), Bladder Sedge (*Carex intumescens*), Soft Rush (*Juncus effusus*), Crested Sedge (*Carex cristatella*), Retrorse Sedge (*Carex*



LEGEND Watercourse (OHN) Wetland - Evaluated Provincial (LIO/MNRF) ELC Community Study Area		ELC LEGEND Anthropogenic (ANT) Mineral Cultural Upland Meadow (CUM1) Dry to Fresh White Ash Deciduous Forest (FOD4-2) Organic Cattail Shallow Marsh (MAS3-1)		0102030 METRE SCALE North American Datum 1983 Universal Transverse Mercator Projection Zone 17 Scale: 1:850 Page Size: Tabloid (11 x 17 inches) Drawn: SM Checked: RM Date: Apr 29, 2022 NORTH Source Notes: Base imagery provided by Simcoe (2018) open GIS REST services.		CLIENT MNAL PROJECT Coldwater WWTP Environmental Monitoring TITLE Existing Environmental Conditions Palmer™ REF. NO. 1603391-2-1 Figure 2	
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retrorsa) and Lesser Pondweed (*Lemna minor*). This wetland was only surveyed from its edge, with it being likely that a more exhaustive survey of its interior would result in additional plant species being recorded.



Photograph 1: Lawn fronting facility, with view to south.



Photograph 2: Mineral cultural upland meadow, with woodland area in background.



Photograph 3: Interior of dry – fresh White Ash forest (FOD4-2).



Photograph 4: Forest immediately adjacent to wetland is dominated by Red Maple.



Photograph 5: Wetland community in northeast corner of property.

Potential for Species at Risk and Significant Wildlife Habitat

A large number of Species at Risk (SAR) are known to this geographic area, particularly in closer proximity of Georgian Bay. **Appendix A** includes a review of those species known to the broader area and their potential relevance to the subject property. The substantially anthropogenic nature of the subject property, in combination with the entirety of the site being fenced, largely eliminates habitat potential for most of these species within the property limits. Impacts on those species that could be present can be avoided through the protection of the wetland area within the property, minimizing woodland removal within the property and the timing of any required tree removals.

A review of potential Significant Wildlife Habitat (SWH) values associated with the subject property and adjacent lands (the study area) is provided in **Appendix B**. There is some potential for such habitat uses as bat maternity roosting in the woodland area, amphibian breeding in the wetland and turtle overwintering within the wetland, none of which have been evaluated in detail. However, in all such instances, the areas of woodland and wetland that have been retained within the fenced off limits of the subject property only represent a tiny portion of the extent of such vegetation communities beyond the property boundaries. The wetland within the property is to be protected and woodland loss is anticipated to be minor, and all such potential SWH uses will continue to be well represented within this local area following any expansion of the wastewater treatment facility.

Comments on Wastewater Treatment Plant Expansion

Approximately 70% of the fenced off wastewater treatment plant property consists of existing buildings, associated infrastructure, areas of manicured lawn and cultural meadow. There are small remnants of

retained forested lands and wetlands within these property limits, with those habitat types being very abundant within adjacent lands. As a consequence, expansion of the wastewater treatment plant within the fenced off property limits poses very little potential to negatively impact on the natural heritage values of the area. Nevertheless, it is **recommended that expansion protect the entire area of wetland (MAS3-1 community on Figure 2), together with a 15 m buffer from that community wherever a natural buffer of that dimension presently occurs**; a buffer of this dimension is appropriate within the context of this small portion of a much larger wetland, particularly in consideration of the existing disturbance factors within the fenced property limits. While only a portion of the wetland within the subject property has been mapped as being part of the PSW, that mapping should not be considered very accurate at a site-specific level; there is no good rationale to exclude portions of this wetland community from the PSW.

It is noted that an existing access road and existing plant infrastructure border adjacent but off-site wetland areas to the west and northwest, eliminating the need for any consideration of wetland buffering to those portions of the PSW.

There are no constraints associated with plant expansion in areas of the lands identified as being anthropogenic or cultural meadow.

Although the general preference for any expansion plans would be to capitalize on the anthropogenic lands and cultural meadow, expansion of such uses into woodland areas is also an acceptable strategy if necessary. If the removal of portions of the woodland are necessary, tree removal should be minimized to the extent possible and be undertaken between October 31 and April 1 in order to avoid impacts on breeding bird and potential bat roosting/maternity activities.

* * * * *

In closing, I trust this brief assessment is sufficient to properly inform natural heritage matters in relation to the proposed expansion of this wastewater treatment plant.

Yours truly,
MICHALSKI NIELSEN ASSOCIATES LIMITED
Per:



Gord Nielsen, M.Sc.
Ecologist
President

APPENDIX A SPECIES AT RISK SCREENING

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
AVIFAUNA										
Bank Swallow (<i>Riparia riparia</i>)	THR	THR	THR	1	S4B	The Bank Swallow is threatened by loss of breeding and foraging habitat, destruction of nesting habitat and widespread pesticide use. Bank swallows are small songbirds with brown upperparts, white underparts and a distinctive dark breast band. It averages 12 cm long and weighs between 10 and 18 grams. The swallow can be distinguished in flight from other swallows by its quick, erratic wing beats and its almost constant buzzy, chattering vocalizations. They nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposit, including banks of rivers and lakes, active sand and gravel pits or former ones where the banks remain suitable. The birds breed in colonies ranging from several to a few thousand pairs (Ministry of Natural Resources and Forestry, 2014).	OBBA	N	No suitable habitat (No banks).	N/A
Barn Swallow (<i>Hirundo rustica</i>)	THR	THR	THR	1	S4B	The Barn Swallow is a threatened species, is found throughout southern Ontario, and can range into the north as long as suitable nesting locations can be found. These birds prefer to nest within human made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped and made of mud; they are typically attached to horizontal beams or vertical walls underneath an overhang. A significant decline in populations of this species has been documented since the mid-1980s, which is thought to be related to a decline in prey. Since the Barn Swallow is an aerial insectivore, this species relies on the presence of flying insects at specific times during the year. Changes in building practices and materials may also be having an impact on this species (Ministry of Natural Resources and Forestry, 2015).	OBBA	Y	Potential habitat occurs in association with the existing buildings associated with the Coldwater Wastewater Treatment Plant facility.	The proposed development does not involve the removal of the existing buildings.
Bobolink (<i>Dolichonyx oryzivorus</i>)	THR	THR	THR	1	S4B	The Bobolink is found in grasslands and hayfields, and feeds and nests on the ground. This species is widely distributed across most of Ontario; however, are designated at risk because of rapid population decline over the last 50 years (Ministry of Natural Resources and Forestry, 2014). The historical habitat of the bobolink was tallgrass prairie and other natural open meadow communities; however, as a result of the clearing of native prairies and the post-colonial increase in agriculture, bobolinks are now widely found in hayfields. Due to their reproductive cycle, nesting habits, and use of agricultural areas, bobolink nests and young are particularly vulnerable to loss as a result of common agricultural practices (i.e. first cut hay).	OBBA and NHIC	N	The study area does not contain open grassland habitat.	N/A
Canada Warbler (<i>Cardellina canadensis</i>)	THR	SC	THR	1	S4B	The Canada Warbler is found in a variety of forest types, but is most abundant in moist, mixed forests with a well-developed, dense shrub layer. This species can also be locally abundant in regenerating forests following natural or anthropogenic disturbances. Nests are usually located on or near the ground on mossy logs, and along stream banks. In Canada, habitat loss due to conversion of swamp forests, agricultural activities and road development have contributed to the species’ significant long-term decline, and its special concern designation. A reduction in forests with a well-developed shrub-layer has also likely impacted Canada warblers throughout their breeding range in Ontario (Committee on the Status of Endangered Wildlife in Canada, 2008).	OBBA	Y	Forested lands within the study area have potential to support this species.	Minimal woodland removal will occur as part of any expansion plans.
Eastern Meadowlark (<i>Sturnella magna</i>)	THR	THR	THR	1	S4B	The Eastern Meadowlark is a bird that prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields and human use areas such as airports and roadsides. Eastern meadowlarks can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses. The decline in population of these species is thought to be at least partially related to habitat destruction and agricultural practices (Ministry of Natural Resources and Forestry, 2014).	OBBA and NHIC	N	The study area does not contain open grassland habitat.	N/A
Eastern Wood-Pewee (<i>Contopus virens</i>)	SC	SC	SC	1	S4B	The Eastern Wood-pewee is classified as a species of special concern by COSSARO. Their population has been gradually declining since the mid-1960’s (The Cornell Lab of Ornithology, 2015). The Eastern Wood-pewee is a “flycatcher”, a bird that eats flying insects, that lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It prefers intermediate-age forest stands with little understory vegetation. Threats to the population are largely unknown; however, causes may include loss of habitat due to urban development and decreases in the availability of flying insect prey (Ministry of Natural Resources and Forestry, 2014).	OBBA	Y	Forested lands within the study area have potential to support this species.	Minimal woodland removal will occur as part of any expansion plans.

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Golden-winged Warbler (<i>Vermivora chrysoptera</i>)	THR	SC	THR	1	S4B	The Golden-winged Warbler is classified as a species of special concern by COSSARO. It is a small grey songbird, with yellow patches on its wings and forehead. Nests are built on the ground, in areas with young shrubs surrounded by mature forest. Threats to the species include habitat loss, hybridization with blue-winged warblers, and nest parasitism by brown-headed cowbirds (Ministry of Natural Resources and Forestry, 2014).	OBBA and NHIC	Y	Forested lands within the study area have potential to support this species.	Minimal woodland removal will occur as part of any expansion plans.
Least Bittern (<i>Ixobrychus exilis</i>)	THR	THR	THR	1	S4B	The Least Bittern prefers marshes and swamps dominated by emergent vegetation, preferably cattails, interspersed with patches of woody vegetation and open water. The smallest member of the heron family, least bitterns nest in marshes south of the Precambrian Shield in Ontario. Due to the location of the nests close to the water surface, least bittern nests are susceptible to damage as a result of wakes cast by recreational boats (Government of Canada, 2015).	OBBA and NHIC	Y	Habitat for this species occurs within the Matchedash Bay PSW.	There are existing disturbance factors associated with the present land use which will remain largely unchanged on expansion of this facility. Land use changes are not being proposed within or adjacent to the wetland communities.
Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>)	THR	SC	THR	1	S4B	The Red-headed Woodpecker is a medium-sized bird, with black and white colouring and a bright red head, neck, and breast. Adults often return to the same nesting site year after year. Between May and June, adults often return to the same nesting site and females lay from three to seven eggs. Habitat for the birds includes open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. The red-headed woodpecker is widespread across southern Ontario but rare (Ministry of Natural Resource and Forestry, 2014).	OBBA and NHIC	Y	Deciduous woodlands with clearings are found in the study area.	Minimal woodland removal will occur as part of any expansion plans.
Wood Thrush (<i>Hylocichla mustelina</i>)	THR	SC	THR	1	S4B	The Wood Thrush is a species of Special Concern because of habitat degradation or destruction by anthropogenic development. The Wood Thrush is a medium-sized songbird, generally rusty-brown on the upper parts with white under parts and large blackish spots on the breast and sides, and about 20 cm long. The Wood Thrush forages for food in leaf litter or on semi-bare ground, including larval and adult insects as well as plant material. They seek moist stands of trees with well-developed undergrowth in large mature deciduous and mixed (conifer-deciduous) forests. The Wood Thrush flies south to Mexico and Central America for the winter (Ministry of Natural Resources and Forestry, 2014).	OBBA	Y	Forested lands in the study area have the potential to support this species.	Minimal woodland removal will occur as part of any expansion plans.
Yellow Rail (<i>Coturnicops noveboracensis</i>)	SC	SC	SC	1	S4B	The Yellow Rail is a secretive marsh bird that lives deep within shallow wetlands. These birds nest on the ground in areas that have an overlying mat of dry vegetation that can be used for nest building. The Yellow Rail is approximately 13 to 18 cm long, with yellowish and black streaks on its back. The primary threat to this species is wetland loss and changes to wetland ecology caused by invasive species colonization (Ministry of Natural Resources and Forestry, 2015).	NHIC	Y	Habitat for this species occurs within the Matchedash Bay PSW.	There are existing disturbance factors associated with the present land use which will remain largely unchanged on expansion of this facility. Land use changes are not being proposed within or adjacent to the wetland communities.
HERPTILES										
Blanding's Turtle (<i>Emydoidea blandingii</i>)	THR	THR	END	1	S3	Blanding's turtles are threatened in Ontario primarily as a result of habitat loss and fragmentation. Blanding's turtles spend the majority of their life cycle in the aquatic environment, using terrestrial sites for travel between habitat patches and to lay clutches of eggs. These turtles prefer shallow nutrient rich water with organic sediment and dense vegetation. Blanding's turtles nest in dry coniferous and mixed forest habitats, as well as fields and roadsides (Government of Canada, 2015).	ORAA and NHIC	Y	Habitat for this species occurs within the Matchedash Bay PSW.	Development or site alteration is not proposed within or adjacent to the wetland within the subject property. The existing surrounding barrier fence generally ensures turtles are excluded from the property.
Common Five-lined Skink (Southern Shield Population) (<i>Plestiodon fasciatus</i>)	SC	SC	SC	1	S3	The common five-lined skink has two (2) distinct populations in Ontario. The population that has the potential to occur in the vicinity of the Site is referred to as the southern shield population. The southern shield population of this species prefers rocky habitats that include open areas for basking (Ministry of Natural Resources and Forestry, 2014).	ORAA and NHIC	N	No rock barren habitat	N/A

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Eastern Hog-Nosed Snake (<i>Heterodon platirhinos</i>)	THR	THR	THR	1	S3	The eastern hog-nosed snake (<i>Heterodon platirhinos</i>) is classified as a threatened species by COSSARO, and is one of Ontario’s most interesting reptiles, with a very unique defence system. The eastern hog-nosed, if challenged by a predator, rises to strike in a way that is reminiscent of a cobra, and then proceeds to roll onto it’s back and play dead. Despite its somewhat threatening appearance, the eastern hog-nosed snake is a harmless predator of many amphibians. Eastern hog-nosed snakes prefer sandy well drained habitats such as beaches and dry forests because they lay their eggs and hibernate in these areas. The main diet of this snake is toads and frogs, so they usually stay close to water including marshes and swamps, where they have an increased chance of finding their preferred prey (Ministry of Natural Resource and Forestry, 2014).	ORAA	Y	As a habitat generalist, the species could use the woodlands or surrounding wetlands.	Land use changes will not impact the wetland and should minimally impact the woodland.
Eastern Musk Turtle (<i>Sternotherus odoratus</i>)	SC	SC	SC	1	S3	The eastern musk turtle is a small freshwater turtle with a highly arched shell and a dull black-brown body. These turtles are found primarily in slow moving water bodies with abundant emergent vegetation and mucky bottoms along the southern edge of the Canadian Shield. Wetland drainage and shoreline development are among the most significant contributors to the decline in the population of this species (Ministry of Natural Resources and Forestry, 2014).	ORAA	Y	Wetlands in study area could potentially support this species.	Development or site alteration is not proposed within or adjacent to the wetland area within the subject property.
Eastern Ribbonsnake (<i>Thamnophis sauritus</i>)	SC	SC	SC	1	S4	The eastern ribbonsnake is a small, slender snake, with colouration similar to a gartersnake; however, the ribbonsnake has a small white crescent shaped marking ahead of each eye. The ribbonsake prefers wetland habitats where its prey species, frogs and small fish, are abundant. Wetland destruction and degradation as well as shoreline development are causes for the decline of populations of the ribbonsnake (Ministry of Natural Resources and Forestry, 2014).	ORAA and NHIC	Y	Wetlands in study area could potentially support this species.	Development or site alteration is not proposed within or adjacent to the wetland area within the subject property.
Massasauga Rattlesnake (Great Lakes - St. Lawrence population) (<i>Sistrurus catenatus</i>)	THR	THR	THR	1	S3	The Massasauga is a stout-bodied rattlesnake, about 50-70 centimetres long, and is Ontario’s only venomous snake. Massasaugas live in a range of different habitats throughout Ontario, including tall grass prairies, marshes, bogs, shorelines, forests, and alvars. Within these habitats they require open areas to warm themselves in the sun. In Ontario, the Massasauga is found primarily along the eastern side of Georgian Bay, and on the Bruce Peninsula (Ministry of Natural Resources and Forestry, 2017). Two (2) small populations are also found in the Wainfleet Bog, on the northeast shore of Lake Erie, and near Windsor. The most significant threat to the Massasauga is persecution by humans, mortality on road, and loss of habitats.	ORAA and NHIC	Y	Wetlands in study area could potentially support this species.	Development or site alteration is not proposed within or adjacent to the wetland area within the subject property.
Northern Map Turtle (<i>Graptemys geographica</i>)	SC	SC	SC	1	S3	The northern map turtle is a medium sized turtle with a carapace marked by concentric rings that resemble contour lines on a map. The range of this turtle includes larger lakes and rivers that contain an abundance of their primary prey species; molluscs. Shoreline development, water pollution and the spread of the zebra mussel are notable reasons for the decline in populations of this species (Ministry of Natural Resources and Forestry, 2014).	ORAA and NHIC	N	Requires larger bodies of water	N/A
Snapping Turtle (<i>Chelydra serpentina</i>)	SC	SC	SC	1	S3	The snapping turtle is a species of special concern in Ontario due to the potential for the species to become threatened or endangered as a result of biological factors or other identified threats. While not presently protected by law, the snapping turtle has been recognized as a species of special concern by COSSARO. Snapping turtles spend the majority of their lives in water and travel slightly upland to gravel or sandy embankments or beaches to lay their eggs (Ontario Ministry of Natural Resources and Forestry, 2014).	ORAA and NHIC	Y	Wetlands in study area could potentially support this species.	Development or site alteration is not proposed within or adjacent to the wetland area within the subject property.
VASCULAR PLANTS										
MAMMALS										
Tri-colored Bat (Eastern Pipistrelle) (<i>Perimyotis subflavus</i>)	END	END	END	1	S3?	The eastern pipistrelle is a small bat that is widely distributed in eastern North America and whose range extends north to southern Ontario. The eastern pipistrelle is rare in this region of Ontario which is at the northernmost limit of the natural range for the species. These bats prefer to nest in foliage, tree cavities and woodpecker holes, and are occasionally found in buildings; though this is not their preferred habitat. Winter hibernation takes place in caves, mines and deep crevices. Eastern pipistrelles feed primarily on small insects and prefer an open forest habitat type in proximity to water (University of Michigan Museum of Zoology, 2004).	Professional Experience	Y	Potential maternity bat roosting habitat could be found in the woodland or existing buildings.	Existing buildings will be retained and minimal tree removal is anticipated, with the impacts of any required tree removals appropriately addressed through timing restrictions.

Appendix A. Species at Risk Screening.

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Eastern Small-footed Myotis (<i>Myotis leibii</i>)	No Status	END	No Status	Schedule 1	S2S3	The eastern small-footed myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Eastern small-footed bat's fur has black roots and shiny light brown tips, giving it a yellowish-brown appearance. Its face mask, ears and wings are black, and its underside is grayish-brown, about 8 cm long in size and weighs 4-5 grams. In the spring and summer, eastern small-footed bats will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects to eat, including beetles, mosquitos, moths, and flies. They hibernate in winter, often in caves and abandoned mines. They can be found from south of Georgian Bay to Lake Erie and east to the Pembroke area, and choose colder and drier sites (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	Y	Potential maternity bat roosting habitat could be found in the woodland or existing buildings.	Existing buildings will be retained and minimal tree removal is anticipated, with the impacts of any required tree removals appropriately addressed through timing restrictions.
Little Brown Myotis (<i>Myotis lucifugus</i>)	END	END	END	1	S4	Little brown myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Little brown bats have glossy brown fur and usually weigh between four and 11 grams. Bats are nocturnal. During the day they roost in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Little brown bats hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing – an ideal environment for the fungus to grow and flourish. The syndrome affects bats by disrupting their hibernation cycle, so that they use up body fat supplies before the spring when they can once again find food sources (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	Y	Potential maternity bat roosting habitat could be found in the woodland or existing buildings.	Existing buildings will be retained and minimal tree removal is anticipated, with the impacts of any required tree removals appropriately addressed through timing restrictions.
Northern Myotis (<i>Myotis septentrionalis</i>)	END	END	END	1	S3	The northern long-eared myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Northern long-eared bats have dull yellow-brown fur with pale grey bellies. They are approximately eight cm long, with a wingspan of about 25 cm, and usually weigh six to nine grams. Northern long-eared bats can be found in boreal forests, roosting under loose bark and in the cavities of trees. These bats hibernate from October or November to March or April, most often in caves or abandoned mines (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	Y	Potential maternity bat roosting habitat could be found in the woodland or existing buildings.	Existing buildings will be retained and minimal tree removal is anticipated, with the impacts of any required tree removals appropriately addressed through timing restrictions.

Notes:

SC - Special Concern

THR - Threatened

END - Endangered

S1 - Extremely rare in Ontario

S2 - Very rare in Ontario

S3 - Rare to uncommon in Ontario

S4 - Considered to be common in Ontario

S5 - Species is widespread in Ontario

SH - Possibly extirpated

S#S# - Indicates insufficient information exists to assign a single rank.

S#? - Indicates some uncertainty with the classification due to insufficient data.

S#N - Nonbreeding

S#B - Breeding

APPENDIX B

**SIGNIFICANT WILDLIFE
HABITAT SCREENING**

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Seasonal Concentration Areas of Animals					
Waterfowl Stopover and Staging Areas (Terrestrial)	Ducks	CUM + CUT ecosites	Fields with sheet-water flooding mid-March to May	N	
Waterfowl Stopover and Staging Area (Aquatic)	Ducks, Geese	Ponds, Lakes, Inlets, Marshes, Swamps, Shallow Water Ecosites	Sewage & SWM ponds not SWH. Reservoir managed as a large wetland or pond/lake qualifies.	N	
Shorebird Migratory Stopover Area	Shorebirds	Beaches, Dunes, Meadow Marshes	Shorelines. Sewage treatment ponds and storm water ponds not SWH.	N	
Raptor Wintering Area	Eagles, Hawks, Owls	Hawks/Owls: Combination of both Forest and Cultural Ecosites Bald Eagle: Forest or swamp near open water (hunting ground)	Raptors: >20ha, with a combo of forest and upland. Meadow (>15ha) with adjacent woodlands. Eagles: open water, large trees & snags for roosting.	N	
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	Caves, Crevices, mines, karsts	Buildings and active mine sites not SWH.	N	
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	Decidious or mixed forests and swamps.	Mature deciduous and mixed forests with >10/ha cavity trees >25 cm DBH.	POTENTIAL	Woodland portion of property has some potential to provide maternity roosting habitat, with such habitat also well-represented in adjacent woodland areas. Only minor amounts of tree removals are anticipated, with the potential for impacts appropriately addressed through timing restrictions.
Turtle Wintering Area	Turtles (Midland, N. Map, Snapping)	SW, MA, OA, SA, FEO, BOO (requires open waters)	Free water beneath ice. Soft mud substrate. Permanent water bodies, large wetlands, bogs, fens with adequate DO.	POTENTIAL	Potential overwintering area in MAS wetland, which is to be protected.
Reptile Hibernaculum	Snakes	Snakes: Any ecosite (esp. w/ rocky areas), other than very wet ones. Five-lined Skink: FOD and FOM, FOC1, FOC3 - with rock outcrops	Access below frost line: burrows; rock crevices, piles or slopes, stone fences or foundations. Conifer/shrubby swamps/swales, poor fens, depressions in bedrock w/ accumulations of sphagnum moss or sedge hummock ground cover.	N	

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, N. Rough-winged Swallow	Banks, sandy hills/piles, pits, slopes, cliff faces, bridge abutments, silos, barns.	Exposed soil banks, not a licensed/permitted aggregate area or new man-made features (2 yrs).	N	
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Great Blue Heron, Black-crowned NightHeron, Great Egret, Green Heron	SWM2, SWM3, SWM5, SWM6, SWD1 to SWD7, FET1	Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and emergents may be used. Nests in trees are 11 - 15 m from ground, near tree tops.	N	
Colonially-nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer’s Blackbird	Gulls/Terns: Rocky island or peninsula in lake or river. Brewer’s Blackbird: close to watercourses in open fields or pastures with scattered trees or shrubs.	Gulls/Terns: islands or peninsulas with open water or marshy areas. Brewers Blackbird colonies: on the ground in low bushes close to streams and irrigation ditches.	N	
Migratory Butterfly Stopover Area	Painted Lady, Red Admiral, Special Concern: Monarch	Combination of open (CU) and forested (FO) ecosites (need one from each).	≥10 ha, located within 5 km of Lake Ontario. Undisturbed sites, with preferred nectar species.	N	
Landbird Migratory Stopover Areas	All migratory songbirds. All migrant raptor species.	Forest (FO) and Swamp (SW) ecosites	Woodlots >10 ha within 5 km of Lake Ontario. If multiple woodlands are along the shoreline, those <2 km from L. Ontario are more significant.	N	
Deer Yarding Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	N	
Deer Winter Congregation Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	N	
Rare Vegetation Communities					
Cliffs and Talus Slopes		TAO, TAS, CLO, CLS, TAT, CLT e.g., Niagara Escarpment (contact NEC)	Cliff: near vertical bedrock >3m Talus Slope: coarse rock rubble at the base of a cliff	N	
Sand Barren		SBO1, SBS1, SBT1	Sand Barrens >0.5 ha. Vegetation can vary from patchy and barren to tree covered, but <60%. <50% vegetation cover are exotic species.	N	
Alvar	<i>Carex crawei</i> , <i>Panicum philadelphicum</i> , <i>Eleocharis compressa</i> , <i>Scutellaria parvula</i> , <i>Trichostema brachiatum</i> , Loggerhead Shrike	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Alvar >0.5 ha. Need 4 of the 5 Alvar Inidicator Spp. <50% vegetation cover are exotic species.	N	

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Old Growth Forest	Trees >140 yrs; heavy mortality = gaps. Multi-layer canopy, lots of snags and downed logs	FOD, FOC, FOM, SWD, SWC, SWM	Woodland areas ≥30 ha with a ≥10 ha interior habitat, assuming a 100 m buffer at edge of forest.	N	
Savannah	Prairie Grasses w/ trees	TPS1, TPS2, TPW1, TPW2, CUS2	A Savannah is a <u>tallgrass prairie</u> habitat that has tree cover of 25 – 60%. <50% cover of exotic species.	N	
Tallgrass Prairie	Prairies Grasses dominate	TPO1, TPO2	An <u>open Tallgrass Prairie</u> habitat has < 25% tree cover. Less than 50% cover of exotic species.	N	
Other Rare Vegetation Communities		Provincially Rare S1 - S3 veg. comm. are listed in Appendix M of SWHTG.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	N	No rare vegetation community type detected, Atlantic Coastal Plain complex known to the region was not detected in wetland.
Specialized Habitat for Wildlife					
Waterfowl Nesting Area	Ducks	Upland habitats adjacent to: MAS1 to MAS3, SAS1, SAM1, SAF1, MAM1 to MAM6, SWT1, SWT2, SWD1 to SWD4 (>0.5 ha open water wetlands, alone or collectively).	Extends 120 m from a wetland or wetland complex. Upland areas should be at least 120 m wide. Wood Ducks and Hooded Mergansers use cavity trees (>40 cm dbh).	POTENTIAL	There is some potential for nesting in woodland areas of property, given their proximity to wetlands. Woodland losses associated with plant expansion will be minimal, and any such opportunities will continue to be present.
Bald Eagle & Osprey Nesting, Foraging and Perching Habitat	Osprey, Bald Eagle	FOD, FOM, FOC, SWD, SWM, SWC directly adjacent to riparian areas	Nesting areas are associated with waterbodies along forested shorelines, islands, or on structures over water.	N	
Woodland Raptor Nesting Habitat	Barred Owl. Hawks: N. Goshawk, Cooper's, Sharp-shinned, Red-shouldered, Broad-winged.	Forests (FO), swamps (SW), and conifer plantations	>30 ha with > 10 ha interior habitat.	N	
Turtle Nesting Areas	Midland Painted Turtle Special Concern: Snapping Turtle, Northern Map Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within: MAS1 to MAS3, SAS1, SAM1, SAF1, BOO1	Nest sites within open sunny areas with soil suitable for digging. Sand and gravel beaches.	POTENTIAL	Turtles should generally be excluded from subject property by perimeter fencing. Wetland within the property, together with an adjacent buffer, are to be preserved.
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Seeps/Springs are areas where ground water comes to the surface.	Any forested area within the headwaters of a stream/river system. (2 or more confirms SWH type).	N	
Amphibian Breeding Habitat (Woodland)	Woodland Frogs and Salamanders	FOC, FOM, FOD, SWC, SWM, SWD	Open water wetlands, pond or woodland pool of >500 m ² within or adjacent to wooded areas. Permanent ponds or holding water until mid-July preferred.	N	

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Amphibian Breeding Habitat (Wetlands)	Toads, Frogs, and Salamanders	SW, MA, FE, BO, OA and SA. Typically isolated (>120m) from woodland ecosites, however larger wetlands may be adjacent to woodlands.	Open water wetland ecosites >500m ² isolated from woodland ecosites with high species diversity. Permanent water with abundant vegetation for bullfrogs.	POTENTIAL	Potential habitat found in wetland, which is being protected.
Woodland Area-Sensitive Bird Breeding Habitat	Birds (area-sensitive species)	FOC, FOM, FOD, SWC, SWM, SWD	Large mature (>60 years) forest stands/woodlots >30 ha. Interior forest habitat >200m from forest edge.	N	
Habitat of Species of Conservation Concern					
Marsh Bird Breeding Habitat	Wetland Birds	MAM1 to MAM6, SAS1, SAM1, SAF1, FEO1, BOO1 Green Heron: SW, MA and CUM1	Wetlands with shallow water and emergent vegetation. Gr. Heron @ edges of these types w/ woody cover.	N	
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, N. Harrier, Savannah Sparrow, Short-eared Owl (SC)	CUM1, CUM2	Grassland/meadow >30 ha. Not being actively used for farming. Habitat established for 5 years or more.	N	
Shrub/Early Successional Bird Breeding Habitat	Brown Thrasher + Clay-coloured Sparrow (indicators) , Field Sparrow, Black-billed Cuckoo, E. Towhee, Willow Flycatcher, Yellow-breasted Chat, Golden-winged Warbler	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2	Large field areas succeeding to shrub and thicket habitats > 10 ha. Areas not actively used for farming in the last 5 years.	N	
Terrestrial Crayfish	Chimney or Digger Crayfish; Devil Crayfish or Meadow Crayfish	MAM1 to MAM6, MAS1 to MAS3, SWD, SWT, SWM. CUM1 sites with inclusions of the aforementioned.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish (typc. protected by wetland setbacks).	N	
Special Concern and Rare Wildlife Species	Any species of concern or rare wildlife species	Any ELC code.	Presence of species of concern or rare wildlife species.	N	None detected during field investigation.
Animal Movement Corridors					
Amphibians	Amphibians	all ecosites assoc. w/ water	When Breeding Habitat - wetland confirmed	POTENTIAL	Potential habitat found in wetland, which is being protected.
Deer Movement	White-tailed Deer	all forested ecosites	When Deer Wintering Habitat confirmed	N	
Exceptions for Ecoregion 6E					
Mast Producing: 6E-14	Black Bear	Forested Ecosites	>30 ha w/ mast producing species: Cherry (berries), Oak, Beech (nuts).	N	
Leks: 6E-17	Sharp-tailed Grouse	CUM, CUS, CUT	Grassland/meadow >15 ha adjacent to shrublands, >30 ha adjacent to woodlands. Low agricultural intensity.	N	



Michalski Nielsen

ASSOCIATES LIMITED

Memorandum

Date: May 10, 2022

From: Gord Nielsen

To: Suzanne Troxler

Our File: 4021 **Re:** Coldwater Wastewater Treatment Plant Water Quality Information

Attached please find a summary of the water quality data we have collected for the Coldwater River, in relation to the Coldwater Wastewater Treatment Plant. As you will recall, our sampling locations correspond to those originally sampled during the 1989 – 1990 period, as follows:

Coldwater A	Well Upstream of Village of Coldwater, at Moonstone Road crossing.
Coldwater B	Just Upstream of Village of Coldwater, at Highway 12 crossing.
Coldwater C	In the Village of Coldwater, just below Mill Street.
Coldwater D	Immediately below Village of Coldwater Sewage Treatment Plant outfall.
Coldwater E	30 m below Village of Coldwater Sewage Treatment Plant outfall.
Coldwater F	Within the downgradient marsh, approximately 1.3 km below Village of Coldwater's Sewage Treatment Plant outfall.

Sampling was conducted on four occasions in 2021/2022 to assess seasonal conditions, as follows:

- late spring/early summer (June 30, 2021)
- late summer (August 24, 2021)
- fall, after vegetation die-back (October 29, 2021)
- winter (March 10, 2022)

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It is noted that the winter visit was timed to ensure safer sampling conditions (when ice depth was greatest).

Water quality parameters were selected to generally replicate those measured in the 1989/1990 period, focusing on parameters that may be influenced by treated sewage (dissolved oxygen, total suspended solids, Biological Oxygen Demand, chloride, conductivity, and nutrients, the latter including phosphorus and the suite of nitrogen parameters [ammonia, nitrite, nitrate and Total Kjeldahl nitrogen]). It is noted that organic nitrogen is measured as Total Kjeldahl nitrogen minus ammonia, with levels of unionized ammonia able to be calculated on the basis of pH and water temperature, both of which were also measured. A brief summary of the results is provided in the paragraphs following.

Water Temperature results are as expected, based on the seasons that were sampled. There is evidence of minor groundwater influences on the Coldwater River at the most upstream location (A), but this influence is not evident further downstream, where conditions are indicative of a warmwater system.

Dissolved Oxygen levels are as expected, with the depressed levels of oxygen at locations C through F during the late summer period appearing to be caused by the respiration of algae and aquatic plants. The influence of treated sewage effluent on dissolved oxygen appears to be very minor. Dissolved oxygen levels are generally similar to those seen in the 1989 – 1990 period, and in fact generally don't seem to be as depressed at the outfall location (D) as they did during the earlier sampling period.

Chloride levels can be elevated anthropogenically from the hydrolysis of chlorine-disinfected waters and from runoff containing road salt. This parameter was elevated at all locations during the winter period, a consequence of road salting. However, there is also some apparent increase in this parameter in response to the treated sewage outfall, with moderately elevated levels in the river from locations D through F. In comparing current results with those obtained in 1989 – 1990, there is no evidence that the sewage treatment plant is currently having any greater influence on chloride levels within the river than it did during that earlier period.

Biological Oxygen Demand (BOD) is a measure of the amount of oxygen required to oxidize organic material in water. Elevated levels of this parameter can indicate that organic matter is present in a quantity that can depress oxygen levels to a point where they may influence aquatic life. Levels of BOD were below method detection limits at all locations that were sampled. The low levels of BOD, which are consistent with those seen in the 1989 – 1990 period, strongly suggest that our recent observations of reduced oxygen levels during the late summer sampling period are a result of algae and plant respiration, and not by increased levels of organic material; in that regard, there is no evidence that the sewage treatment plant is contributing organic material to the Coldwater River in an amount that could depress dissolved oxygen levels.

Conductivity is a measure of the quantity of dissolved ions in water, including calcium, magnesium, sodium, potassium, bicarbonate, sulphate and chloride, many of which are naturally introduced from the dissolution of these minerals from rocks and soils within the watershed. Conductivity levels were quite

similar between all sampling locations tested during the 2021 – 2022 period. While there appears to be a small increase in conductivity in immediate vicinity of the sewage outfall, this is not as pronounced as occurred during the 1989 – 1990 sampling period. Nor is there any evidence that conductivity levels within the river have increased from that earlier sampling period.

Total Suspended Solids result from particulate matter, such as clay silt, organic matter and algae. Higher levels of this parameter decrease water clarity, which in turn can negatively impact aquatic vegetation growth and fish productivity. The sampling results indicate that levels of this parameter are fairly consistent between sampling locations, increasing somewhat within the Village of Coldwater, likely as a consequence of road and parking lot runoff to the river; this was not observed during the 1989 – 1990 sampling period. There is no evidence that this parameter is increased as a consequence of the sewage treatment plant outfall.

Ammonia Nitrogen can be introduced to surface waters from municipal and industrial effluents, agricultural runoff and atmospheric deposition. Levels of this parameter upstream of the sewage treatment plant outfall were generally below detection limits, with some increase in the level of this parameter evident below the outfall, and continuing downstream; these changes are likely attributable to the plant. However, these levels remained low and were generally consistent with values seen during the 1989 – 1990 sampling period. The ionized form of ammonia occurs in an equilibrium with its un-ionized form, a relationship which is temperature and pH dependant; levels of total ammonia were sufficiently low in all samples such that the un-ionized form of ammonia is well below the Provincial Water Quality Objective of 0.02 mg/L that has been established to protect aquatic life.

Total Kjeldahl Nitrogen (TKN) is a measure of ammonia plus **organic nitrogen**. Levels of this parameter were consistently low. While levels of organic nitrogen may be slightly influenced by the wastewater treatment plant discharge, this influence is not very appreciable, and levels remain within the same range as was observed during the 1989 – 1990 sampling period.

Nitrate Nitrogen is the principal form of nitrogen in natural waters, and results from the complete oxidation of other nitrogen compounds, particularly ammonia. Levels of this parameter were somewhat elevated immediately below the waste water treatment plant discharge, and continue to be slightly elevated further downstream. However, the concentrations of this parameter remain quite low, and substantially below the levels at the outfall location during the 1989/1990 sampling period.

Nitrite Nitrogen is an intermediate product of both nitrification and denitrification, and is much less stable in surface waters than is nitrate nitrogen, so is generally found in only very small quantity. That was generally the case during the sampling we undertook, except for the winter samples, where levels of this parameter were elevated at locations D – F (downgradient of the wastewater treatment plant outfall). This phenomenon was not observed in water samples collected during the 1989 – 1990 sampling period, but nevertheless appears to be a very transient issue.

Phosphorus is generally the limiting nutrient influencing the growth of aquatic plants and algae. The Provincial Water Quality Objective for rivers and streams includes that excessive plant growth should be avoided at a total phosphorus concentration below 30 µg/L (0.03 mg/L). The results of our recent water sampling indicated that this is generally the case in the Coldwater River, except when sampled in the winter, when these levels were exceeded at all locations other than the most upstream one (location A). This may relate to early spring runoff from agricultural fields and/or from wetlands in which there was plant decomposition over the winter, and appears completely unrelated to the sewage treatment plant outfall.

I trust this assessment is of assistance. Please do not hesitate to contact me should you have any questions.

Regards,

Gord Nielsen, M.Sc.
President/Ecologist

Table 1. 2021 - 2022 Water Quality Results for Coldwater River.

Location	Water Temperature (°C)	Dissolved O ₂ (mg/L)	Ammonia (Total) (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Conductivity	NO ₂ (Nitrite) (mg/L)	NO ₃ (Nitrate) (mg/L)	pH	TKN (mg/L)	TP Low Level (mg/L)	TSS (mg/L)
Coldwater A												
2021-06-30	18.6	13.6	<0.03	<4	18.6	426.0	0.0	0.7	7.94	0.4	0.008	12.0
2021-08-24	17.6	10.4	<0.03	<4	18.2	480.4	<0.004	0.53	7.95	<0.2	<0.005	<2
2021-10-29	7.8	12.5	<0.03	<4	22.5	446.4	0.0	0.77	8.03	<0.2	<0.005	3.0
2022-03-10	2.1	15.2	<0.03	<4	35.9	452.0	<0.004	0.92	8.04	0.3	0.022	17.0
Mean	11.5	12.9	<0.3	<4	23.8	451.2	0.0	0.73	7.99	0.3	0.010	10.7
Coldwater B												
2021-06-30	19.1	14.0	<0.03	<4	21.9	473.0	0.0	0.92	7.83	0.4	0.023	16.0
2021-08-24	18.1	10.5	0.03	<4	21.5	486.2	<0.004	0.45	8.23	<0.2	<0.005	2.0
2021-10-29	7.6	12.3	<0.03	<4	31.1	495.5	0.0	0.82	7.93	<0.2	0.008	2.0
2022-03-10	0.4	13.9	<0.03	<4	63.8	513.0	<0.004	0.96	7.87	0.3	0.046	35.0
Mean	11.3	12.7	0.03	<4	34.6	491.9	0.0	0.79	7.97	0.3	0.025	13.8
Coldwater C												
2021-06-30	19.2	12.6	0.04	<4	22.1	469.0	0.0	0.93	7.85	0.5	0.021	21.0
2021-08-24	18.7	8.6	<0.03	<4	22.0	485.3	<0.004	0.46	8.22	<0.2	<0.005	4.0
2021-10-29	8.1	12.0	<0.03	<4	30.1	502.2	0.0	0.9	7.89	<0.2	0.012	2.0
2022-03-10	0.1	13.4	<0.03	<4	55.4	493.0	<0.004	1.07	7.81	0.3	0.046	51.0
Mean	11.5	11.6	0.03	<4	32.4	487.4	0.0	0.84	7.94	0.3	0.021	19.5
Coldwater D												
2021-06-30	19.6	13.0	0.08	<4	24.7	481.0	0.0	0.92	7.76	0.5	0.020	16.0
2021-08-24	21.4	6.5	0.04	<4	27.5	495.9	0.0	0.35	8.1	<0.2	0.007	5.0
2021-10-29	9.8	11.0	<0.03	<4	53.8	624.2	0.0	3.14	7.76	0.4	0.016	5.0
2022-03-10	0.6	13.7	0.07	<4	79.8	522.0	0.1	1.13	7.73	0.4	0.035	38.0
Mean	12.8	11.0	0.06	<4	46.5	530.8	0.0	1.39	7.84	0.4	0.020	16.0
Coldwater E												
2021-06-30	19.7	11.4	0.08	<4	24.8	477.0	0.0	0.93	7.8	0.5	0.011	17.0
2021-08-24	19.6	7.3	0.03	<4	28.1	502.4	0.0	0.36	8.14	<0.2	<0.005	5.0
2021-10-29	9.2	11.2	<0.03	<4	34.6	518.2	0.0	0.87	7.86	0.3	0.017	4.0
2022-03-10	0.8	11.2	0.07	<4	73.6	516.0	0.1	1.11	7.76	0.4	0.064	28.0
Mean	12.3	10.3	0.05	<4	40.3	503.4	0.0	0.82	7.89	0.4	0.022	13.5
Coldwater F												
2021-06-30	23.0	11.1	0.14	<4	27.6	437.0	0.0	0.99	7.56	0.9	0.031	10.0
2021-08-24	24.0	4.0	<0.03	<4	42.5	512.3	<0.004	<0.04	7.83	0.4	0.021	5.0
2021-10-29	9.3	11.4	<0.03	<4	30.8	464.1	0.0	0.7	7.94	0.5	0.022	6.0
2022-03-10	0.2	12.2	0.06	<4	68.4	514.0	0.1	1.1	7.77	0.4	0.042	23.0
Mean	14.1	9.6	0.06	<4	42.3	481.8	0.0	0.93	7.78	0.6	0.029	11.0

< indicates parameter reading is below the minimum detectable limit

Appendix C: Archaeological Report and Cultural Heritage Checklist



ORIGINAL 02 APRIL 2024

STAGE 1-2 ARCHAEOLOGICAL PROPERTY ASSESSMENT

1130 Upper Big Chute Road, Lot 1, Concession 13, Coldwater (Geographic Township Tay), Township of Severn, County of Simcoe (AMICK Corporate Project #2021-335/MCM File #P038-1257-2023)

SUBMITTED TO:

Ontario Ministry of Citizenship and Multiculturalism (MCM)

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MCM FILE NUMBER: P038-1257-2023

CORPORATE PROJECT NUMBER: 2021-225

02 APRIL 2024

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EXECUTIVE SUMMARY

This report describes the results of the 2023 Stage 2 Archaeological Assessment of 1130 Upper Big Chute Road, Lot 1, Concession 13, Coldwater (Geographic Township Tay), Township of Severn, County of Simcoe, conducted by AMICK Consultants Limited. This assessment was undertaken as a requirement under the Planning Act (RSO 1990 and was conducted under Professional Archaeologist License #P038 issued to Marilyn Cornies by the Minister of Citizenship and Multiculturalism (MCM) for the Province of Ontario. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011) and the Ontario Heritage Act (RSO 1990a).

The entirety of the study area is approximately 1 hectare (ha) in area and includes within it two wastewater treatment structures, one brick building, one concrete building, a gravel driveway, grass lawn area, and a wooded area. The study area is bounded on the north by wetland, on the east by wooded area, on the south by Upper Big Chute Road and on the west by wooded area. AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork.

The entirety of the study area was subject to a Stage 2 Archaeological Assessment which consisted of high intensity test pit methodology at a five-metre interval between individual test pits and test pit survey at a ten-metre interval to confirm disturbance on 08 June 2023. All records, documentation, field notes, photographs, and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the MCM on behalf of the government and citizens of Ontario.

As a result of the Stage 2 Archaeological Assessment of the study area, no archaeological resources were encountered. Consequently, the following recommendations are made:

1. *No further archaeological assessment of the study area is warranted.*
2. *The Provincial interest in archaeological resources with respect to the proposed undertaking has been addressed.*
3. *The proposed undertaking is clear of any archaeological concern*

1.0 PROJECT CONTEXT

1.1 DEVELOPMENT CONTEXT

This report describes the results of the 2023 Stage 2 Archaeological Assessment of 1130 Upper Big Chute Road, Lot 1, Concession 13, Coldwater (Geographic Township Tay), Township of Severn, County of Simcoe, conducted by AMICK Consultants Limited. This assessment was undertaken as a requirement under the Planning Act (RSO 1990) and was conducted under Professional Archaeologist License #P038 issued to Marilyn Cornies by the Minister of Citizenship and Multiculturalism (MCM) for the Province of Ontario. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011) and the Ontario Heritage Act (RSO 1990a).

The entirety of the study area is approximately 1 hectare (ha) in area and includes within it two wastewater treatment structures, one brick building, one concrete building, a gravel driveway, grass lawn area, and a wooded area. The study area is bounded on the north by wetland, on the east by wooded area, on the south by Upper Big Chute Road and on the west by wooded area. AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork.

The entirety of the study area was subject to a Stage 2 Archaeological Assessment which consisted of high intensity test pit methodology at a five-metre interval between individual test pits and test pit survey at a ten-metre interval to confirm disturbance on 08 June 2023. All records, documentation, field notes, photographs, and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the MCM on behalf of the government and citizens of Ontario.

An existing environmental conditions map of the study area has been submitted together with this report to MCM for review and reproduced within this report as Map 4.

1.2 HISTORICAL CONTEXT

1.2.1 PRE-CONTACT LAND-USE OUTLINE

Table 1 illustrates the chronological development of cultures within southern Ontario prior to the arrival of European cultures to the area at the beginning of the 17th century. This general cultural outline is based on archaeological data and represents a synthesis and summary of research over a long period of time. It is necessarily generalizing and is not necessarily representative of the point of view of all researchers or stakeholders. It is offered here as a

rough guideline and as a very broad outline to illustrate the relationships of broad cultural groups and time periods.

TABLE 1 PRE-CONTACT CULTURAL CHRONOLOGY FOR SOUTHERN ONTARIO

Years ago	Period	Southern Ontario
250	Terminal Woodland	Ontario and St. Lawrence Iroquois Cultures
1000 2000	Initial Woodland	Princess Point, Saugeen, Point Peninsula, and Meadowood Cultures
3000 4000 5000 6000	Archaic	Laurentian Culture
7000 8000 9000 10000 11000	Palaeo-Indian	Plano and Clovis Cultures
		(Wright 1972)

What follows is an outline of Aboriginal occupation in the area during the Pre-Contact Era from the earliest known period, about 9000 B.C. up to approximately 1650 AD.

1.2.1.1 PALEO-INDIAN PERIOD (APPROXIMATELY 9000-7500 B.C.)

North of Lake Ontario, evidence suggests that early occupation began around 9000 B.C. People probably began to move into this area as the glaciers retreated and glacial lake levels began to recede. The early occupation of the area probably occurred in conjunction with environmental conditions that would be comparable to modern Sub-Arctic conditions. Due to the great antiquity of these sites, and the relatively small populations likely involved, evidence of these early inhabitants is sparse and generally limited to tools produced from stone or to by-products of the manufacture of these implements.

1.2.1.2 ARCHAIC PERIOD (APPROXIMATELY 8000-1000 B.C.)

By about 8000 B.C. the gradual transition from a post glacial tundra-like environment to an essentially modern environment was largely complete. Prior to European clearance of the landscape for timber and cultivation, the area was characterized by forest. The Archaic Period is the longest and the most apparently stable of the cultural periods identified through archaeology. The Archaic Period is divided into the Early, Middle and Late Sub-Periods, each represented by specific styles in projectile point manufacture. Many more sites of this period are found throughout Ontario, than of the Palaeo-Indian Period. This is probably a reflection of two factors: the longer period of time reflected in these sites, and a greater population density. The greater population was likely the result of a more diversified subsistence strategy carried out in an environment offering a greater variety of abundant resources (Smith 2002:58-59).

Current interpretations suggest that the Archaic Period populations followed a seasonal cycle of resource exploitation. Although similar in concept to the practices speculated for the big game hunters of the Palaeo-Indian Period, the Archaic populations utilized a much broader range of resources, particularly with respect to plants. It is suggested that in the spring and early summer, bands would gather at the mouths of rivers and at rapids to take advantage of fish spawning runs. Later in the summer and into the fall season, smaller groups would move to areas of wetlands to harvest nuts and wild rice. During the winter, they would break into yet smaller groups probably based on the nuclear family and perhaps some additional relatives to move into the interior for hunting. The result of such practices would be to create a distribution of sites across much of the landscape (Smith 2002: 59-60).

The material culture of this period is much more extensive than that of the Palaeo-Indians. Stylistic changes between Sub-Periods and cultural groups are apparent, although the overall quality in production of chipped lithic tools seems to decline. This period sees the introduction of ground stone technology in the form of celts (axes and adzes), manos and metates for grinding nuts and fibres, and decorative items like gorgets, pendants, birdstones, and bannerstones. Bone tools are also evident from this time period. Their presence may be a result of better preservation from these more recent sites rather than a lack of such items in earlier occupations. In addition, copper and exotic chert types appear during the period and are indicative of extensive trading (Smith 2002: 58-59).

1.2.1.3 WOODLAND PERIOD (APPROXIMATELY 1000 B.C.-1650 A.D.)

The primary difference in archaeological assemblages that differentiates the beginning of the Woodland Period from the Archaic Period is the introduction of ceramics to Ontario populations. This division is probably not a reflection of any substantive cultural changes, as the earliest sites of this period seem to be in all other respects a continuation of the Archaic mode of life with ceramics added as a novel technology. The seasonally based system of resource exploitation and associated population mobility persists for at least 1500 years into the Woodland Period (Smith 2002: 61-62).

The Early Woodland Sub-Period dates from about 1000-400 B.C. Many of the artifacts from this time are similar to the late Archaic and suggest a direct cultural continuity between these two temporal divisions. The introduction of pottery represents an entirely new technology that was probably acquired through contact with more southerly populations from which it likely originates (Smith 2002:62).

The Middle Woodland Sub-Period dates from about 400 B.C.-800 A.D. Within the region including the study area, a complex emerged at this time termed "Point Peninsula." Point Peninsula pottery reflects a greater sophistication in pottery manufacture compared with the earlier industry. The paste and temper of the new pottery is finer and new decorative techniques such as dentate and pseudo-scallop stamping appear. There is a noted Hopewellian influence in southern Ontario populations at this time. Hopewell influences from south of the Great Lakes include a widespread trade in exotic materials and the presence of distinct Hopewell style artifacts such as platform pipes, copper or silver panpipe

covers and shark's teeth. The populations of the Middle Woodland participated in a trade network that extended well beyond the Great Lakes Region.

The Late Woodland Sub-Period dates from about 500-1650 A.D. The Late Woodland includes four separate phases: Princess Point, Early Ontario Iroquoian, Middle Ontario Iroquoian and Late Ontario Iroquoian.

The Princess Point phase dates to approximately 500-1000 A.D. Pottery of this phase is distinguished from earlier technology in that it is produced by the paddle method instead of coil and the decoration is characterized by the cord wrapped stick technique. Ceramic smoking pipes appear at this time in noticeable quantities. Princess Point sites cluster along major stream valleys and wetland areas. Maize cultivation is introduced by these people to Ontario. These people were not fully committed to horticulture and seemed to be experimenting with maize production. They generally adhere to the seasonal pattern of occupation practiced by earlier occupations, perhaps staying at certain locales repeatedly and for a larger portion of each year (Smith 2002: 65-66).

The Early Ontario Iroquoian stage dates to approximately 950-1050 A.D. This stage marks the beginning of a cultural development that led to the historically documented Ontario Iroquoian groups that were first contacted by Europeans during the early 1600s (Petun, Neutral, and Huron). At this stage formal semi-sedentary villages emerge. The Early stage of this cultural development is divided into two cultural groups in southern Ontario. The areas occupied by each being roughly divided by the Niagara Escarpment. To the west were located the Glen Meyer populations, and to the east were situated the Pickering people (Smith 2002: 67).

The Middle Ontario Iroquoian stage dates to approximately 1300-1400 A.D. This stage is divided into two sub-stages. The first is the Uren sub-stage lasting from approximately 1300-1350 A.D. The second of the two sub-stages is known as the Middleport sub-stage lasting from roughly 1350-1400 A.D. Villages tend to be larger throughout this stage than formerly (Smith 2002: 67).

The Late Ontario Iroquoian stage dates to approximately 1400-1650 A.D. During this time the cultural divisions identified by early European explorers are under development and the geographic distribution of these groups within southern Ontario begins to be defined.

1.2.2 POST-CONTACT LAND USE OUTLINE

In 1815 a group of Scots made a long voyage from Red River Manitoba to form the first permanent settlement in Simcoe County, in West Gwillimbury (Garbutt, 2010).

Following this, the largest influx of settlers came from the British Isles in 1831 and 1832, where some soldiers were given free land grants. Many of these settlers were however independent settlers and worked as labourers and weavers and were escaping impoverishment brought on by the depression following the Napoleonic wars. This influx of

settlers continued into the 1840s and concentrated on the settlement route along Young Street to Holland Landing (Garbutt, 2010).

The first arrival of Europeans within Tay Township was in 1615, the Jesuits named and established this area as the first Christian mission in Canada. The area was called Huronia and consisted of land from the present day Tiny Township through Flos, Tay, Medonte and to Orillia. After the Iroquois destroyed the Huron, the surviving First Nations and priests found safety on Christian Island. In 1778 George Cowan established Cowan's Trading post, located on the east side of Matchedash Bay. This area was developed and settled because Lieutenant-Governor John Graves Simcoe wanted to establish a safer transportation route for military supplies between the Great Lakes. It was finally decided that Penetanguishene would be the naval headquarters. (Tay Township 2015).

Map 2 is a facsimile segment from Tremaine's Map of the County of Simcoe (Hogg 1871). Map 2 illustrates the location of the study area and environs as of 1871. The study area is not shown to belong to anyone and no structures are shown to be within the study area. In addition, this map illustrates an unnamed water course situated west of the study area and a settlement road is depicted as immediately adjacent to the study area to the south and east. The road depicted immediately south of the study area is the current Upper Big Chute Road, and the road depicted to the east of the study area is no longer present on more recent maps. The water course depicted is the current Coldwater River.

Map 3 is a facsimile segment of the Township of Toronto map reproduced from the Simcoe Supplement in Illustrated Atlas of the Dominion of Canada (Belden & Co. 1881). Map 3 illustrates the location of the study area and environs as of 1881. The study area is not shown to belong to anyone and no structures are shown to be within the study area. In addition, this map illustrates an unnamed water course situated west of the study area and a settlement road is depicted as immediately adjacent to the study area to the south. This road is the current Upper Big Chute Road. The water course depicted is the current Coldwater River. A settlement area is depicted southwest of the study area.

Current conditions encountered during the Stage 2 Archaeological Assessment are illustrated in Maps 5 & 6.

1.2.3 SUMMARY OF HISTORICAL CONTEXT

The brief overview of readily available documentary evidence indicates that the study area is situated within an area that was close to historic transportation routes and in an area well populated during the nineteenth century and therefore has potential for sites relating to early Post-contact settlement in the region. Background research indicates the property has potential for significant archaeological resources of Native origins based on proximity to a natural source of potable water in the past.

1.3 ARCHAEOLOGICAL CONTEXT

The study area is located near Coldwater and is bounded on the north by wetland, on the east by wooded area, on the south by Upper Big Chute Road and on the west by Wooded area.

Two water treatment structures, one brick building, one concrete building, a gravel driveway are present within the study area. The remainder of the study area consists of grass lawn area and a small wooded area in the southeast portion. The study area does not contain any areas of steep slope. The study area does not contain any ploughable lands. The study area is approximately 166 metres south of Coldwater River

1.3.1 PHYSIOGRAPHIC REGION

The study area is situated within the Simcoe Lowlands physiographic region (Chapman and Putnam 1984:177-182). For the most part, at one time, this restricted basin was part of the floor of glacial Lake Algonquin, and its surface beds are deposits of deltaic and lacustrine origin, and not glacial outwash. As a small basin shut in by the Edenvale Moraine, the Minesing flats represent an annex of the glacial Lake Nipissing plains. (Chapman and Putnam 1984: 177-182). The lowlands bordering Georgian Bay and Lake Simcoe may be termed the Simcoe lowlands. Together they cover an area of about 1,100 square miles. They fall naturally into two major divisions separated by the uplands of Simcoe County. To the west are the plains draining into Nottawasaga Bay mostly by way of the Nottawasaga River. This area is called the Nottawasaga basin. To the east is the lowland surrounding Lake Simcoe, referred to as the Lake Simcoe basin. These two basins are connected at Barrie by a flat-floored valley and by similar valleys among the upland plateau farther north. Both the lowlands and transverse valleys were flooded by Lake Algonquin and are bordered by shorecliffs, beaches, and bouldery terraces. Thus they are floored by sand, silt, and clay. The study area is on Trenton-Black River bedrock, which is a limestone and dolostone formation. The soils are characterized by mainly imperfectly drained Tecumseth sandy loam. It is a sandy soil with good drainage. (Hoffman and Richards 1955).

1.3.2 SURFACE WATER

The study area is located adjacent to a large low lying wet area that is associated with the Coldwater River. A segment of the Coldwater River is located approximately 166m north of the study area.

1.3.3 REGISTERED ARCHAEOLOGICAL SITES

The Archaeological Sites Database administered by the MCM indicates that there are no (0) previously documented sites within 1 kilometre of the study area. However, it must be noted that this assumes the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MCM. In addition, it must also be noted that a lack of formerly documented sites does not indicate that there are no sites present as the documentation of any archaeological site is contingent upon prior research having been conducted within the study area.

1.3.3.1 PRE-CONTACT REGISTERED SITES

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MCM. As a result, it was determined that no archaeological sites relating directly to Pre-contact habitation/activity had been formally registered within the immediate vicinity of the study area. However, the lack of formally documented archaeological sites does not mean that Pre-contact people did not use the area; it more likely reflects a lack of systematic archaeological research in the immediate vicinity. Even in cases where one or more assessments may have been conducted in close proximity to a proposed landscape alteration, an extensive area of physical archaeological assessment coverage is required throughout the region to produce a representative sample of all potentially available archaeological data in order to provide any meaningful evidence to construct a pattern of land use and settlement in the past.

1.3.3.2 POST-CONTACT REGISTERED SITES

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MCM. As a result, it was determined that no archaeological sites relating directly to Post-contact habitation/activity had been formally registered within the immediate vicinity of the study area.

1.3.3.3 REGISTERED SITES OF UNKNOWN CULTURAL AFFILIATION

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MCM. As a result, it was determined that no archaeological sites of unknown cultural affiliation have been formally registered within the immediate vicinity of the study area.

1.3.4 PREVIOUS ARCHAEOLOGICAL ASSESSMENTS

On the basis of information supplied by MCM, no archaeological assessments have been conducted within 50 metres of the study area. AMICK Consultants Limited assumes no responsibility for the accuracy of previous assessments, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MCM. In addition, it must also be noted that the lack of formerly documented previous assessments does not indicate that no assessments have been conducted.

1.3.4.1 PREVIOUS REGIONAL ARCHAEOLOGICAL POTENTIAL MODELLING

The study area is situated within an area subject to an archaeological master plan or a similar regional overview study. The *County of Simcoe Archaeological Master Plan* was endorsed by County Council on 4 December 2019. The study involved the delineation of areas of archaeological potential within the County of Simcoe. A facsimile segment of the

archaeological potential map produced as a part of that study has been reproduced within this report as Map 7 and illustrates the Study Area on this plan. This map indicates that the study area is not in a zone of archaeological potential based on a composite screening criteria for First Nations, Métis, and Historical sites. Table 2 describes the modelling criteria by which the Simcoe County regional archaeological potential was calculated.

Table 2: Summary of Archaeological Site Potential Modelling Criteria

Environmental or Cultural Feature	Buffer Distance (metres)	Buffer Qualifier
<i>Pre-contact Indigenous Site Potential</i>		
rivers and streams	250	from top of bank for former; from centreline for latter; on well- or imperfectly drained soils only
lakes and ponds	250	on well or imperfectly drained soils only
Wetlands (including pre-settlement)	250	on well or imperfectly drained soils only
alluvial soils (former river courses)	250	on well or imperfectly drained soils only
registered archaeological sites	100	200 m for villages; if not completely excavated
slope > 20 degrees	0	removed from potential zone
<i>Historical Site Potential</i>		
historical settlement centres	polygon as mapped	no buffer, override integrity
domestic sites	100	None
breweries and distilleries	100	None
hotels/taverns	100	None
historical schools and churches	100	None
historic mills, forges, extraction industries	100	None
early settlement roads	100	both sides
early railways	50	both sides
cemeteries	100 for cemetery leads	10m around cemetery polygons
registered archaeological sites	100	if not completely excavated

1.3.5 HISTORIC PLAQUES

There are no relevant plaques associated with the study area, which would suggest an activity or occupation within, or near, the study area that may indicate potential for associated archaeological resources of significant CHVI.

1.3.6 SUMMARY OF ARCHAEOLOGICAL CONTEXT

The study area contains two wastewater treatment structures, one brick building, one concrete building, a gravel driveway, grass lawn area, and a wooded area. The study area is located adjacent to a large low lying wet area that is associated with the Coldwater Rive. A segment of the Coldwater River is located approximately 166m north of the study area.

Current conditions within the study area indicate that some areas of the property may have no or low archaeological potential and do not require Stage 2 Archaeological Assessment or should be excluded from Stage 2 Archaeological Assessment. These areas would include the footprint of existing structures and areas under gravel. A significant proportion of the study area does exhibit archaeological potential and therefore a Stage 2 Archaeological Assessment is required.

No previously registered archaeological sites have been documented within 1km of the study area.

The study area is situated within an area subject to an archaeological master plan or a similar regional overview study. There are no relevant plaques associated with the study area.

The study area has potential for archaeological resources of Native origins based on proximity to a source of potable water that was also used as a means of waterborne trade and communication. Background research also suggests potential for archaeological resources of Post-contact origins based on proximity to a historic roadway.

2.0 FIELD WORK METHODS AND WEATHER CONDITIONS

2.1 INTRODUCTION

A property inspection was carried out in compliance with Standards and Guidelines for Consultant Archaeologists (MTC 2011) to document the existing conditions of the study area to facilitate the Stage 2 Archaeological Assessment. All areas of the study area were visually inspected and select features were photographed as a representative sample of each area defined within Maps 5 & 6. Observations made of conditions within the study area at the time of the inspection were used to inform the requirement for Stage 2 Archaeological Assessment for portions of the study area as well as to aid in the determination of appropriate Stage 2 Archaeological Assessment strategies. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Maps 5 & 6 of this report.

The Stage 2 Archaeological Assessment of the study area was carried out on 08 June 2023 and consisted of high intensity test pit methodology at a five-metre interval between individual test pits and test pit survey at a ten-metre interval to confirm disturbance which was conducted in compliance with the Standards and Guidelines for Consultant Archaeologists, section 2.1.2: Test Pit Survey/2.1.8: Property Survey to Confirm Previous Disturbance (MTC 2011). Weather conditions were appropriate for the necessary fieldwork required to complete the Stage 2 Archaeological Assessment and to create the documentation appropriate to this study.

2.2 TEST PIT SURVEY

Approximately 0.12 ha of the study area was wooded and lawn that cannot be strip ploughed, and was subjected to test pit survey at 5m intervals per Section 2.1.2, Standard 1 (MTC 2011).

All test pits were excavated within 1m of all built structures, were at least 30cm in diameter and were excavated into the first 5cm of subsoil to examine stratigraphy, cultural features and evidence of fill. All soils were screen through mesh no greater than 6mm and all test pits were backfilled. All work was photo documented.

During the 5m test pit survey, no archaeological resources were encountered.

2.3 CONFIRMATION OF DISTURBANCE

Approximately 0.76 ha of the study area was subject to test pit survey at 10m intervals to confirm disturbance. Areas of suspected disturbance within the study area consist of an area identified as probable disturbance from the construction of the wastewater treatment structures and associated features and buildings. AMICK Consultants Limited tested the suspected disturbed area at a 10-metre interval to confirm disturbance in a manner consistent with the objectives to ensure that the area is accurately delimited and properly identified. This procedure demonstrated that the entire disturbed portion of the study area consists of fill deposited within a deeply disturbed context. There is no archaeological potential within this area.

Approximately 12% of the study area consisted of lawn area that was test pit surveyed at an interval of 5 metres between individual test pits. Approximately 76% of the study area was lawn area that was test pit surveyed at an interval of 10 metres between individual test pits to confirm disturbance. Approximately 14% of the study area was not assessable due to the presence of existing structures and disturbed gravel driveway. Maps 5 & 6 of this report illustrate the Stage 2 Assessment methodology within the study area.

3.0 RECORD OF FINDS

3.1 INTRODUCTION

As a result of the Stage 2 Archaeological Assessment of the study area, no archaeological resources of any description were encountered.

The documentation produced during the field investigation conducted in support of this report includes: one sketch map, one page of photo log, one page of field notes, and 22 digital photographs.

4.0 ANALYSIS AND CONCLUSIONS

4.1 STAGE 2 ANALYSIS AND CONCLUSIONS

No archaeological sites or resources were found during the Stage 2 Archaeological Assessment of the study area.

4.1.1 CHARACTERISTICS INDICATING ARCHAEOLOGICAL POTENTIAL

Section 1.3.1 of the Standards and Guidelines for Consultant Archaeologists specifies the property characteristics that indicate archaeological potential (MtC 2011). Factors that indicate archaeological potential are features of the local landscape and environment that may have attracted people to either occupy the land or to conduct activities within the study area. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics include:

- 1) Within 300m of Previously Identified Archaeological Sites
- 2) Within 300m of Primary Water Sources (e.g., lakes, rivers, streams, and creeks)
- 3) Within 300m of Secondary Water Sources (e.g., intermittent streams and creeks, springs, marshes, and swamps)
- 4) Within 300 m of Features Indicating Past Water Sources (e.g., glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches)
- 5) Within 300m of an Accessible or Inaccessible Shoreline (e.g., high bluffs, swamp, or marsh fields by the edge of a lake, sandbars stretching into marsh)
- 6) Elevated Topography (e.g., eskers, drumlins, large knolls, and plateaux)
- 7) Pockets of Well-drained Sandy Soil, especially near areas of heavy soil or rocky ground.
- 8) Distinctive Land Formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.
- 9) Resource Areas, including:
 - food or medicinal plants (e.g., migratory routes, spawning areas, and prairie)
 - scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert)
 - resources of importance to early Post-contact industry (e.g., logging, prospecting, and mining)
- 10) Within 300m of Areas of Early Post-contact Settlement, including:

- military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes)
 - early wharf or dock complexes, pioneer churches and early cemeteries
- 11) Within 100m of Early Historical Transportation Routes (e.g., trails, passes, roads, railways, portage routes)
- 12) Heritage Property – A property listed on a municipal register or designated under the Ontario Heritage Act or is a federal, provincial, or municipal historic landmark or site.
- 13) Documented Historical or Archaeological Sites – property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

The study area is situated 166 metres south of Coldwater River which is a primary water source. The study area is situated within 100m of an early settlement road that appears on the historic atlas maps of 1871 and 1876. This historic road corresponds to the road presently known as Upper Big Chute Road which is directly adjacent to the study area on its southern edge.

4.1.2 CHARACTERISTICS INDICATING REMOVAL OF ARCHAEOLOGICAL POTENTIAL

Section 1.3.2 of the Standards and Guidelines for Consultant Archaeologists specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MTC 2011). These characteristics include:

- 1) Quarrying
- 2) Major Landscaping Involving Grading Below Topsoil
- 3) Building Footprints
- 4) Sewage and Infrastructure Development

The study area contains two water treatment structures, one brick building, one concrete building, a gravel driveway.

4.1.3 SUMMARY OF ARCHAEOLOGICAL POTENTIAL

Table 3 below summarizes the evaluation criteria of the Ministry of Citizenship and Multiculturalism together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on

the basis of proximity to water and the location of early historic settlement roads adjacent to the study area.

TABLE 3 EVALUATION OF ARCHAEOLOGICAL POTENTIAL

FEATURE OF ARCHAEOLOGICAL POTENTIAL		YES	NO	N/A	COMMENT
1	Known archaeological sites within 300m		N		If Yes, potential determined
PHYSICAL FEATURES					
2	Is there water on or near the property?	Y			If Yes, what kind of water?
2a	Primary water source within 300 m. (lakeshore, river, large creek, etc.)	Y			If Yes, potential determined
2b	Secondary water source within 300 m. (stream, spring, marsh, swamp, etc.)		N		If Yes, potential determined
2c	Past water source within 300 m. (beach ridge, river bed, relic creek, etc.)		N		If Yes, potential determined
2d	Accessible or Inaccessible shoreline within 300 m. (high bluffs, marsh, swamp, sand bar, etc.)		N		If Yes, potential determined
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)		N		If Yes, and Yes for any of 4-9, potential determined
4	Pockets of sandy soil in a clay or rocky area		N		If Yes and Yes for any of 3, 5-9, potential determined
5	Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc.)		N		If Yes and Yes for any of 3-4, 6-9, potential determined
HISTORIC/PREHISTORIC USE FEATURES					
6	Associated with food or scarce resource harvest areas (traditional fishing locations, agricultural/berry extraction areas, etc.)		N		If Yes, and Yes for any of 3-5, 7-9, potential determined.
7	Early Post-contact settlement area within 300 m.		N		If Yes, and Yes for any of 3-6, 8-9, potential determined
8	Historic Transportation route within 100 m. (historic road, trail, portage, rail corridors, etc.)	Y			If Yes, and Yes for any 3-7 or 9, potential determined
9	Contains property designated and/or listed under the Ontario Heritage Act (municipal heritage committee, municipal register, etc.)		N		If Yes and, Yes to any of 3-8, potential determined
APPLICATION-SPECIFIC INFORMATION					
10	Local knowledge (local heritage organizations, Pre-contact, etc.)		N		If Yes, potential determined
11	Recent disturbance not including agricultural cultivation (post-1960-confirmed extensive and intensive including industrial sites, aggregate areas, etc.)		N		If Yes, no potential or low potential in affected part (s) of the study area.

If **YES** to any of 1, 2a-c, or 10 Archaeological Potential is **confirmed**

If **YES** to 2 or more of 3-9, Archaeological Potential is **confirmed**

If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed** for at least a portion of the study area.

4.2 STAGE 2 ANALYSIS AND CONCLUSIONS

No archaeological sites or resources were found during the Stage 2 survey of the study area.

5.0 RECOMMENDATIONS

5.1 STAGE 2 RECOMMENDATIONS

As a result of the Stage 2 Archaeological Assessment of the study area, no archaeological resources were encountered. Consequently, the following recommendations are made:

1. *No further archaeological assessment of the study area is warranted;*
2. *The Provincial interest in archaeological resources with respect to the proposed undertaking has been addressed;*
3. *The proposed undertaking is clear of any archaeological concern.*

6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

- a. *This report is submitted to the Minister of Citizenship and Multiculturalism as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c. 0.18. The report is reviewed to ensure that it complies with the standards and guidelines issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Citizenship and Multiculturalism, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.*
- b. *It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the Ontario Heritage Act.*
- c. *Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to*

carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.

- d. *The Cemeteries Act, R.S.O. 1990, c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.*
- e. *Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.*

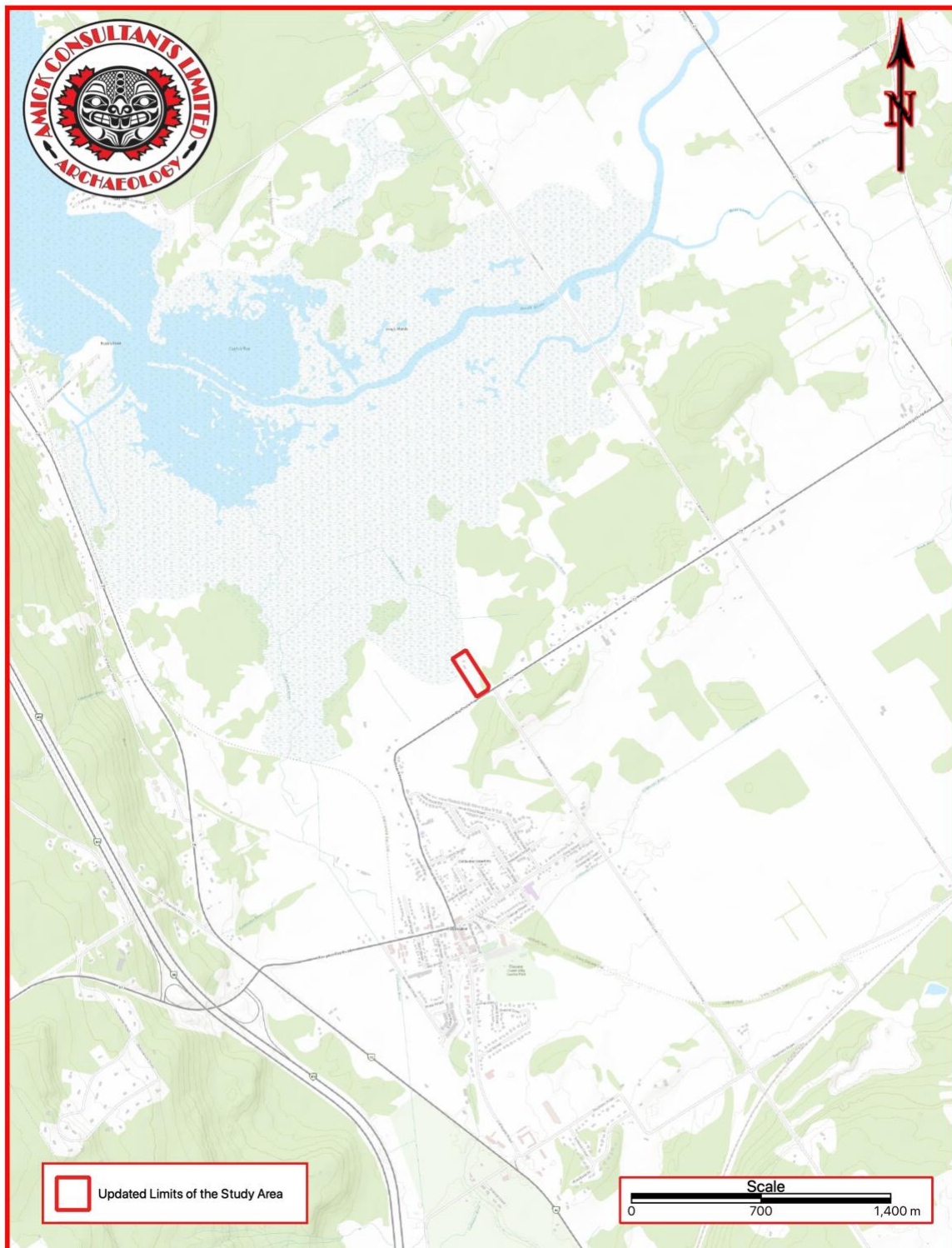
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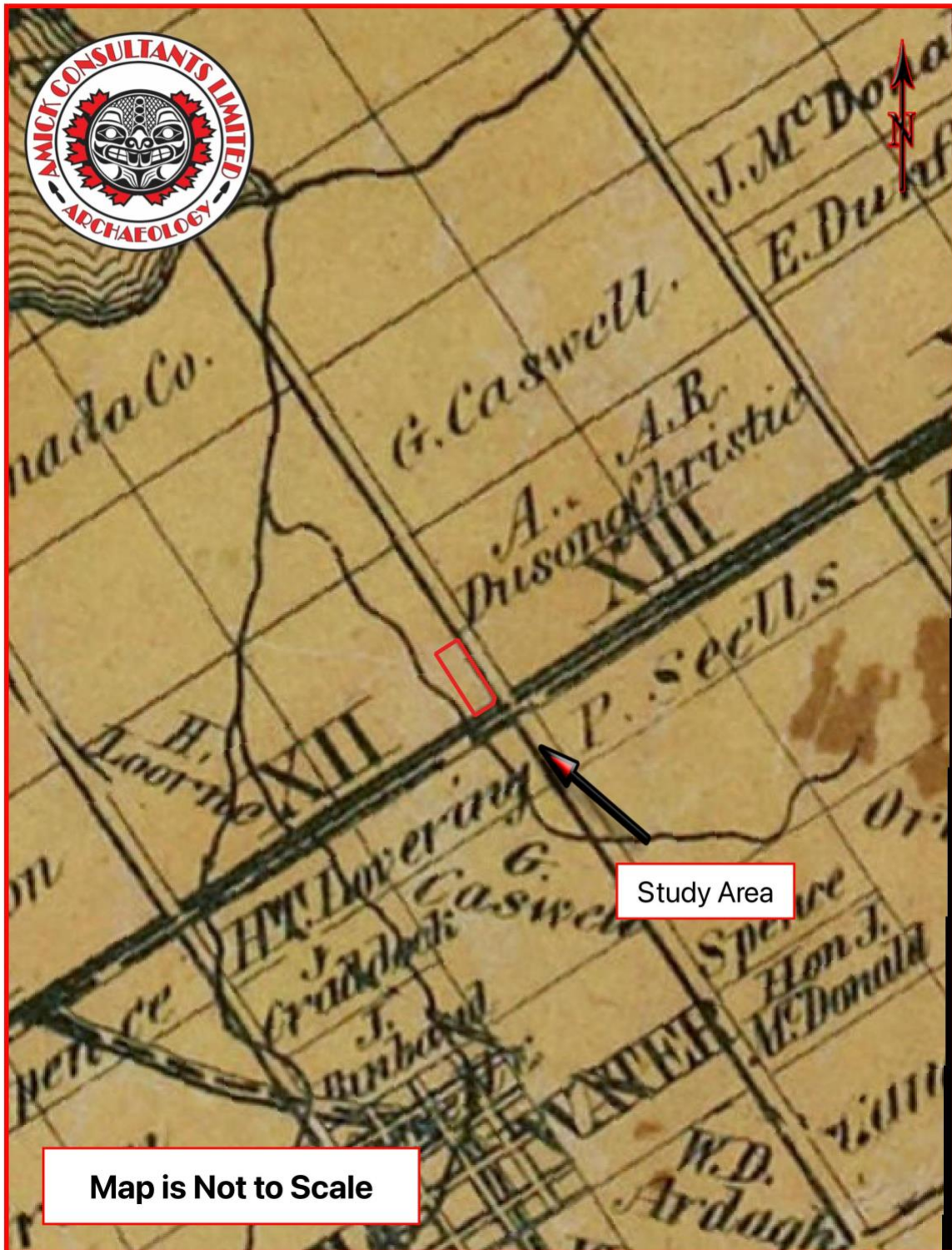
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MAPS



MAP 1 LOCATION OF THE STUDY AREA (ESRI 2019)



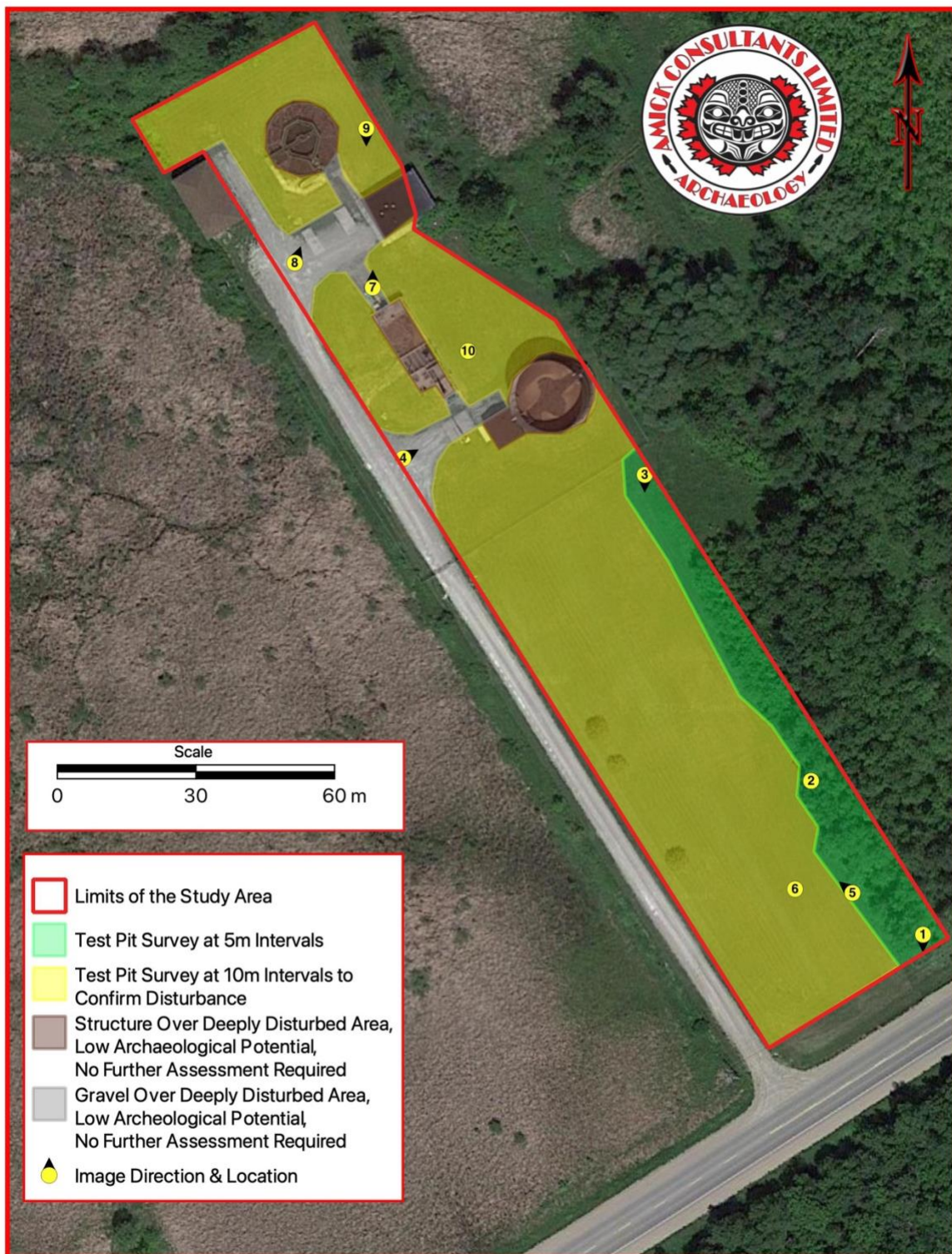
MAP 2 FACSIMILE SEGMENT OF HOGG'S MAP OF THE COUNTY OF SIMCOE
(HOGG 1871)



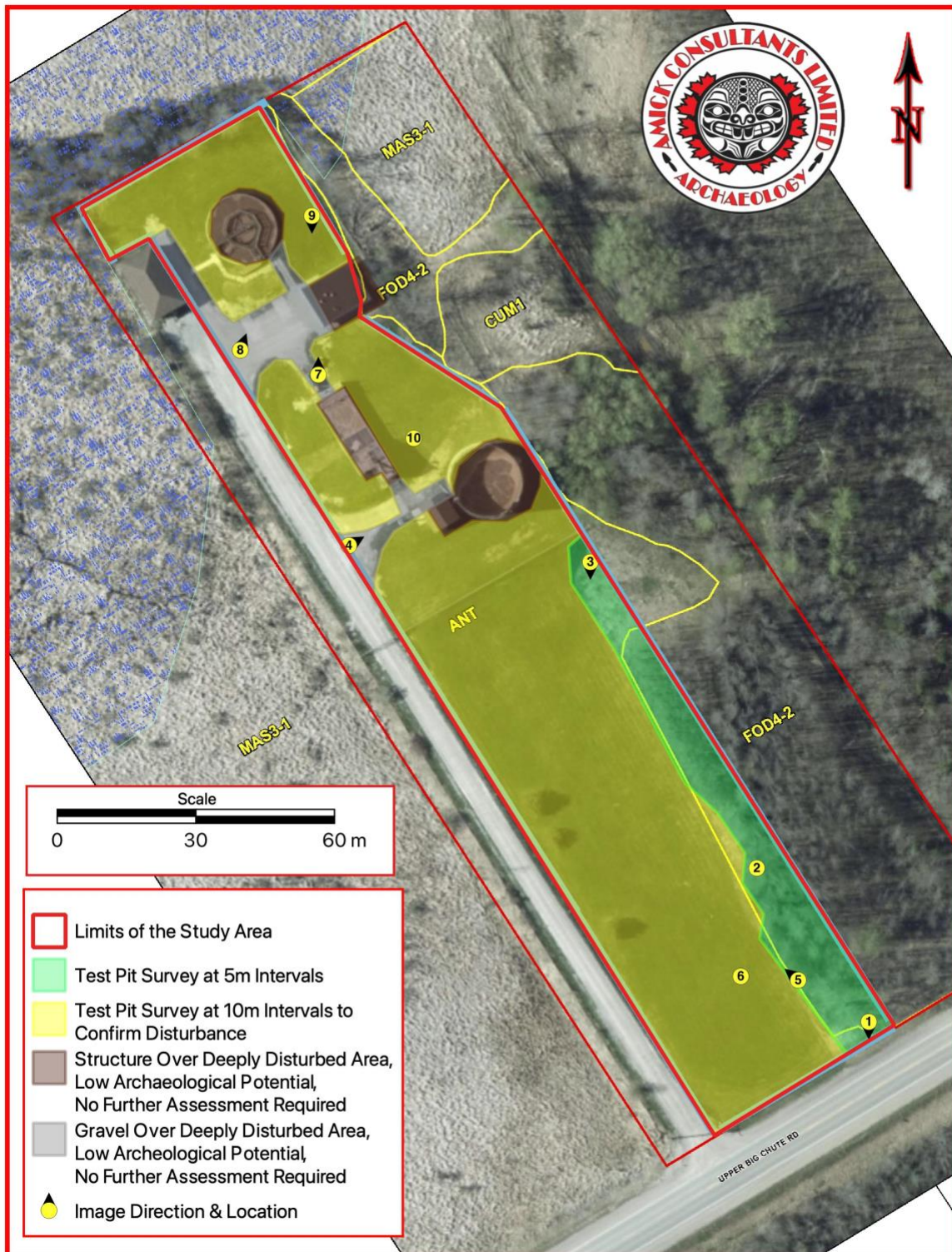
**MAP 3 FACSIMILE SEGMENT OF THE SIMCOE SUPPLEMENT IN ILLUSTRATED ATLAS OF THE
DOMINION OF CANADA (BELDEN & CO 1881)**



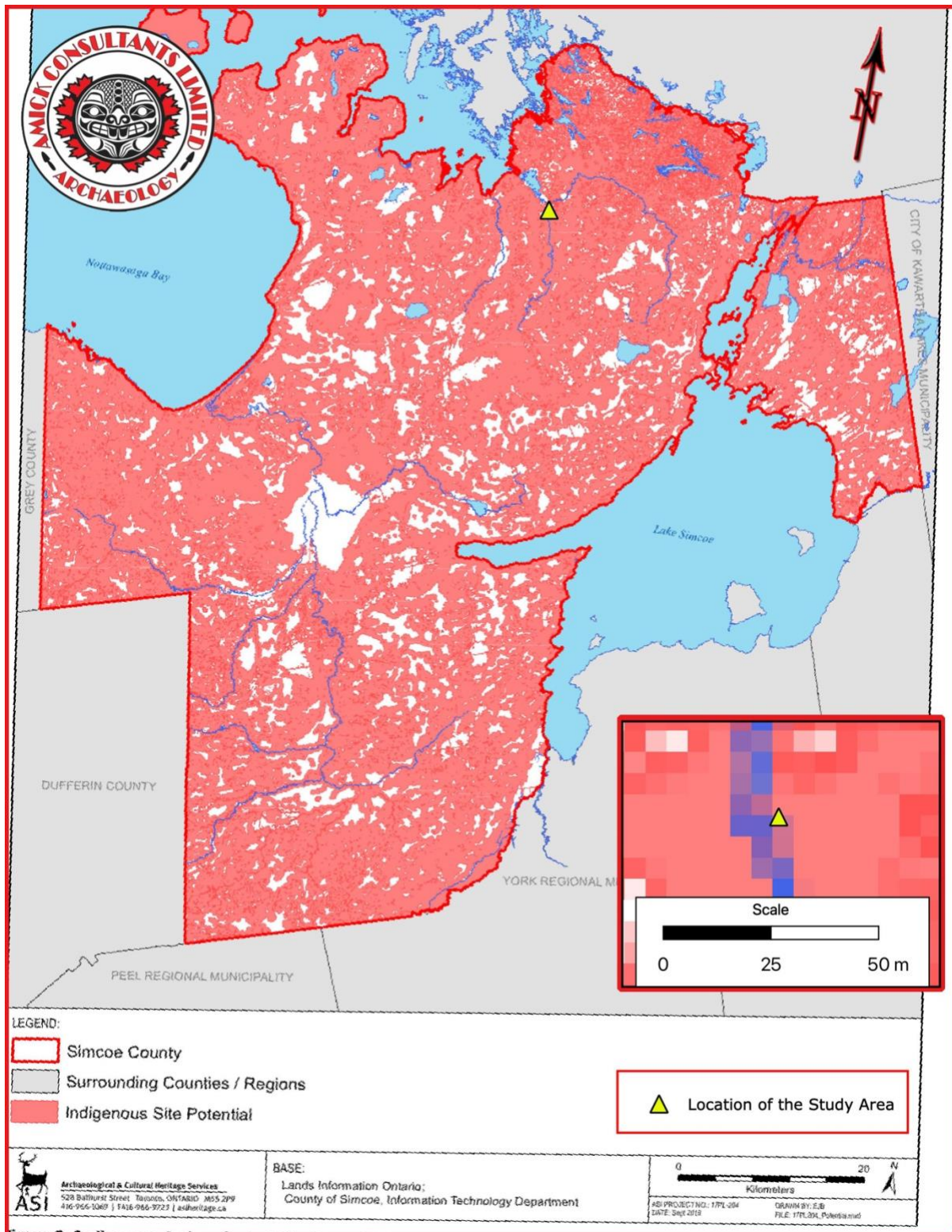
MAP 4 EXISTING ENVIRONMENTAL CONDITIONS (PALMER 2022)



MAP 5 AERIAL PHOTO OF THE STUDY AREA (GOOGLE EARTH 2016)



MAP 6 DETAILED PLAN OF THE STUDY AREA (PALMER 2022)



MAP 7 ARCHAEOLOGICAL POTENTIAL MAP OF SIMCOE COUNTY (ASI 2019A)

IMAGES



IMAGE 1 **OVERVIEW OF WOODED AREA**



IMAGE 2 **COMPLETED TEST PIT**



IMAGE 3 **OVERVIEW OF LAWN AREA**



IMAGE 4 **GRAVEL DRIVEWAY, WATER TREATMENT STRUCTURE, AND BUILDING**



IMAGE 5 **CREW CONDUCTING TEST PIT SURVEY AT 10M INTERVALS TO CONFIRM DISTURBANCE**



IMAGE 6 **DISTURBED TEST PIT**



IMAGE 7 GRAVEL DRIVEWAY AND CONCRETE BUILDING



IMAGE 8 WATER TREATMENT STRUCTURE



IMAGE 9 CREW CONDUCTING TEST PIT SURVEY AT 10M INTERVALS TO CONFIRM DISTURBANCE



IMAGE 10 DISTURBED TEST PIT

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes A Checklist for the Non-Specialist

The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
 - is a recognized heritage property
 - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
 - the main project area
 - temporary storage
 - staging and working areas
 - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – [separate checklist](#)
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

Project or Property Name
Coldwater WWTP Expansion Class Environmental Assessment

Project or Property Location (upper and lower or single tier municipality)
Coldwater, Township of Severn

Proponent Name
Township of Severn

Proponent Contact Information
Colt Newman

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	☐	☒

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

	Yes	No
2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?	☐	☒

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Is the property (or project area):		
a. identified, designated or otherwise protected under the <i>Ontario Heritage Act</i> as being of cultural heritage value?	☐	☒
b. a National Historic Site (or part of)?	☐	☒
c. designated under the <i>Heritage Railway Stations Protection Act</i> ?	☐	☒
d. designated under the <i>Heritage Lighthouse Protection Act</i> ?	☐	☒
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?	☐	☒
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	☐	☒

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?	☐	☒
b. has or is adjacent to a known burial site and/or cemetery?	☐	☒
c. is in a Canadian Heritage River watershed?	☐	☒
d. contains buildings or structures that are 40 or more years old?	☒	☐

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?	☐	☒
b. has a special association with a community, person or historical event?	☐	☒
c. contains or is part of a cultural heritage landscape?	☐	☒

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act*, *Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
 - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's [Ontario Heritage Toolkit](#) or [Standards and Guidelines for Conservation of Provincial Heritage Properties](#).

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's [Standards & Guidelines for Conservation of Provincial Heritage Properties](#) [s.B.2.]

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

- i. designated under the *Ontario Heritage Act*
 - individual designation (Part IV)
 - part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note:** To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
 - [Ontario Heritage Trust](#)
 - local land registry office (for a title search)
-

ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- [Ontario Heritage Trust](#) - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
 - municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
 - local land registry office (for a title search)
-

iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
 - municipal heritage planning staff
 - municipal heritage committee
-

iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act*. **Note:** To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
 - [Ontario Heritage Trust](#)
-

- v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the [National Historic Sites website](#).

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the [Directory of Designated Heritage Railway Stations](#).

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the [Heritage Lighthouses of Canada](#) website.

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the [Federal Heritage Buildings Review Office](#).

See a [directory of all federal heritage designations](#).

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – [World Heritage Site website](#).

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- [municipal heritage committees](#) or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's [Heritage directory](#) – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a [list of plaques](#) commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a [list of plaques](#) commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a [database of registered cemeteries](#)
- Ontario Genealogical Society (OGS) – to [locate records of Ontario cemeteries](#), both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to [locate early cemeteries](#)

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the [Canadian Heritage River System](#).

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide [Heritage Property Evaluation](#).

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- [municipal heritage committees](#) or local heritage organizations
- Ontario Historical Society's "[Heritage Directory](#)" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through [Ontario Trails](#).

Appendix D: Receiving Water Assessment Report



Enhancing our communities



Coldwater Wastewater Treatment Plant Expansion Class EA RECEIVING WATER ASSESSMENT

Township of Severn

Document Control

File:

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Date:

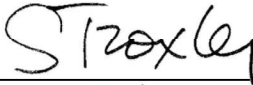
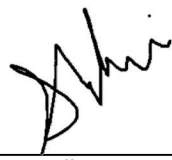
November
8, 2024

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Issue	Date	Description
0	November 6, 2024	Draft Report
1	November 8, 2024	Final Report

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Appendices

Appendix A: Low Flow Statistical Analysis

Appendix B: 2021-2022 Water Quality Monitoring Memorandum

Appendix C: 2021-2022 River Water Quality Plots



1 Introduction

Tatham Engineering Limited (Tatham) was retained by the Township of Severn (Township) to conduct a Class Environmental Assessment (Class EA) for the future expansion of the Coldwater Wastewater Treatment Plant (WWTP).

The Coldwater WWTP, located on Upper Big Chute Road in the Village of Coldwater, discharges its treated effluent to the Coldwater River. The locations of the WWTP and outfall are shown on Figure 1.

This report presents an assessment of Coldwater River's water quality and flows, its assimilative capacity, and the proposed effluent quality criteria for the expanded WWTP.

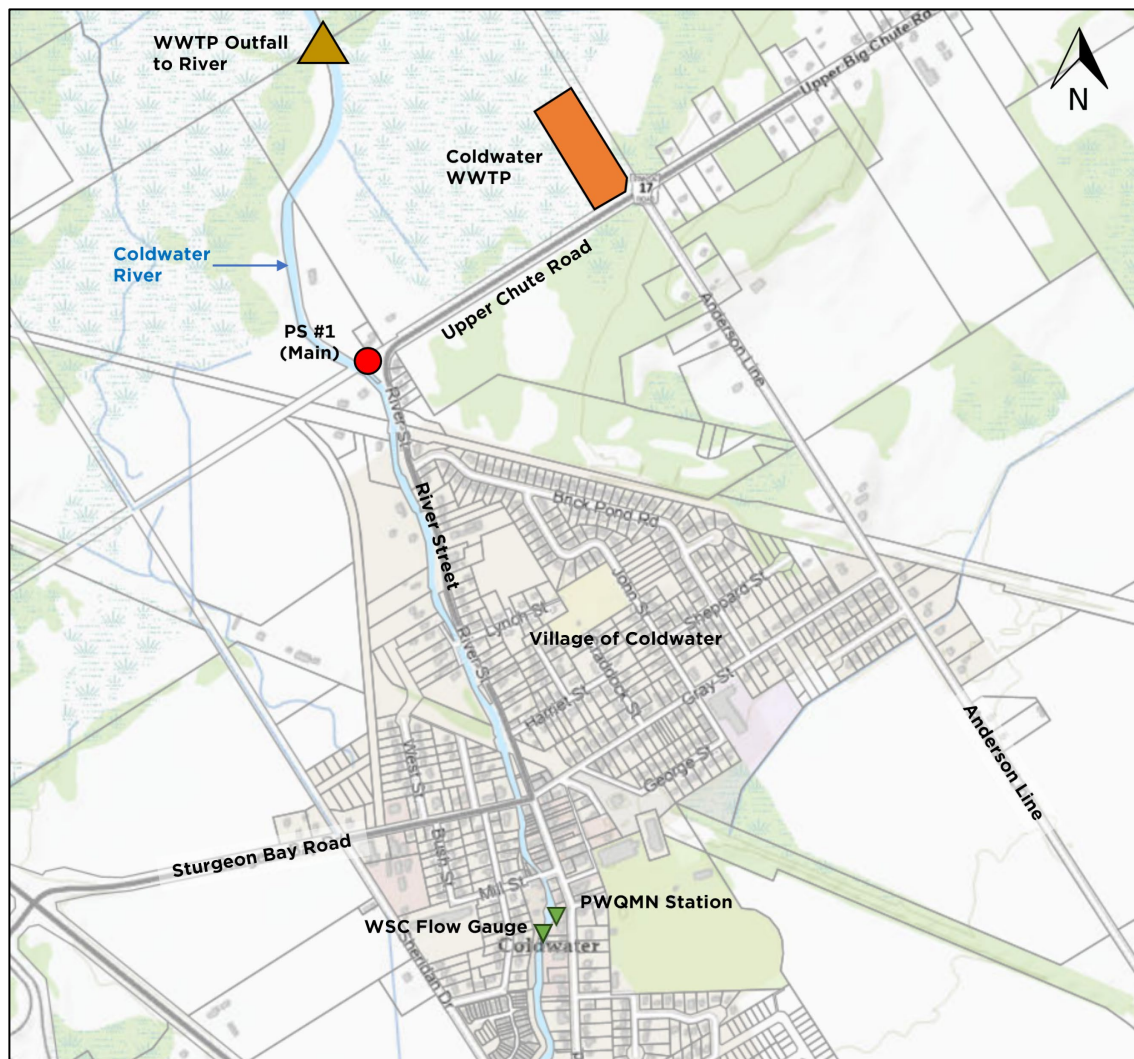


Figure 1: Location Plan



2 WWTP Effluent Characterization

2.1 EXISTING WWTP

The Coldwater WWTP consists of two package treatment plants, an extended aeration plant (EA plant) and a sequencing batch reactor plant (SBR plant). Alum is added for phosphorus removal in each plant. The combined secondary effluent is disinfected by ultraviolet light (UV) in a common facility and discharged to a 430 m long outfall pipe to the Coldwater River. Biosolids are aerobically digested and settled in a common sludge storage tank before disposal by land application.

The WWTP is approved by Certificate of Approval (CoA) No. 3832-6S2QCH dated August 2006 for a combined rated average day capacity of 921 m³/day and a combined peak flow capacity of 3,240 m³/day.

2.2 EFFLUENT FLOWS

The WWTP flows for the past five years (2019 to 2023 inclusively) averaged 565 m³/day, as summarized in Table 1.

Table 1: Coldwater WWTP Influent Flows

	ADF (m ³ /d)	PEAK FLOW (m ³ /d)
2019	591	1,650
2020	611	1,750
2021	528	1,893
2022	470	1,796
2023	626	1,745
5-year average	565	
5-year max		1,893



2.3 EFFLUENT QUALITY

The WWTP effluent quality in the past five years (2019-2023) is summarized in Table 2. The WWTP performs well and consistently meets its objectives and compliance criteria. In the past five years, there was only one exceedance of the compliance limit for suspended solids.

Table 2: Coldwater WWTP Effluent Quality (2019-2023)

PARAMETER	EFFLUENT QUALITY		CERTIFICATE OF APPROVAL	
	Average	Exceedances	Objectives	Limits
Total Suspended Solids (mg/L)	6.7	1	10	15
CBOD (mg/L)	2.9	0	10	15
Total Phosphorus (mg/L)	0.1	0	0.3	0.5
Ammonia Summer (mg/L)	0.2	0	1	
Ammonia Winter (mg/L)	1.7	0	3	
E. Coli (cfu)	12	0	200	
Nitrate (mg/L)	21	N/A	N/A	N/A

The monthly average and maximum CBOD, TSS and ammonia loadings, and annual TP loadings, for the year 2021 are shown in Table 3. Loading objectives and limits specified in the CoA have been met.



Table 3: Effluent Loadings (2021)

PARAMETER	CALCULATED LOADINGS			C OF A LOADINGS		
	Avg Monthly (kg/d)	Max Monthly (kg/d)	Annual (kg/yr)	Objectives (kg/d)	Monthly Limits (kg/d)	Annual Limits (kg/yr)
Total Suspended Solids	4.2	7.8		9.21	13.8	
CBOD	1.9	3.3		9.21	13.8	
Total Phosphorus			25	0.28		110
Ammonia - Summer	0.2	0.9		0.92		
Ammonia - Winter	0.4	2.4		2.76		



3 Coldwater River Characterization

3.1 DRAINAGE AREA AND OTHER CHARACTERISTICS

The Coldwater River is in the Severn Sound watershed. It flows from south to north through the village of Coldwater and discharges to Matchedash Bay of Georgian Bay.

Based on the Severn Sound Source Protection Area Approved Assessment Report, the Coldwater River has a total drainage area of approximately 191 km². Near its discharge to Matchedash Bay, the Coldwater River connects with the larger North River, which has a drainage area of 319 km².

The Coldwater River subwatershed is approximately 50% woodland. Most streams in the Severn Sound watershed, including Coldwater River, are considered cool to cold water. The Coldwater River has a relatively healthy benthic community structure.

The Coldwater WWTP outfall to the Coldwater River is within a wetland area, north of the Village of Coldwater. Within this wetland area and 1.5 km downstream of the outfall, the North River joins with the Coldwater River.

3.2 RIVER FLOWS

The flows in the Coldwater River were obtained from the Water Survey Canada (WSC) gauge located in Coldwater (Station ID 02ED007). This gauge is approximately 1.5 km upstream of the WWTP outfall and has an upstream drainage area of 177 km² (Coldwater River Flood Assessment, Tatham, 2011). The WSC gauge therefore measures river flows that are expected to be slightly lower than at the WWTP outfall location.

The past 30 years of data (1992 to 2022 period) was analyzed using a Log Pearson III statistical analytical tool to determine the 7Q20 low flow at the Coldwater River WSC gauge (see Appendix A). The calculated 7Q20 was 0.75 m³/s.

Considering the potential impacts of climate change, the Coldwater River 7Q20 flow was reduced by 10% for this assessment to 0.675 m³/s.

3.3 RIVER WATER QUALITY

3.3.1 Provincial Water Quality Data

Data from the Provincial (Stream) Water Quality Monitoring Network (PWQMN) station (ID 3007600302) at County Road 17 in Coldwater was analyzed to characterize the background water quality upstream of the Coldwater WWTP outfall. This station is approximately 2 km upstream of the WWTP outfall. The data for the period 2000 to 2022 is summarized in Table 4.



Table 4: Coldwater River Water Quality at PWQMN Station in Coldwater (2000 to 2022)

PARAMETER	N	AVG	MEDIAN	MIN	MAX	75 TH PERCENTILE	25 TH PERCENTILE	PWQO	CWQG
Total Phosphorus (mg/L)	171	0.028	0.0123	0.004	0.49	0.0235		0.03	
Suspended Solids (mg/L)	138	11	5.02	1.75	44	6.51			+5.0
Ammonia as N (mg/L) May 15 to Oct 15	8	0.0313	0.03	0.02	0.05	0.0325		0.0164 ¹	
Ammonia as N (mg/L) Oct 16 to May 14	9	0.0306	0.03	0.02	0.05	0.040			
Dissolved Oxygen (mg/L)	138	12	11.93	5	16		10.52	5 to 8	
Nitrate (mg/L)	153	0.63	0.57	0.35	1.77	0.71			3.0
Temperature (°C) May 15 to Oct. 15	58	15	15.1	8.5	20	17.5			
Temperature (°C) Oct. 16 to May 14	79	4	3.6	0	11.2	6.3			
Field pH May 15 to Oct. 15	56	8.39	8.43	7.53	10.0	8.57			
Field pH Oct. 16 to May 14	75	8.34	8.22	6.64	11.4	8.50			

1. Un-ionized ammonia as N

The Coldwater River's phosphorus 75th percentile concentration of 0.0235 mg/L is below the PWQO of 0.03 mg/L; therefore, the river is considered a Policy 1 receiver for phosphorus.

The Coldwater River's dissolved oxygen 25th percentile level is 10.52 mg/L, which is above the PWQO of 5 to 8 mg/L for coldwater streams. As the river's maximum temperature has been 20°C, it is considered a cool water stream, and the cold water PWQO is applicable. The Coldwater River is considered a Policy 1 receiver for dissolved oxygen.

The unionized ammonia concentration in the river was calculated for the dates at which PWQMN data for field temperature and pH were available when ammonia was measured. In the May to October period, the calculated unionized ammonia concentration ranged from 0.0005 mg/L to 0.0007 mg/L, which is below the PWQO of 0.02 mg/L (0.0164 mg/L as N). Therefore, the Coldwater River is considered a Policy 1 receiver for un-ionized ammonia.

As the Coldwater River is a Policy 1 receiver, water quality must be maintained at or above the PWQOs.

The river's concentration of suspended solids (75th percentile) is at 6.51 mg/L. The Canadian Water Quality Guidelines for the Protection of Aquatic Life (CWQG) suggest a maximum increase in Total Particulate Matter of 5 mg/L above background levels.

The nitrate levels in the Coldwater River are well below the CWQG of 3 mg/L.

3.3.2 Water Quality Monitoring for Study

For the Coldwater WWTP expansion Class EA, the water quality of the Coldwater River was measured at six monitoring stations on four dates over a 1-year period: June 30, 2021, August 24, 2021, October 29, 2021, and March 10, 2022. Three of the monitoring stations were upstream of the WWTP outfall and three were downstream of the WWTP outfall. Refer to the Memorandum by Michalski Nielsen Associates Limited (May 2022) enclosed in Appendix B.

The 2021-2022 water quality data for all sampling locations is presented in graphical format in Appendix C.

The 2021-2022 water quality data was compared with the monitoring data previously collected monthly between October 31, 1989 and September 30, 1990, at the same monitoring locations. Table 5 summarizes the measured water quality during both monitoring periods.

Dissolved Oxygen

In 2021-2022, the DO downstream of the outfall was slightly lower than upstream of the outfall, but still above 10 mg/L and the PWQO for cold water streams, except for the samples taken in August 2021, which show significantly lower DO levels both upstream and downstream of the WWTP outfall.



Table 5: Annual Mean Coldwater River Water Quality (1989-1990 and 2020-2021)

PARAMETER	UPSTREAM SAMPLING SITES (A, B AND C)				DOWNSTREAM SAMPLING SITES (D, E AND F)			
	2021-2022		1989-1990		2021-2022		1989-1990	
	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Dissolved Oxygen (mg/L)	12.4	8.6 - 15.2	11.6	8.9 - 14.8	10.3	4.0 - 13.7	9.6	6.1 - 14.0
Total Suspended Solids (mg/L)	14.7	<2.0 - 51	8.9	2.9 - 25	13.5	4.0 - 38	9.1	4.5 - 23
Total Phosphorus (mg/L)	0.019	<0.005 - 0.046	0.025	<0.010 - 0.050	0.024	<0.005 - 0.064	0.841	<0.010 - 5.40
Ammonia as N (mg/L)	0.03	<0.03 - 0.04	0.07	<0.05 - 0.22	0.06	<0.03 - 0.14	0.07	<0.05 - 0.29
Unionized Ammonia Summer (mg/L)	0.0011	0.0007-0.0017			0.0018	0.0010-0.0025		
Unionized Ammonia Winter (mg/L)	0.0003	0.0002-0.0005			0.0004	0.0003-0.0005		

Suspended Solids

Measured suspended solids in 2021-2022 downstream of the WWTP outfall were in some cases lower than upstream, and when they were higher (summer and fall sampling), the increment was below 2.7 mg/L, which meets the CWQG maximum increase of 5 mg/L. The WWTP effluent discharge does not appear to be a significant contributor to suspended solids in the river. High suspended solids levels were observed at site C (in the Village, just below Mill Street), particularly in the March 2021 sample, during both monitoring programs, likely due to storm runoff.

Total Phosphorus

The 2021-2022 data set, as well as the 1989-1990 data set, shows an increase in TP downstream of the outfall. Except for the samples collected in March 2022, the TP levels were at or below the PWQO. In 2021-2022, the mean TP concentration downstream of the outfall was 0.024 mg/L.

Ammonia

The 2021-2022 data set indicates the mean ammonia level was higher downstream of the outfall, which may have been caused by the effluent discharge. The calculated un-ionized ammonia concentrations in 2021-2022 were well below the PWQO of 0.0164 mg-N/L. Mean ammonia levels in the river were lower in 2021/2022 than they were in 1989/1990.



4 Water Quality Modelling

4.1 PROPOSED COLDWATER WWTP EXPANSION FLOWS

The Coldwater WWTP, with a current rated capacity of 921 m³/day, is proposed to be expanded in multiple phases. The proposed average daily effluent flows for each phase of expansion are as follows:

- Phase 1: 1,500 m³/day
- Phase 2: 2,250 m³/day
- Phase 3: 3,000 m³/day

At the anticipated rate of population growth in the Village of Coldwater, expansion Phases 2 and 3 are more than 20 years in the future. For this receiving water assessment, calculations of required effluent quality were completed for each of these phases. However, it is the Township's intent to apply for an ECA amendment for the Phase 1 expansion only at this time.

The Phase 1 WWTP expansion flow of 1,500 m³/d (0.0174 m³/s) will correspond to 2.5% of the 7Q20 low flow of 0.675 m³/s. Considering the location of the WWTP outfall in a wetland area, this increase in WWTP effluent flow will not cause flooding nor affect the river's morphology.

4.2 MASS BALANCE CALCULATIONS

Mass balance calculations were completed to determine the effluent quality that is required to ensure the downstream receiving water quality is maintained below the PWQOs.

4.2.1 Model Inputs

Model inputs for the receiver and for the WWTP are summarized in Table 6 overleaf.



Table 6: Modelling Inputs

	COLDWATER RIVER ¹		COLDWATER WWTP	
	Basis	Value	Basis	Value
Flows (m ³ /s)	7Q20- 10%	0.675	Ex. Approval	0.0107
			Exp. Ph. 1	0.0174
			Exp. Ph. 2	0.0260
			Exp. Ph. 3	0.0347
Total Phosphorus (mg/L)	75 th percentile	0.0236	Ex. Limit	0.5
Total Suspended Solids (mg/L)	75 th percentile	6.51	EX. Limit TSS	15
Dissolved Oxygen (mg/L)	25 th percentile	10.52	Ex. Limit BOD	15
Ammonia as N (mg/L) - Summer	75 th percentile	0.0325	Ex. Objective	1.0
Ammonia as N (mg/L) - Winter	75 th percentile	0.040	Ex. Objective	3.0
Temperature (°C) - Summer	75 th percentile	17.5	75 th percentile	22 ²
Temperature (°C) - Winter	75 th percentile	6.3	75 th percentile	12.5 ²
pH - Summer	75 th percentile	8.55	75 th percentile	7.6 ²
pH - Winter	75 th percentile	8.46	75 th percentile	7.6 ²

1. From PWQMN data

2. From Coldwater WWTP Monitoring Data

4.3 MODELLING RESULTS

The results of the mass balance modelling are summarized in Table 7.

Total Phosphorus

As shown in Table 7, the effluent TP concentration needs to be reduced from the current limit to less than 0.28 mg/L to maintain river water quality at the PWQO. At the proposed effluent quality limit of 0.20 mg/L in Phase 1, and ultimately reducing to 0.12 mg/L in Phase 3, the modelled downstream water TP will be at 93% of the PWQO and will be less than the downstream IP at the current rated capacity and effluent limit.



Table 7: Modelling Results

	MODELLING RESULTS			
	Approved 921 m ³ /d	Phase 1 1,500 m ³ /d	Phase 2 2,250 m ³ /d	Phase 3 3,000 m ³ /d
Total Phosphorus				
Max. Effluent TP to match PWQO (mg/L)	0.44	0.28	0.20	0.16
Ex. & Proposed Effluent TP Limit (mg/L)	0.5	0.20	0.15	0.12
Downstream River TP (mg/L)	0.031	0.028	0.028	0.028
Total Suspended Solids				
Max. Effluent TSS to meet CWQG (mg/L)	328	206	141	109
Ex. & Proposed Effluent TSS Limit (mg/L)	15	10	10	10
Downstream River TSS (mg/L)	6.64	6.60	6.64	6.68
Dissolved Oxygen/BOD				
Max. Effluent BOD to match PWQO (mg/L)	151	90	57	41
Ex. & Proposed Effluent BOD Limit (mg/L)	15	10	10	10
Downstream River DO (mg/L)	10.1	10.0	9.8	9.5
Ammonia Nitrogen Summer				
Max. Effluent NH ₃ to match PWQO (mg/L) Summer	7.9	5.0	3.5	2.7
Ex. & Proposed Effluent NH ₃ Limit (mg/L)	1	3	3	2
Downstream River UIA (mg/L) Summer	0.005	0.011	0.015	0.013
Ammonia Nitrogen Winter				
Max. Effluent NH ₃ to match PWQO (mg/L) Winter	23	15	10	7.8
Ex. & Proposed Effluent NH ₃ Limit (mg/L) Winter	3	7	7	7
Downstream River UIA (mg/L) Winter	0.003	0.009	0.012	0.015

1. From Coldwater River monitoring data (2020-2021, downstream of outfall: Table 5)



Total Suspended Solids

The proposed effluent TSS of 10 mg/L will maintain the current modelled level of suspended solids in the river, downstream of the outfall. The increment in TSS above background (upstream) caused by the effluent discharge will remain below the CWQG of 5 mg/L.

Dissolved Oxygen

The river has significant assimilative capacity for BOD considering its DO level is 2 mg/L higher than the PWQO. However, the modelling objective was to maintain the river's DO level of 10 mg/L after the WWTP is expanded, to maintain current conditions for aquatic biota. The proposed effluent BOD limit of 10 mg/L is easily achievable with secondary treatment processes considered for the WWTP expansion.

Ammonia Nitrogen

The modelling results for ammonia and un-ionized ammonia indicate that in the May to October period, the WWTP effluent ammonia should not exceed 5 mg/L at the Phase 1 expansion flows to ensure the PWQO is met. This maximum effluent ammonia level decreases to 2.7 mg/L at the Phase 3 expansion flows. An effluent ammonia limit of 3 mg/L in summer is proposed for the Phase 1 expansion and will need to be ultimately reduced to 2 mg/L for the Phase 3 expansion. At this effluent ammonia level, the modelled downstream unionized ammonia will be 68% of the PWQO with the Phase 1 WWTP expansion.

As shown in Table 7, required effluent ammonia levels in the winter are not as critical, where they will need to be below 7.8 mg/L at the Phase 3 expansion flows. The proposed effluent ammonia limit of 7 mg/L ensures the downstream water quality after the Phase 1 expansion is at no more than 53% of the PWQO for unionized ammonia.



5 Summary

The Coldwater WWTP is a well-performing secondary treatment plant with a rated capacity of 921 m³/day. It is proposed to be expanded initially to 1,500 m³/day and ultimately to 3,000 m³/day.

The WWTP discharges to the Coldwater River, a cool water stream was determined to be a Policy 1 receiver for TP, DO and Unionized Ammonia based on monitored water quality at the PWQMN station in Coldwater. The river's 7Q20 low flow was established at 0.675 m³/s based on a Log Pearson III analysis of 30 years of data from the WSC gauge in Coldwater.

Review of the river's water quality upstream and downstream of the WWTP outfall, in 2021-2022 vs. 1989-1990, has shown that the WWTP effluent discharge has had minor impacts on the river's water quality.

Mass balance modelling was conducted to determine the required effluent quality to maintain the river's TP, DO and Unionized Ammonia at their respective PWQO, and ensure the increase in TSS meets the CWQG. Effluent quality limits are proposed to minimize the impacts on current water quality. Table 8 summarizes the proposed effluent quality limits and corresponding loadings, compared with the existing limits, objectives and loadings. Table 8 also presents suggested effluent objectives.

Table 8: Effluent Limits, Loadings and Objectives for Phase 1 Expansion

PARAMETER	FLOW (m ³ /day)		EFFLUENT LIMIT (mg/L)	EFFLUENT LOADING (kg/day)	EFFLUENT OBJECTIVE (mg/L)
CBOD₅	921	Current	15	13.8	10
	1,500	Proposed	10	15	5
Total Phosphorus	921	Current	0.5	0.30	0.3
	1,500	Proposed	0.20	0.30	0.15
Total Suspended Solids	921	Current	15	13.8	10
	1,500	Proposed	10	15.0	5
Ammonia Nitrogen (Summer/Winter)	921	Current	N/A	0.92/2.76	1.0/3.0
	1,500	Proposed	3.0/7.0	4.5/10.5	1.0/3.0



Appendix A: Low Flow Statistical Analysis

Bulletin 17B Frequency Analysis
24 Sep 2024 03:40 PM

--- Input Data ---

Analysis Name: 7Q20 - Log Pearson III
Description:

Data Set Name: ANN_MIN7Q-FLOW-PEAK
DSS File Name: O:\Orillia\2021\321867 - Coldwater WWTP
Expansion\Spreadsheet\Coldwater River
Flow\HEC-SSP\Coldwater_WWTP_Expansion_-_7Q20\Coldwater_WWTP_Expansion_-_7Q20.dss
DSS Pathname: ///FLOW-PEAK/01jan1900/IR-CENTURY//

Report File Name: O:\Orillia\2021\321867 - Coldwater WWTP
Expansion\Spreadsheet\Coldwater River
Flow\HEC-SSP\Coldwater_WWTP_Expansion_-_7Q20\Bulletin17Results\7Q20_-_Log_Pearson_II
I\7Q20_-_Log_Pearson_III.rpt
XML File Name: O:\Orillia\2021\321867 - Coldwater WWTP
Expansion\Spreadsheet\Coldwater River
Flow\HEC-SSP\Coldwater_WWTP_Expansion_-_7Q20\Bulletin17Results\7Q20_-_Log_Pearson_II
I\7Q20_-_Log_Pearson_III.xml

Start Date:
End Date:

Skew Option: Use Station Skew
Regional Skew: -Infinity
Regional Skew MSE: -Infinity

Plotting Position Type: Median

Upper Confidence Level: 0.05
Lower Confidence Level: 0.95

Display ordinate values using 1 digits in fraction part of value

--- End of Input Data ---

<< Low Outlier Test >>

Based on 31 events, 10 percent outlier test deviate K(N) = 2.577
Computed low outlier test value = 23.11

0 low outlier(s) identified below test value of 23.11

<< High Outlier Test >>

Based on 31 events, 10 percent outlier test deviate $K(N) = 2.577$
Computed high outlier test value = 52.54

0 high outlier(s) identified above test value of 52.54

--- Final Results ---

<< Plotting Positions >>
ANN_MIN7Q-FLOW-PEAK

Events Analyzed				Ordered Events			
Day	Mon	Year	FLOW cfs	Rank	Water Year	FLOW cfs	Median Plot Pos
01	Jan	1992	31.8	1	2020	47.7	2.23
01	Jan	1993	35.1	2	2010	44.5	5.41
01	Jan	1994	35.7	3	2019	43.0	8.60
01	Jan	1995	29.8	4	1996	42.0	11.78
01	Jan	1996	42.0	5	2009	41.5	14.97
01	Jan	1997	39.1	6	2017	40.8	18.15
01	Jan	1998	39.4	7	1998	39.4	21.34
01	Jan	1999	36.6	8	1997	39.1	24.52
01	Jan	2000	28.4	9	2008	38.1	27.71
01	Jan	2001	28.3	10	2011	37.8	30.89
01	Jan	2002	28.9	11	2013	37.2	34.08
01	Jan	2003	34.0	12	1999	36.6	37.26
01	Jan	2004	35.9	13	2007	36.4	40.45
01	Jan	2005	23.9	14	2004	35.9	43.63
01	Jan	2006	26.2	15	1994	35.7	46.82
01	Jan	2007	36.4	16	2014	35.7	50.00
01	Jan	2008	38.1	17	1993	35.1	53.18
01	Jan	2009	41.5	18	2012	34.1	56.37
01	Jan	2010	44.5	19	2003	34.0	59.55
01	Jan	2011	37.8	20	2018	33.8	62.74
01	Jan	2012	34.1	21	2021	33.3	65.92
01	Jan	2013	37.2	22	2022	32.2	69.11
01	Jan	2014	35.7	23	1992	31.8	72.29
01	Jan	2015	30.7	24	2016	31.3	75.48
01	Jan	2016	31.3	25	2015	30.7	78.66
01	Jan	2017	40.8	26	1995	29.8	81.85
01	Jan	2018	33.8	27	2002	28.9	85.03

01 Jan 2019	43.0	28	2000	28.4	88.22
01 Jan 2020	47.7	29	2001	28.3	91.40
01 Jan 2021	33.3	30	2006	26.2	94.59
01 Jan 2022	32.2	31	2005	23.9	97.77

<< Skew Weighting >>

Based on 31 events, mean-square error of station skew = 0.186
Mean-square error of regional skew = -?

<< Frequency Curve >>

ANN_MIN7Q-FLOW-PEAK

Computed Curve FLOW, cfs	Expected Probability	Percent Chance Exceedance	Confidence Limits	
			0.05 FLOW, cfs	0.95
52.1	53.8	0.2	58.8	48.0
50.3	51.6	0.5	56.2	46.5
48.7	49.8	1.0	54.1	45.3
47.1	47.9	2.0	51.9	44.0
44.7	45.1	5.0	48.6	42.0
42.5	42.8	10.0	45.8	40.2
39.9	40.1	20.0	42.5	37.9
35.1	35.1	50.0	36.9	33.5
30.6	30.4	80.0	32.1	28.7
28.3	28.0	90.0	29.9	26.2
26.5	26.1	95.0	28.2	24.2
23.2	22.5	99.0	25.2	20.6

0.75 m³/s

EXCEEDED 19 OUT
OF 20 YEARS

(95% CHANCE
OF EXCEEDANCE)

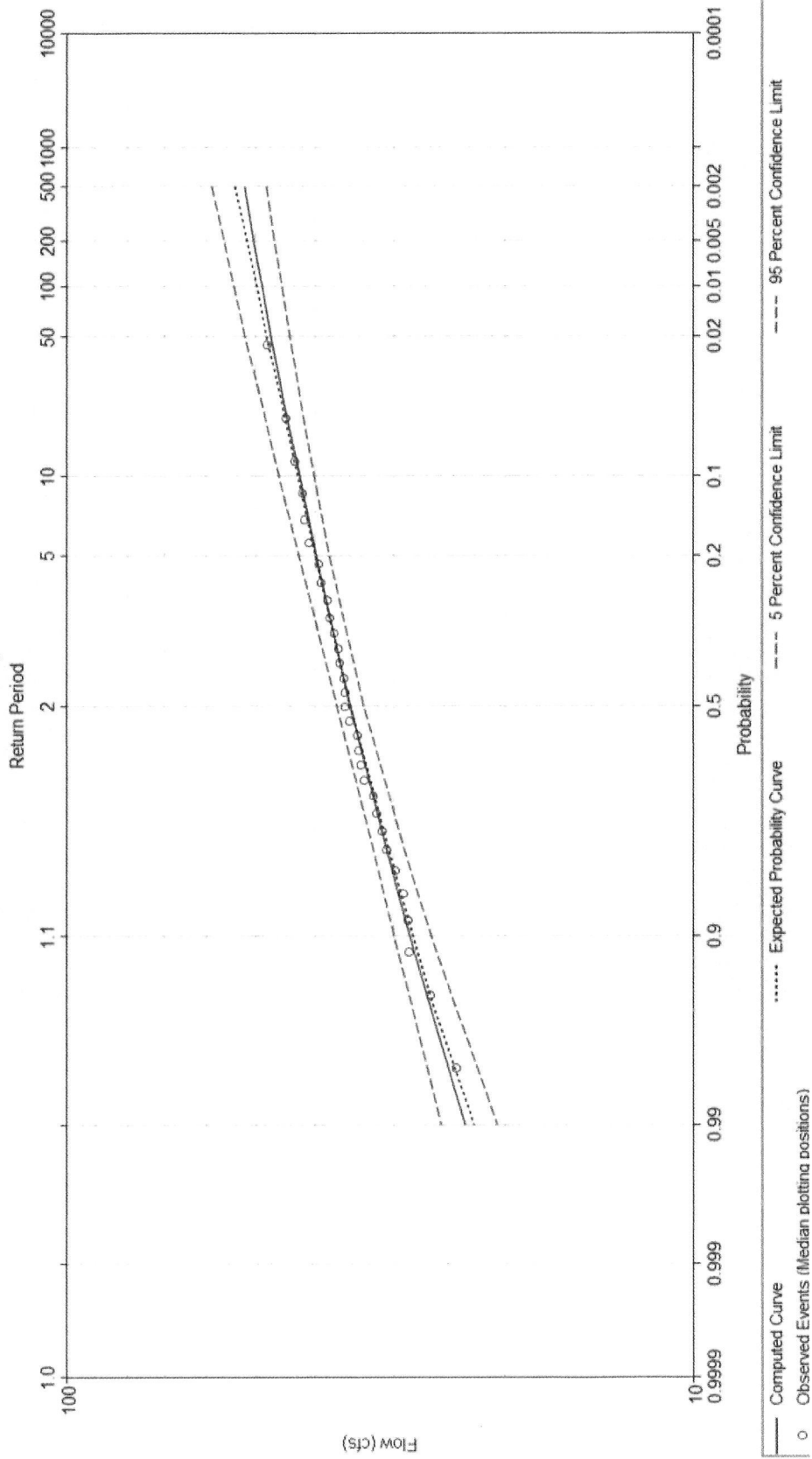
<< Systematic Statistics >>

ANN_MIN7Q-FLOW-PEAK

Log Transform: FLOW, cfs		Number of Events	
Mean	1.542	Historic Events	0
Standard Dev	0.069	High Outliers	0
Station Skew	-0.296	Low Outliers	0
Regional Skew	---	Zero Events	0
Weighted Skew	---	Missing Events	0
Adopted Skew	-0.296	Systematic Events	31

--- End of Analytical Frequency Curve ---

Bulletin 17 Plot for 7Q20 - Log Pearson III



**Appendix B:
2021-2022 Water Quality
Monitoring Memorandum**



Michalski Nielsen

ASSOCIATES LIMITED

Memorandum

Date: May 10, 2022

From: Gord Nielsen

To: Suzanne Troxler

Our File: 4021 **Re:** Coldwater Wastewater Treatment Plant Water Quality Information

Attached please find a summary of the water quality data we have collected for the Coldwater River, in relation to the Coldwater Wastewater Treatment Plant. As you will recall, our sampling locations correspond to those originally sampled during the 1989 – 1990 period, as follows:

Coldwater A	Well Upstream of Village of Coldwater, at Moonstone Road crossing.
Coldwater B	Just Upstream of Village of Coldwater, at Highway 12 crossing.
Coldwater C	In the Village of Coldwater, just below Mill Street.
Coldwater D	Immediately below Village of Coldwater Sewage Treatment Plant outfall.
Coldwater E	30 m below Village of Coldwater Sewage Treatment Plant outfall.
Coldwater F	Within the downgradient marsh, approximately 1.3 km below Village of Coldwater's Sewage Treatment Plant outfall.

Sampling was conducted on four occasions in 2021/2022 to assess seasonal conditions, as follows:

- late spring/early summer (June 30, 2021)
- late summer (August 24, 2021)
- fall, after vegetation die-back (October 29, 2021)
- winter (March 10, 2022)

16 Robert Boyer Lane, Bracebridge, Ontario P1L 1R9
(705) 645-1413 www.mnal.ca E-mail: info@mnal.ca

It is noted that the winter visit was timed to ensure safer sampling conditions (when ice depth was greatest).

Water quality parameters were selected to generally replicate those measured in the 1989/1990 period, focusing on parameters that may be influenced by treated sewage (dissolved oxygen, total suspended solids, Biological Oxygen Demand, chloride, conductivity, and nutrients, the latter including phosphorus and the suite of nitrogen parameters [ammonia, nitrite, nitrate and Total Kjeldahl nitrogen]). It is noted that organic nitrogen is measured as Total Kjeldahl nitrogen minus ammonia, with levels of unionized ammonia able to be calculated on the basis of pH and water temperature, both of which were also measured. A brief summary of the results is provided in the paragraphs following.

Water Temperature results are as expected, based on the seasons that were sampled. There is evidence of minor groundwater influences on the Coldwater River at the most upstream location (A), but this influence is not evident further downstream, where conditions are indicative of a warmwater system.

Dissolved Oxygen levels are as expected, with the depressed levels of oxygen at locations C through F during the late summer period appearing to be caused by the respiration of algae and aquatic plants. The influence of treated sewage effluent on dissolved oxygen appears to be very minor. Dissolved oxygen levels are generally similar to those seen in the 1989 – 1990 period, and in fact generally don't seem to be as depressed at the outfall location (D) as they did during the earlier sampling period.

Chloride levels can be elevated anthropogenically from the hydrolysis of chlorine-disinfected waters and from runoff containing road salt. This parameter was elevated at all locations during the winter period, a consequence of road salting. However, there is also some apparent increase in this parameter in response to the treated sewage outfall, with moderately elevated levels in the river from locations D through F. In comparing current results with those obtained in 1989 – 1990, there is no evidence that the sewage treatment plant is currently having any greater influence on chloride levels within the river than it did during that earlier period.

Biological Oxygen Demand (BOD) is a measure of the amount of oxygen required to oxidize organic material in water. Elevated levels of this parameter can indicate that organic matter is present in a quantity that can depress oxygen levels to a point where they may influence aquatic life. Levels of BOD were below method detection limits at all locations that were sampled. The low levels of BOD, which are consistent with those seen in the 1989 – 1990 period, strongly suggest that our recent observations of reduced oxygen levels during the late summer sampling period are a result of algae and plant respiration, and not by increased levels of organic material; in that regard, there is no evidence that the sewage treatment plant is contributing organic material to the Coldwater River in an amount that could depress dissolved oxygen levels.

Conductivity is a measure of the quantity of dissolved ions in water, including calcium, magnesium, sodium, potassium, bicarbonate, sulphate and chloride, many of which are naturally introduced from the dissolution of these minerals from rocks and soils within the watershed. Conductivity levels were quite

similar between all sampling locations tested during the 2021 – 2022 period. While there appears to be a small increase in conductivity in immediate vicinity of the sewage outfall, this is not as pronounced as occurred during the 1989 – 1990 sampling period. Nor is there any evidence that conductivity levels within the river have increased from that earlier sampling period.

Total Suspended Solids result from particulate matter, such as clay silt, organic matter and algae. Higher levels of this parameter decrease water clarity, which in turn can negatively impact aquatic vegetation growth and fish productivity. The sampling results indicate that levels of this parameter are fairly consistent between sampling locations, increasing somewhat within the Village of Coldwater, likely as a consequence of road and parking lot runoff to the river; this was not observed during the 1989 – 1990 sampling period. There is no evidence that this parameter is increased as a consequence of the sewage treatment plant outfall.

Ammonia Nitrogen can be introduced to surface waters from municipal and industrial effluents, agricultural runoff and atmospheric deposition. Levels of this parameter upstream of the sewage treatment plant outfall were generally below detection limits, with some increase in the level of this parameter evident below the outfall, and continuing downstream; these changes are likely attributable to the plant. However, these levels remained low and were generally consistent with values seen during the 1989 – 1990 sampling period. The ionized form of ammonia occurs in an equilibrium with its un-ionized form, a relationship which is temperature and pH dependant; levels of total ammonia were sufficiently low in all samples such that the un-ionized form of ammonia is well below the Provincial Water Quality Objective of 0.02 mg/L that has been established to protect aquatic life.

Total Kjeldahl Nitrogen (TKN) is a measure of ammonia plus **organic nitrogen**. Levels of this parameter were consistently low. While levels of organic nitrogen may be slightly influenced by the wastewater treatment plant discharge, this influence is not very appreciable, and levels remain within the same range as was observed during the 1989 – 1990 sampling period.

Nitrate Nitrogen is the principal form of nitrogen in natural waters, and results from the complete oxidation of other nitrogen compounds, particularly ammonia. Levels of this parameter were somewhat elevated immediately below the waste water treatment plant discharge, and continue to be slightly elevated further downstream. However, the concentrations of this parameter remain quite low, and substantially below the levels at the outfall location during the 1989/1990 sampling period.

Nitrite Nitrogen is an intermediate product of both nitrification and denitrification, and is much less stable in surface waters than is nitrate nitrogen, so is generally found in only very small quantity. That was generally the case during the sampling we undertook, except for the winter samples, where levels of this parameter were elevated at locations D – F (downgradient of the wastewater treatment plant outfall). This phenomenon was not observed in water samples collected during the 1989 – 1990 sampling period, but nevertheless appears to be a very transient issue.

Phosphorus is generally the limiting nutrient influencing the growth of aquatic plants and algae. The Provincial Water Quality Objective for rivers and streams includes that excessive plant growth should be avoided at a total phosphorus concentration below 30 µg/L (0.03 mg/L). The results of our recent water sampling indicated that this is generally the case in the Coldwater River, except when sampled in the winter, when these levels were exceeded at all locations other than the most upstream one (location A). This may relate to early spring runoff from agricultural fields and/or from wetlands in which there was plant decomposition over the winter, and appears completely unrelated to the sewage treatment plant outfall.

I trust this assessment is of assistance. Please do not hesitate to contact me should you have any questions.

Regards,

Gord Nielsen, M.Sc.
President/Ecologist

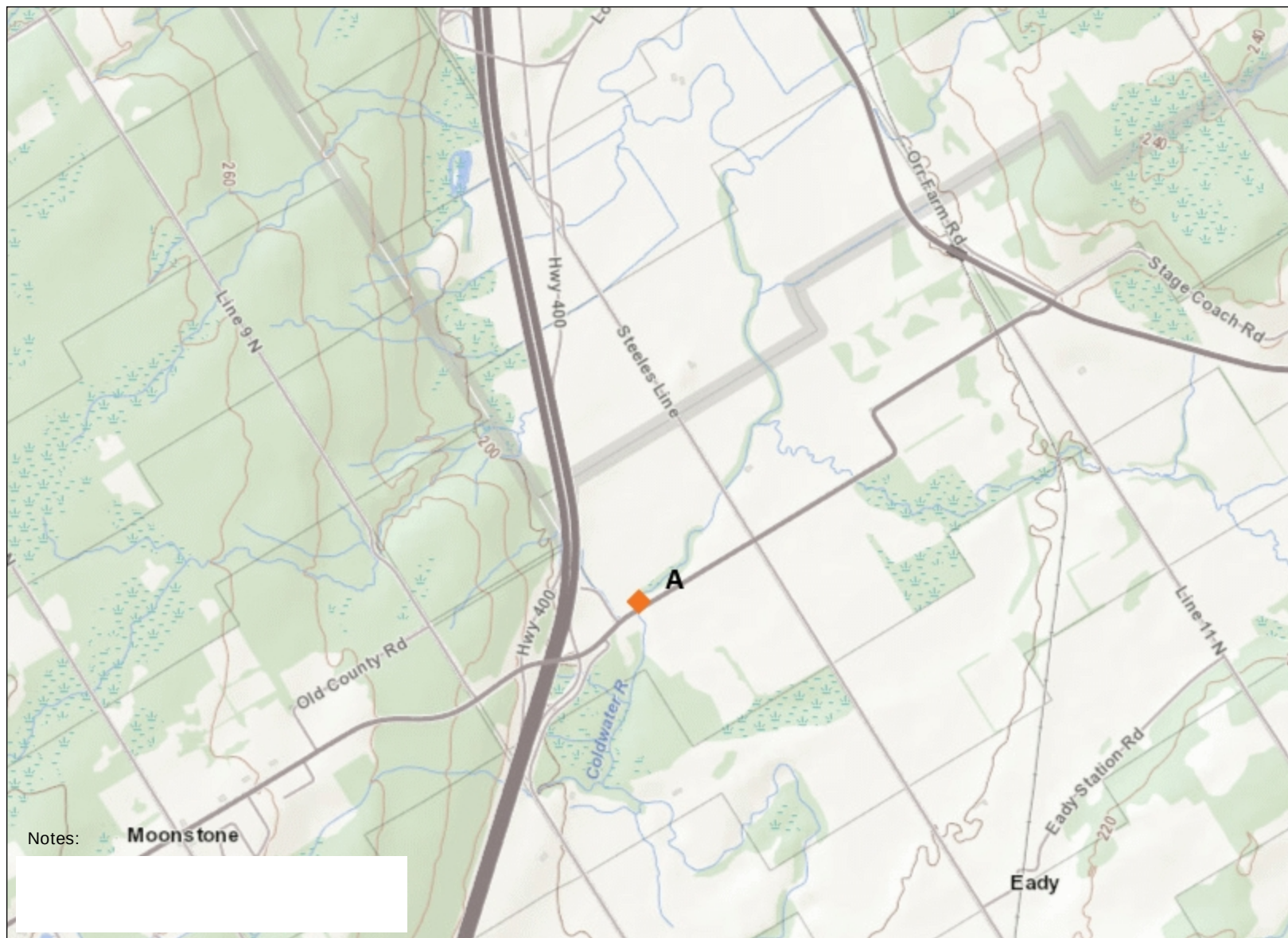
Table 1. 2021 - 2022 Water Quality Results for Coldwater River.

Location	Water Temperature (°C)	Dissolved O ₂ (mg/L)	Ammonia (Total) (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Conductivity	NO ₂ (Nitrite) (mg/L)	NO ₃ (Nitrate) (mg/L)	pH	TKN (mg/L)	TP Low Level (mg/L)	TSS (mg/L)
Coldwater A												
2021-06-30	18.6	13.6	<0.03	<4	18.6	426.0	0.0	0.7	7.94	0.4	0.008	12.0
2021-08-24	17.6	10.4	<0.03	<4	18.2	480.4	<0.004	0.53	7.95	<0.2	<0.005	<2
2021-10-29	7.8	12.5	<0.03	<4	22.5	446.4	0.0	0.77	8.03	<0.2	<0.005	3.0
2022-03-10	2.1	15.2	<0.03	<4	35.9	452.0	<0.004	0.92	8.04	0.3	0.022	17.0
Mean	11.5	12.9	<0.3	<4	23.8	451.2	0.0	0.73	7.99	0.3	0.010	10.7
Coldwater B												
2021-06-30	19.1	14.0	<0.03	<4	21.9	473.0	0.0	0.92	7.83	0.4	0.023	16.0
2021-08-24	18.1	10.5	0.03	<4	21.5	486.2	<0.004	0.45	8.23	<0.2	<0.005	2.0
2021-10-29	7.6	12.3	<0.03	<4	31.1	495.5	0.0	0.82	7.93	<0.2	0.008	2.0
2022-03-10	0.4	13.9	<0.03	<4	63.8	513.0	<0.004	0.96	7.87	0.3	0.046	35.0
Mean	11.3	12.7	0.03	<4	34.6	491.9	0.0	0.79	7.97	0.3	0.025	13.8
Coldwater C												
2021-06-30	19.2	12.6	0.04	<4	22.1	469.0	0.0	0.93	7.85	0.5	0.021	21.0
2021-08-24	18.7	8.6	<0.03	<4	22.0	485.3	<0.004	0.46	8.22	<0.2	<0.005	4.0
2021-10-29	8.1	12.0	<0.03	<4	30.1	502.2	0.0	0.9	7.89	<0.2	0.012	2.0
2022-03-10	0.1	13.4	<0.03	<4	55.4	493.0	<0.004	1.07	7.81	0.3	0.046	51.0
Mean	11.5	11.6	0.03	<4	32.4	487.4	0.0	0.84	7.94	0.3	0.021	19.5
Coldwater D												
2021-06-30	19.6	13.0	0.08	<4	24.7	481.0	0.0	0.92	7.76	0.5	0.020	16.0
2021-08-24	21.4	6.5	0.04	<4	27.5	495.9	0.0	0.35	8.1	<0.2	0.007	5.0
2021-10-29	9.8	11.0	<0.03	<4	53.8	624.2	0.0	3.14	7.76	0.4	0.016	5.0
2022-03-10	0.6	13.7	0.07	<4	79.8	522.0	0.1	1.13	7.73	0.4	0.035	38.0
Mean	12.8	11.0	0.06	<4	46.5	530.8	0.0	1.39	7.84	0.4	0.020	16.0
Coldwater E												
2021-06-30	19.7	11.4	0.08	<4	24.8	477.0	0.0	0.93	7.8	0.5	0.011	17.0
2021-08-24	19.6	7.3	0.03	<4	28.1	502.4	0.0	0.36	8.14	<0.2	<0.005	5.0
2021-10-29	9.2	11.2	<0.03	<4	34.6	518.2	0.0	0.87	7.86	0.3	0.017	4.0
2022-03-10	0.8	11.2	0.07	<4	73.6	516.0	0.1	1.11	7.76	0.4	0.064	28.0
Mean	12.3	10.3	0.05	<4	40.3	503.4	0.0	0.82	7.89	0.4	0.022	13.5
Coldwater F												
2021-06-30	23.0	11.1	0.14	<4	27.6	437.0	0.0	0.99	7.56	0.9	0.031	10.0
2021-08-24	24.0	4.0	<0.03	<4	42.5	512.3	<0.004	<0.04	7.83	0.4	0.021	5.0
2021-10-29	9.3	11.4	<0.03	<4	30.8	464.1	0.0	0.7	7.94	0.5	0.022	6.0
2022-03-10	0.2	12.2	0.06	<4	68.4	514.0	0.1	1.1	7.77	0.4	0.042	23.0
Mean	14.1	9.6	0.06	<4	42.3	481.8	0.0	0.93	7.78	0.6	0.029	11.0

< indicates parameter reading is below the minimum detectable limit

Legend

-  Conservation Reserve
-  Provincial Park



Notes: Moonstone

1.3 0 0.65 1.3 Kilometres

Absence of a feature in the map does not mean they do not exist in this area.

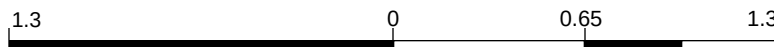
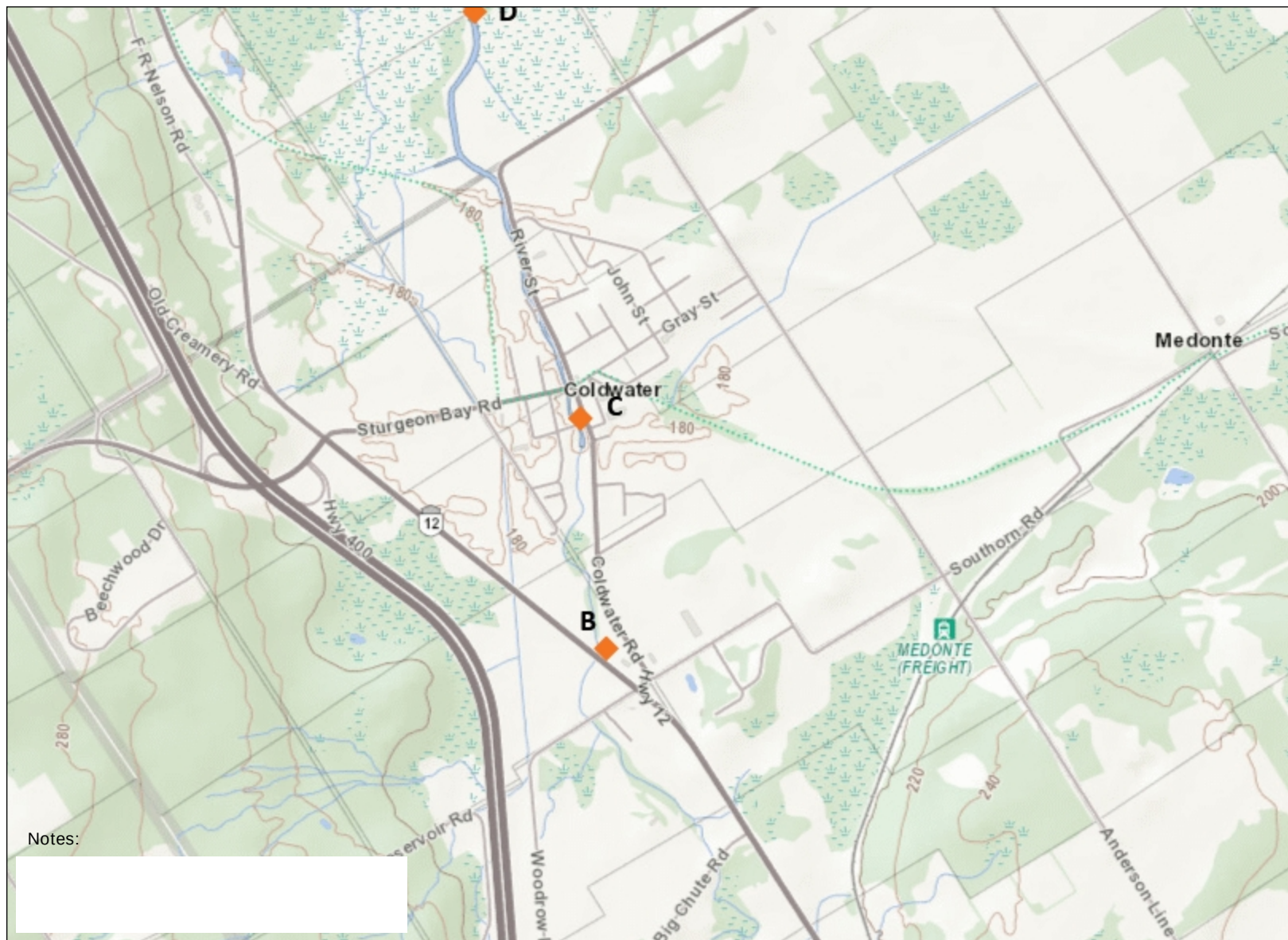
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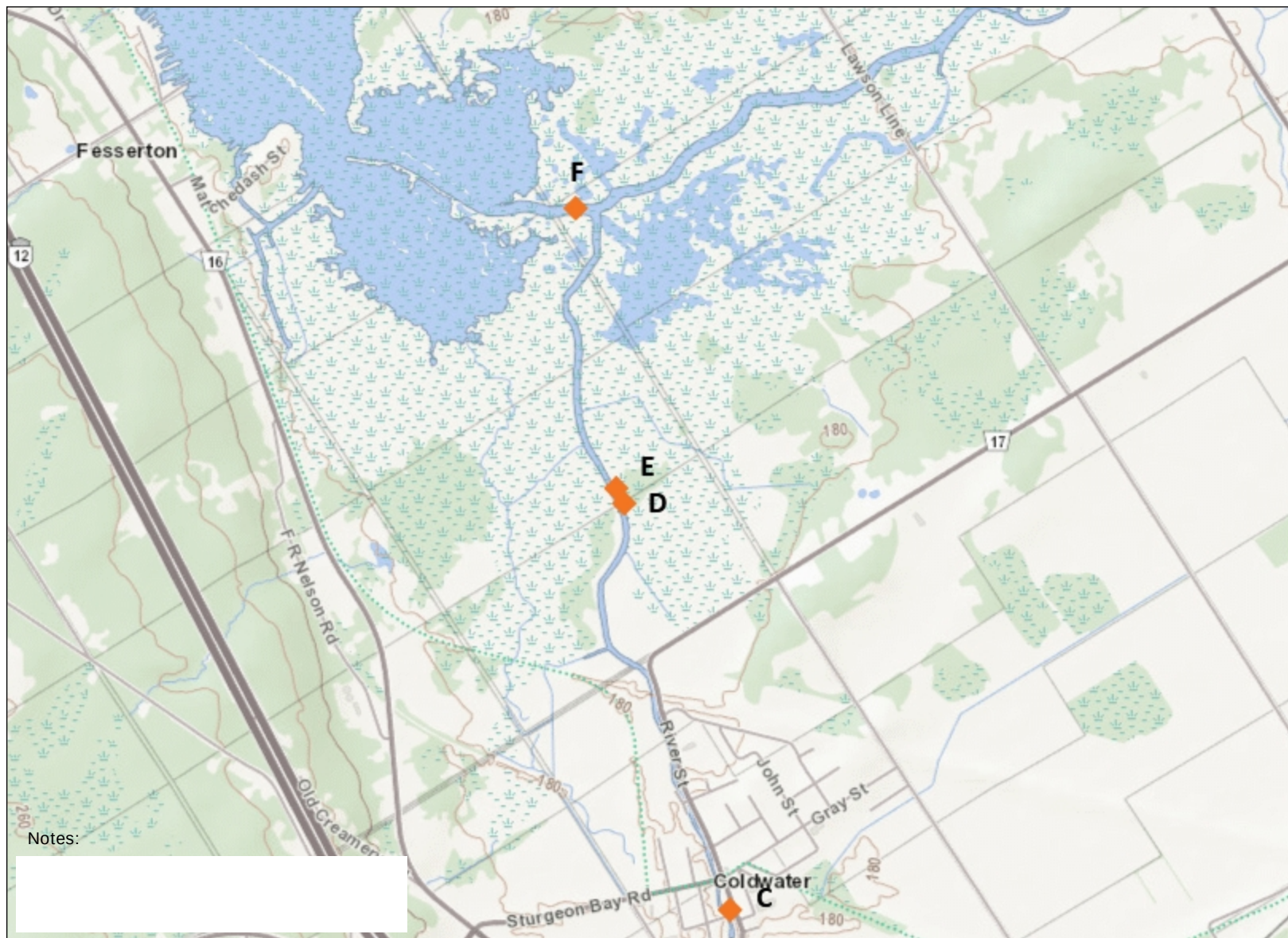
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-  Conservation Reserve
-  Provincial Park



Notes:



1.3 0 0.65 1.3 Kilometres

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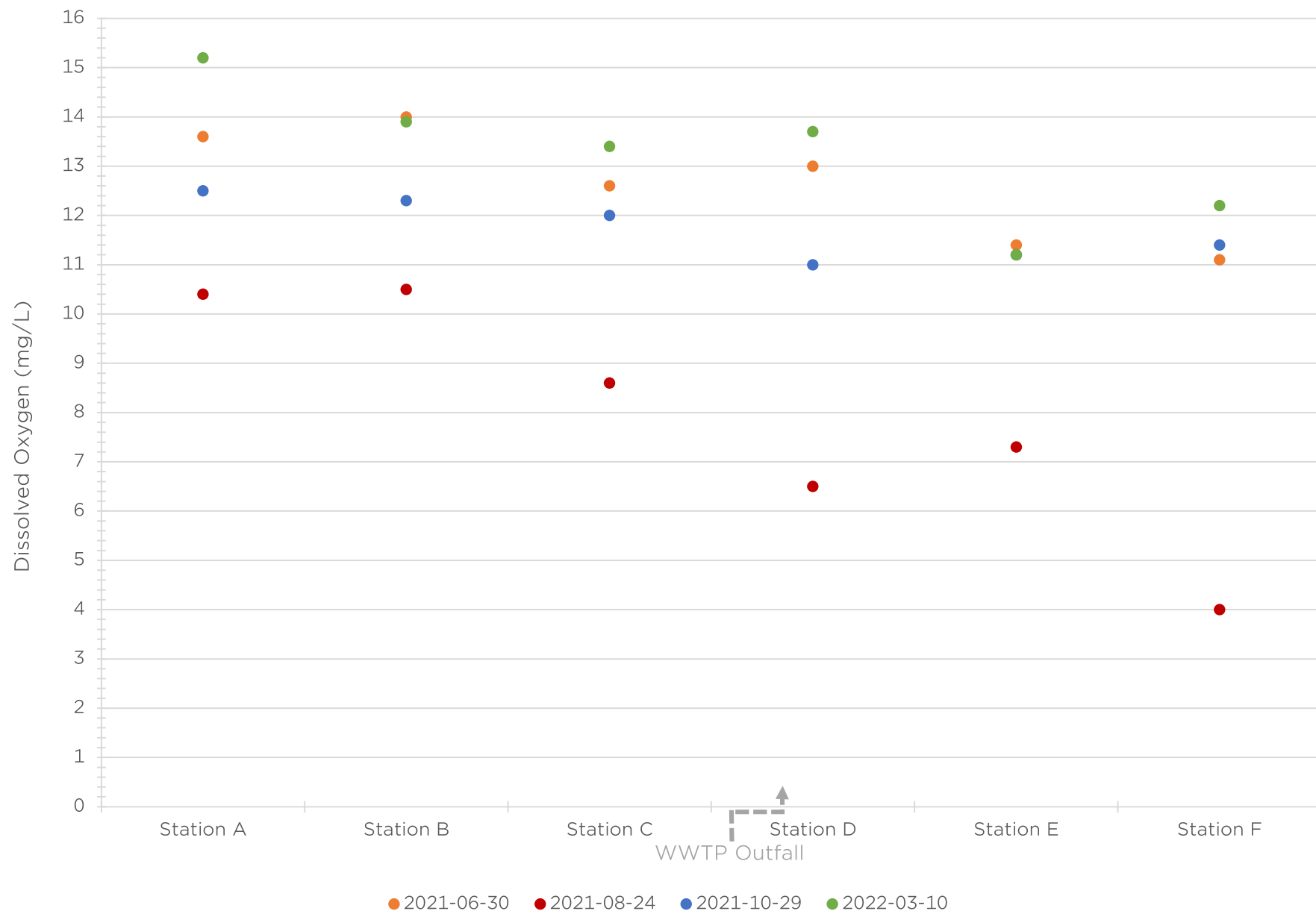


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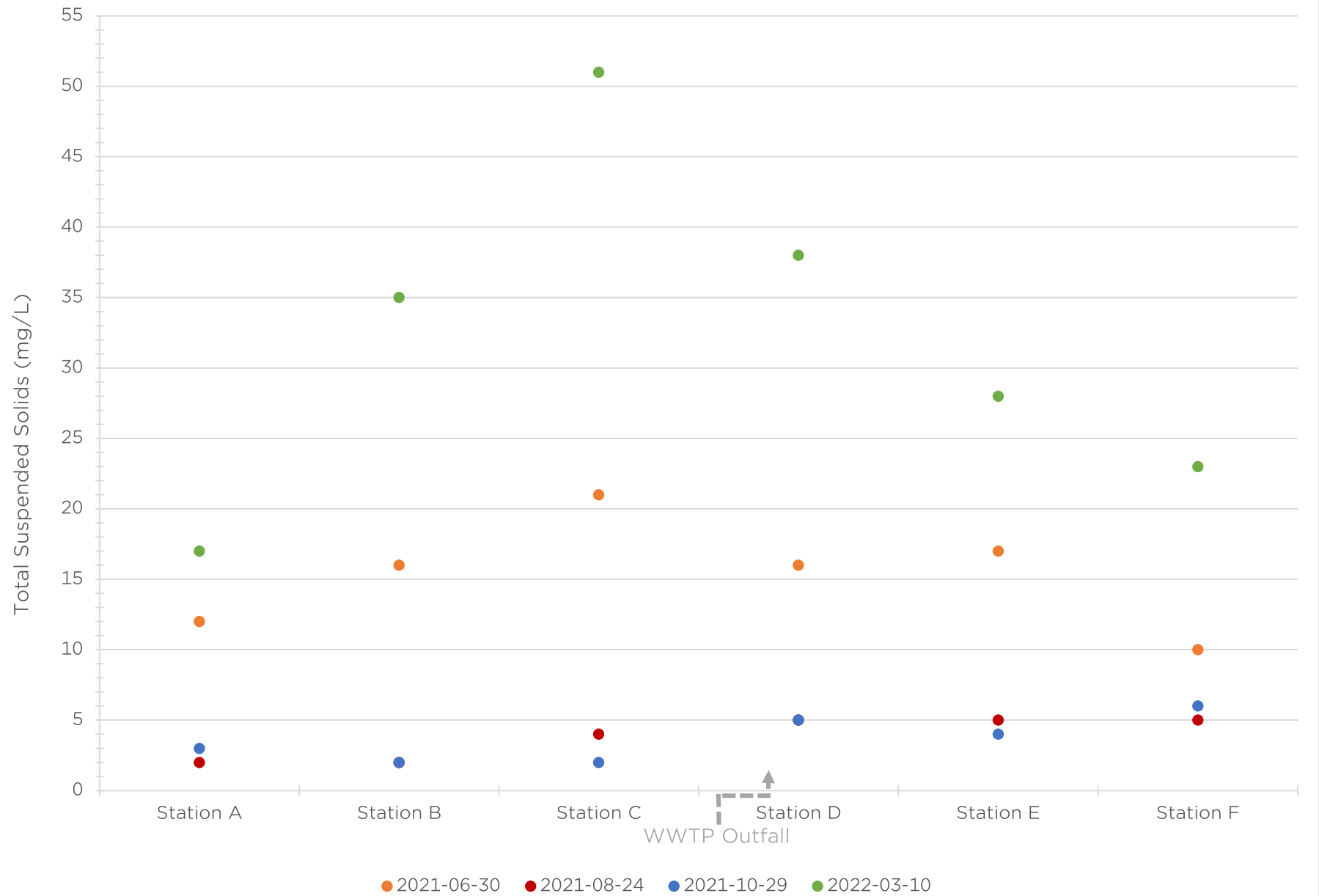


Appendix C: 2021-2022 River Water Quality Plots

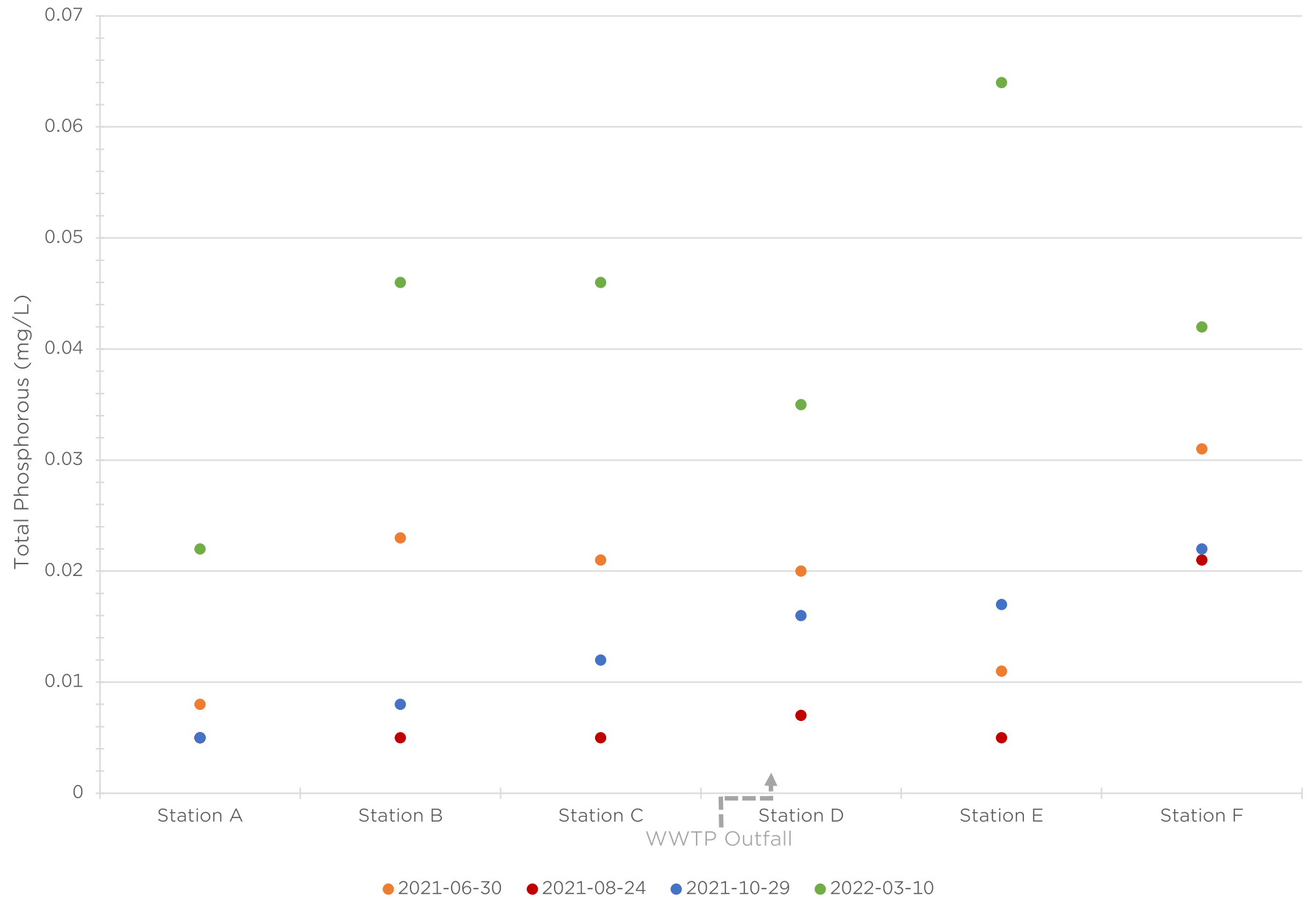
Coldwater River Dissolved Oxygen Concentration



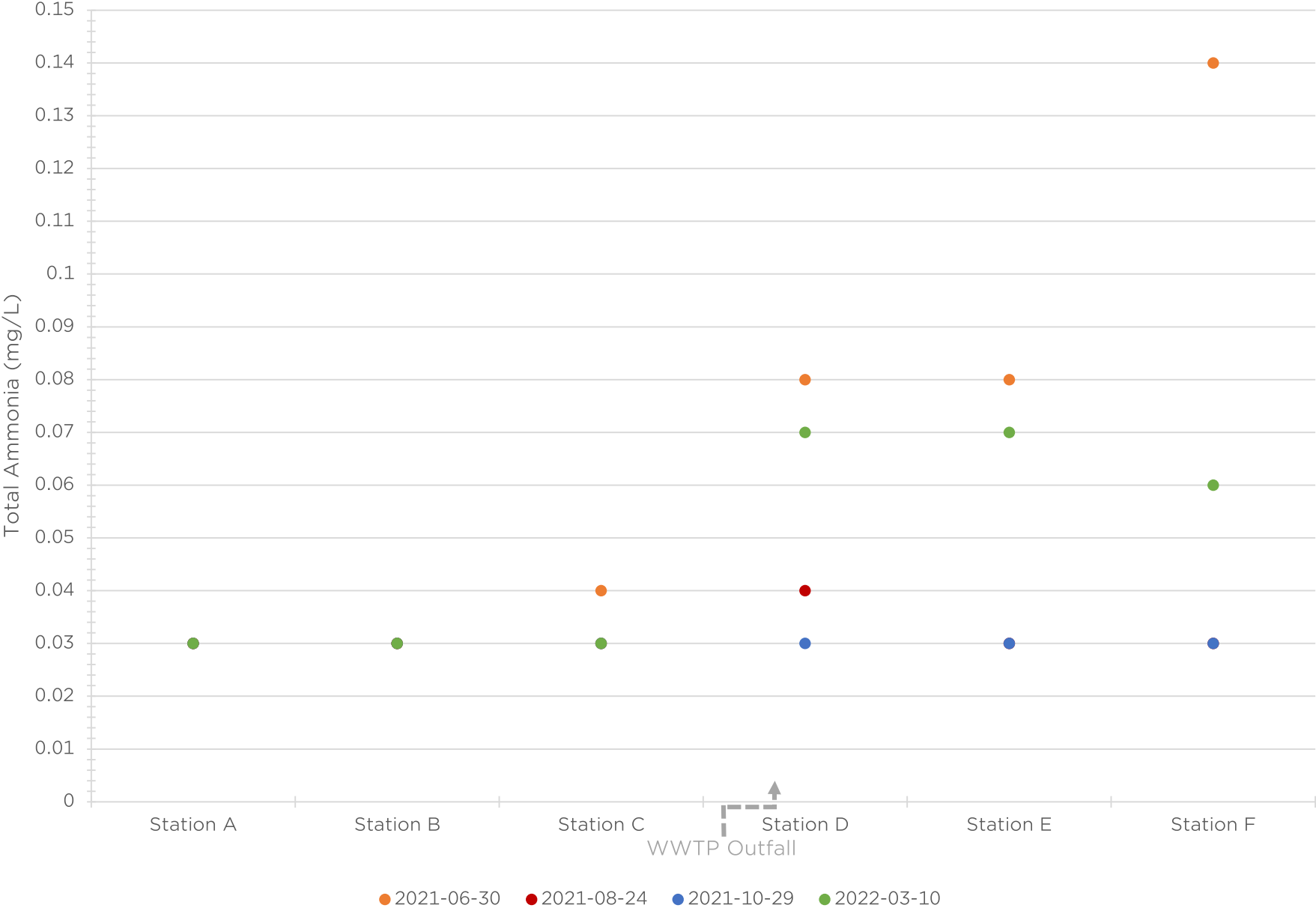
Coldwater River Total Suspended Solids Concentration



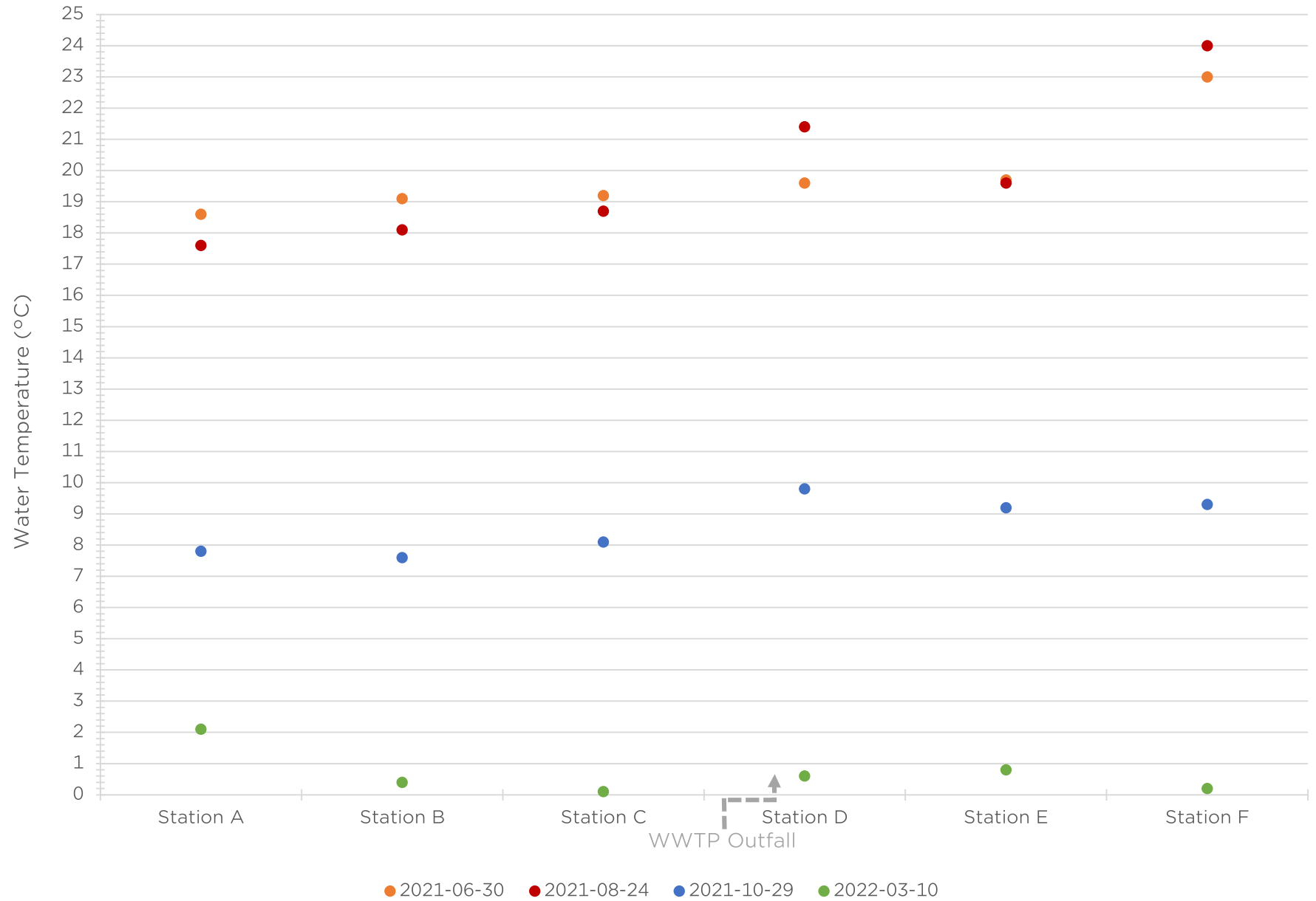
Coldwater River Total Phosphorous Concentration



Coldwater River Total Ammonia Concentration



Coldwater River Water Temperature



Appendix E: Consultation Phase 1



TOWNSHIP OF SEVERN
COLDWATER WASTEWATER TREATMENT
PLANT EXPANSION
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

NOTICE OF STUDY COMMENCEMENT

The Township of Severn is undertaking a Class Environmental Assessment (Class EA) for the expansion of the Coldwater Wastewater Treatment Plant (WWTP) and the Main Sewage Pumping Station (SPS), located on Upper Big Chute Road as shown below. The Class EA will identify and evaluate options for expanding the wastewater pumping and treatment capacity to accommodate anticipated growth in Coldwater.

The Class EA will be completed in accordance with the Schedule C requirements of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (October 2000, amended in 2007, 2011 and 2015).

To ensure that anyone interested in this study has the opportunity to get involved and provide input, public consultation will take place over the course of the study. This will include additional notices, requests for public comment and input, and Public Information Centers. Visit the project webpage at severn.ca/coldwaterwwtpeexpansion to stay informed.

Residents and interested parties can subscribe to the Township of Severn website's News and Notices webpage (severn.ca/subscribe) to receive updates and notices via email.

If you have any questions or concerns, and/or would like to be added to the study's direct mailing list, please contact one of the study representatives listed below:

Derek Burke
Township of Severn
Director of Public Works
1024 Hurlwood Lane
Orillia, Ontario, L3V 6J3
Tel: 705-325-2315 ext. 230
Email: dburke@severn.ca

Suzanne Troxler
Tatham Engineering Limited
Manager of Water & Wastewater Engineering
115 Sandford Fleming Drive, Suite 200
Collingwood, Ontario, L9Y 5A6
Tel: 705-444-2565 ext. 2089
Email: stroxler@tathameng.com

Comments and information received during this Class EA are collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act*. All comments will be part of the public record.



321867 Coldwater WWTP Expansion
Mailing List
Last updated 2023-03-09

Municipalities	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Township of Severn - Planning and Development	Administrative Assistant, Planning	Ms.	Chelsea	Wallinger	Severn	L3V 6J3
Township of Severn - Planning and Development	Director of Planning and Development	Ms.	Andrea	Woodrow	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 1	Mr.	Mark	Taylor	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 2	Mr.	Dan	Janssen	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 3	Mr.	Philip	Brennan	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 4	Ms.	Wanda	Minnings	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 5	Mr.	Jim	McIntyre	Severn	L3V 6J3
Tay Township	Chief Administrative Officer	Ms.	Andrea	Fay	Victoria Harbour	L0K 2A0
Township of Oro-Medonte - Administration	Chief Administrative Officer	Mr.	Robin	Dunn	Oro-Medonte	L0L 2E0
Township of Oro-Medonte - Drinking Water	Director of Environmental Services	Ms.	Michelle	Jakobi	Oro-Medonte	L0L 2E0
Town of Midland - Environment & Infrastructure	Deputy CAO, Executive Director of Environment & Infrastructure	Mr.	Andy	Campbell	Midland	L4R 1R2
Township of Tiny - Office of the Chief Administrative Officer	Chief Administrative Officer	Mr.	Robert	Lamb	Tiny	L0L 2J0
City of Orillia - Chief Administrative Office	Chief Administrative Officer	Ms.	Gayle	Jackson	Orillia	L3V 7T5
City of Orillia - Environment and Infrastructure Services Department	Manager of Environmental Services	Mr.	Greg	Preston	Orillia	L3V 7T5
Township of Georgian Bay	Chief Administrative Officer	Mr.	Greg	Mariotti	Port Severn	L0K 1S0
County of Simcoe - Administration Centre	County Clerk	-	-	-	Midhurst	L9X 1N6
Local Agencies	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Simcoe County District School Board	Manager of Planning	Mr.	Andrew	Keuken	Midhurst	L0L 1X0
Simcoe Muskoka Catholic District School Board	Manager of Planning and Properties	Ms.	Jennifer	Sharpe	Barrie	L4M 5K3
Simcoe Muskoka District Health Unit	Medical Officer of Health	Mr.	Charles	Gardner	Barrie	L4M 6K9
Severn Sound Environmental Association	Executive Director	Ms.	Julie	Cayley	Port McNicoll	L0K 1R0
Orillia and District Construction Association	Executive Administrator	Ms.	Sarah	Knappett	Orillia	L3V 6J3
Provincial Agencies	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Ministry of the Environment, Conservation and Parks - Central Region	Regional Director	Dr.	Rachael	Fletcher	Toronto	M2M 4J1
Ministry of the Environment, Conservation and Parks - Barrie District	District Manager	Mr.	Chris	Hyde	Barrie	L4N 1R7
Ministry of Municipal Affairs and Housing	Manager (acting), Community Planning and Development	Mr.	Eric	Boyd	London	N6E 1J1
Ministry of Municipal Affairs and Housing - Provincial Policies and Planning	Senior Planner	Mr.	John M.	Taylor	Toronto	M7A 2J3
Ministry of Northern Development, Mines, Natural Resources and Forestry	District Manager	Mr.	Dan L	Thompson	Midhurst	L9X 1N8
Ministry of Northern Development, Mines, Natural Resources and Forestry	District Planner	Mr.	Ken	Mott	Midhurst	L9X 1N8
Ministry of Transportation - Central Operations Division	Director	Ms.	Becca	Lane	Toronto	M3M 0B7
Ministry of Transportation	Project Engineer	Mr.	Justin	White	Downsview	M3M 1J8
Ministry of Indigenous Affairs - Indigenous Relations and Programs Division	Executive Advisor	Ms.	Ayn	Cooney	Toronto	M7A 2E6
Ministry of Heritage, Sport, Tourism and Culture Industries	Team Lead (A), Heritage	Ms.	Karla	Barbozza	Toronto	M7A 2R9
Ministry of Heritage, Sport, Tourism and Culture Industries- Regional Development	Regional Development Advisor	Ms.	Caitlin	Andrews	Midhurst	L0L 1X0
Ontario Heritage Trust				Sir/Madam	Toronto	M5C 1J3
Infrastructure Ontario	President, Real Estate	Mr.	Toni	Rossi	Toronto	M5G 1Z3
Ministry of Indigenous Relations and Reconciliation - Assistant Deputy Minister	Policy Advisor	Ms.	Chantelle	Gray-Wheeler	Toronto	M7A 2E6
Ministry of Indigenous Relations and Reconciliation	Special Policy Advisor	Ms.	Emma	Jarvis	Toronto	M7A 2E6
Ministry of Agriculture, Food and Rural Affairs - Central Region	Land Use Policy & Stewardship	Mr.	David	Marriott	Elora	N0B 1S0
Federal Agencies	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Indigenous Services Canada - Sustainable Infrastructure Planning, Regional Programs	Regional Program Manager	Mr.	Derek	Nadeau	Gatineau, QC	K1A 0H4
Environment and Climate Change Canada	Manager	Mr.	Rob	Dobos	Burlington	L7S 1A1
Environment and Climate Change Canada	Manager, Environmental Assessment Section Environmental Protection	Mr.	Wes	Plant	Downsview	M3H 5T4
Fisheries and Oceans Canada, Eastern Ontario District - Small Craft Harbour	Regional Manager	Ms.	Chantal	Larochelle	Burlington	L7S 1A1
Parks Canada c/o Trent-Severn Waterway	Resource Management Officer II	Ms.	Hillary	Knack	Smiths Falls	K7A 2A8
Transport Canada - Ontario Region (PHE)					Nrth York	M2N 6A5
Utilities	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Rogers	System Planner	Mr.	Tony	Dominquez	Barrie	L4M 6B8
Eastlink	Outside Plant Design	Mr.	Christopher	Henningsen	Halifax	B3K 5M3
Enbridge	Advisor, Construction and Project Management	Mr.	Kevin	Schimus	Waterloo	N2V 1K3
Hydro One	Supervising Planning Technician	Ms.	Sarah	Szymczak	Barrie	L4N 8Z2
First Nations Groups	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Chippewas of Georgina Island	Chief		Donna	Big Canoe	Sutton West	L0E 1R0
Beausoleil First Nation	Chief		Joanne	Sandy	Christian Island	L0K1C0
Chippewas of Mnjikaning First Nation (Rama)	Chief		Ted	Williams	Rama	L0K 1T0
Williams Treaties First Nations	Coordinator/Barrister, Solicitor	Ms.	Karry	Sandy-McKenzie	Barrie	L4M 2J7
Huron-Wendat Nation	Grand Chief		Rémy	Vincent	Wendake (Québec)	G0A 4V0
Great Lakes Métis Council	President		Peter	Coture	Owen Sound	N4K 1P3
Saugeen Ojibway Nation Environment Office (SON)	Resources and Infrastructure Manager		Emily	Martin	Neyaashiingmiiing	N0H 2T0
Métis Nation of Ontario - Gravenhurst Branch					Gravenhurst	P1P 1B8
Alderville First Nations Chief			Dave	Simpson	Alderville	K0K 2X0
Chippewas of Rama First Nation			Sharday	James	Rama	L3V 6H6
Curve Lake First Nations	Community Consultation Worker, Communications		Kaitlin	Hill	Curve Lake	K0L 1R0
Georgian Bay Metis Council	Consultation Liason				Midland	L4R 0B7
Great Lakes Métis Council	Consultation Assessment Coordinator		James	Wagar	Owen Sound	N4K 1P1
Hiawatha First Nation	Lands and Resource Consultation		Sean	Davison	Hiawatha First Nation	G0J 0E6
Historic Saugeen Métis	President		Archie	Indoe	Southampton	N0H 2L0
Mississauga of Scugog Island	Chief		Kelly	Larocca	Port Perry	L9L 1B6
Other	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Morgan Planning & Development			Josh	Morgan	Orillia	L3V 1Y2
Barrie Welding & Machine			Ron	Sheardown	Barrie	L4N 2C7
Celeste Phillips Planning Inc.			Celeste	Phillips	Barrie	L4M 3A7
South Shore Homes			Rob	Cheslock	Oro-Medonte	L3V 0K1
Plan Muskoka						
JPS Consulting Engineers			C	Sellers		
Capes Engineering				Clayton		
Homelife Miracle			Ajeet	Vankwani		
			Earl	Brandon	Coldwater	L0K 1E0
			C	Denardiseng		
			Maria	Squire		
			Marco	Shamm		
			Doug	Howard		
			G	Walker		
			Neil	Shinder		

**Ministry of Citizenship
and Multiculturalism**

Heritage Planning Unit
Heritage Branch
Citizenship, Inclusion and
Heritage Division
5th Flr, 400 University Ave
Tel.: 416.786.7553

**Ministère des Affaires civiques
et du Multiculturalisme**

Unité de la planification relative au
patrimoine
Direction du patrimoine
Division des affaires civiques, de
l'inclusion et du patrimoine
Tél.: 416.786.7553



June 9, 2023

EMAIL ONLY

Derek Burke
Director of Public Works
Township of Severn
1024 Hurlwood Lane
Orillia, ON L3V 6J3
dburke@severn.ca

MCM File : **0018793**
Proponent : **Township of Severn**
Subject : **Municipal Class EA – Schedule C – Notice of Commencement**
Project : **Coldwater Wastewater Treatment Plant Expansion**
Location : **Township of Severn, Ontario**

Dear Mr. Burke:

Thank you for providing the Ministry of Citizenship and Multiculturalism (MCM) with the Notice of Commencement for the above-referenced project.

MCM's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- archaeological resources, including land and marine;
- built heritage resources, including bridges and monuments; and
- cultural heritage landscapes.

Under the EA process, the proponent is required to determine a project's potential impact on known (previously recognized) and potential cultural heritage resources.

Project Summary

The Township of Severn is undertaking a Class Environmental Assessment (Class EA) for the expansion of the Coldwater Wastewater Treatment Plant (WWTP) and the Main Sewage Pumping Station (SPS), located on Upper Big Chute Road. The Class EA will identify and evaluate options for expanding the wastewater pumping and treatment capacity to accommodate anticipated growth in Coldwater.

Identifying Cultural Heritage Resources

While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation.

Archaeological Resources

This EA project may impact archaeological resources and should be screened using the MTCS [Criteria for Evaluating Archaeological Potential](#) and [Criteria for Evaluating Marine Archaeological Potential](#) to determine if an archaeological assessment is needed. MCM archaeological sites data are available at archaeology@ontario.ca.

If the EA project area exhibits archaeological potential, then an archaeological assessment (AA) shall be undertaken by an archaeologist licenced under the *Ontario Heritage Act (OHA)*, who is responsible for submitting the report directly to MCM for review.

Built Heritage Resources and Cultural Heritage Landscapes

The MTCS [Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes](#) should be completed to help determine whether this EA project may impact built heritage resources and/or cultural heritage landscapes.

If there is potential for built heritage resources and/or cultural heritage landscapes on the property or within the project area, a Cultural Heritage Evaluation Report (CHER) should be undertaken by a qualified person to determine the cultural heritage value or interest of the property (or project area). If the property (or project area) is determined to be of cultural heritage value or interest and alterations or development is proposed, MCM recommends that a Heritage Impact Assessment (HIA), prepared by a qualified consultant, be completed to assess potential project impacts. Please send the HIA to MCM for review and comment and make it available to local organizations or individuals who have expressed interest in review.

Community input should be sought to identify locally recognized and potential cultural heritage resources. Sources include, but are not limited to, municipal heritage committees, historical societies and other local heritage organizations.

Cultural heritage resources are often of critical importance to Indigenous communities. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to them.

Environmental Assessment Reporting

All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MCM whether any technical cultural heritage studies will be completed for this EA project, and provide them to MCM before issuing a Notice of Completion. If screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.

Thank you for consulting MCM on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, please do not hesitate to contact me.

Sincerely,

Dan Minkin
Heritage Planner
Dan.Minkin@Ontario.ca

Copied to: Suzanne Troxler, Tatham

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. The Ministry of Citizenship and Multiculturalism (MCM) makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MCM be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with *Ontario Regulation 30/11* the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.



INNOVATIVE PLANNING SOLUTIONS

planners • project managers • land development

IPS File No. 22-1225
April 4, 2023

Township of Severn
1024 Hurlwood Lane
Severn, Ontario
L3V 6J3

Attn: Derek Burke, Director, Township of Severn Public Works

Dear Mr. Burke:

Re: Coldwater Wastewater Treatment Plant Expansion
Consideration for lands at 20 Sheridan Drive, Coldwater

On behalf of [REDACTED] and [REDACTED], IPS Consulting Inc. is pleased to submit this Letter of Record requesting that the lands at [REDACTED] be included in considerations for servicing area for proposed upgrades to the Coldwater Wastewater Treatment Plant (WWTP) and the related Municipal Class Environmental Assessment.

Property Description

[REDACTED] is partially located along the western boundary of the Coldwater Settlement Area. The property has an approximate total area of 14.83 ha., with approximately 3.22 ha. within the Coldwater Settlement Area boundary and 11.61 ha. outside of the boundary. The property has a frontage along Sheridan Drive of roughly 370.8 m., and a frontage along Highway 12 of approximately 484 m.

The property is currently designated 'Settlement Living Area' and 'Agriculture' under the Township of Severn Official Plan. The property is zoned 'Residential Type One (R1)', 'Rural (RU)', and 'Environmental Protection (EP)' under the Township of Severn Zoning By-law 2010-65. The property currently contains residential and agricultural uses.

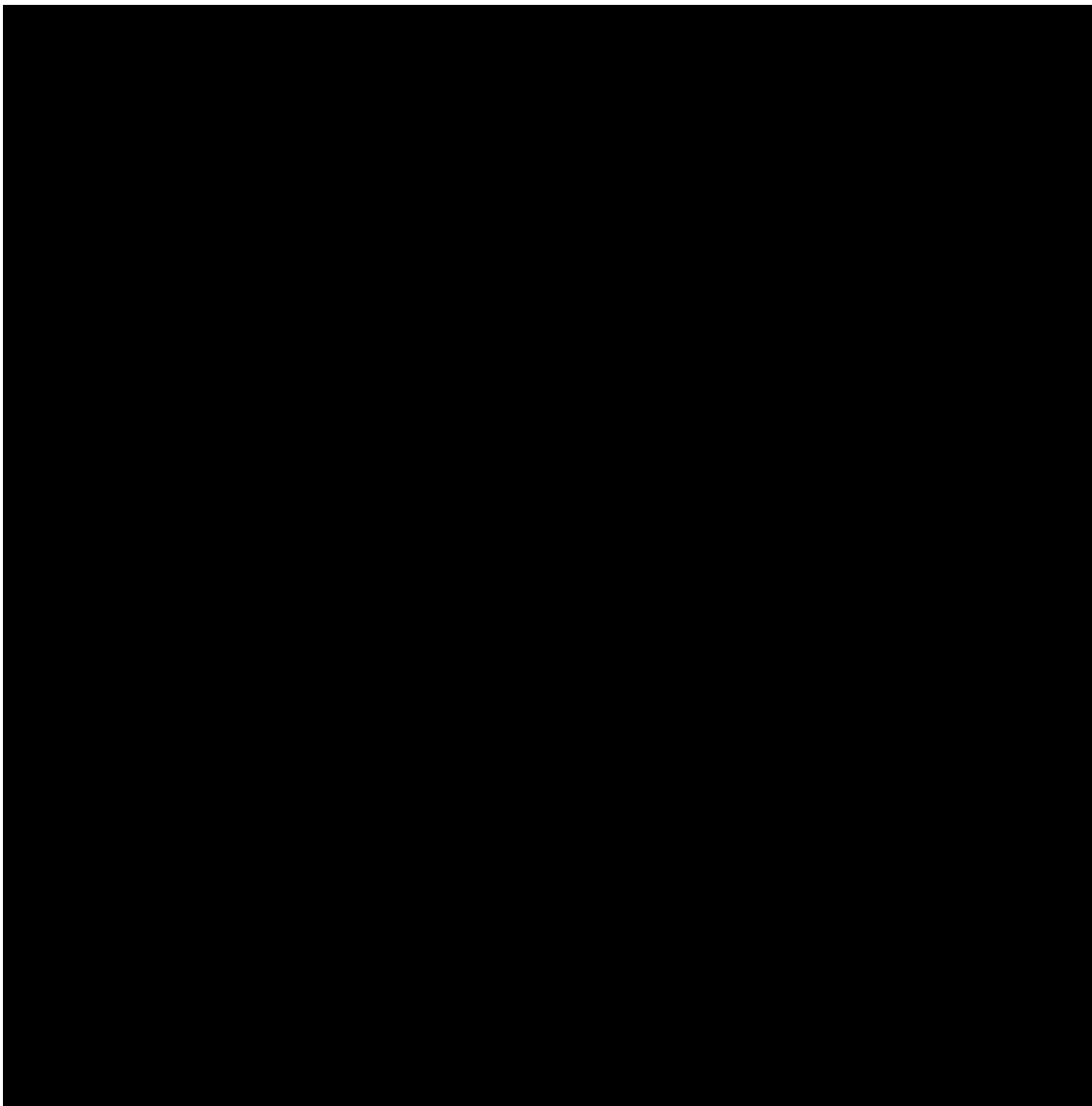
Planning Applications

A Pre-Consultation application meeting was held on October 12, 2022 related to a proposed Draft Plan of Subdivision at [REDACTED] within the Coldwater Settlement Area. Comments

received resulting from the meeting indicated that the Coldwater WWTP was nearing capacity and that the servicing needs of the proposed development would need to be accommodated through the upcoming WWTP expansion. It was clear that current WWTP capacity constraints limit the opportunity for development of our client's lands.

Municipal Class EA Study Area Request

We are requesting that the full quantum of our client's lands at [REDACTED], both inside and outside of the Coldwater Settlement Area, be considered within the servicing area for Municipal Class EA for the expanded Coldwater WWTP (Please see the figure below for reference).



Policy 3.2.6.1 of the Growth Plan provides that:

3.2.6.1 Municipalities should generate sufficient revenue to recover the full cost of providing and maintaining municipal water and wastewater systems.

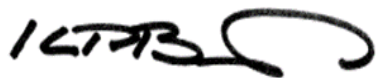
It is apparent from Policy 3.2.6.1 that Provincial Policy does not consider the current Coldwater Settlement Area, reflecting planned growth to the year 2051, a baseline for consideration of the WWTP expansion service area. This is reasonable because the approximate 25-year planning horizon used in the Municipal Comprehensive Planning Review (MCR) planning exercise represents about one-half of the service life of the proposed municipal WWTP infrastructure.

Under the adopted new Township of Severn Official Plan, the Coldwater and Westshore Major Settlement Areas are intended to be the focus for development within the municipality (7.1.6). Additionally, settlement area expansion is only permitted within Coldwater, Westshore, and Washago (7.1.12). Consequently, areas surrounding the Coldwater Settlement Area represent significant opportunities to accommodate future growth within the municipality.

The positioning of our client's land is such that it forms a logical extension of the Coldwater Settlement Area. The extension of community development in this area provides the opportunity for optimization and improved efficiency of municipal servicing and community facilities. It is reasonable to expect that our client's lands will form part of the long-term planning and municipal servicing strategy for the Coldwater Settlement Area.

We would like the opportunity to discuss this matter with yourself and the Project Manager or the Coldwater WWTP Municipal Class EA Study at your earliest convenience.

Respectfully submitted,
Innovative Planning Solutions



Kevin Bechard BES, M.Sc., RPP
Senior Associate

Cc: Suzanne Troxler, Manager of Water and Wastewater Engineering, Tatham Engineering Ltd.

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

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

Environmental Assessment
Branch

Direction des évaluations
environnementales

1st Floor
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Téléc. : 416 314-8452

April 21, 2023

EA01-06-05

Derek Burke
Director of Public Works
Township of Severn
1024 Hurlwood Lane
Orillia, Ontario, L3V 6J3
Email: dburke@severn.ca
Tel: 705-325-2315 ext. 230
BY EMAIL ONLY

**Re: Coldwater Wastewater Treatment Plant Expansion
Township of Severn
Municipal Class Environmental Assessment, Schedule C
Acknowledgement of Notice of Commencement**

Dear Derek Burke,

This letter is in response to the Notice of Commencement for the above noted project. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the Township of Severn (proponent) has indicated that the study is following the approved environmental planning process for a Schedule C project under the Municipal Class Environmental Assessment (Class EA).

The attached "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Class EA process. Please address all areas of interest in the EA documentation at an appropriate level for the EA study. Proponents who address all the applicable areas of interest can minimize potential delays to the project schedule. **Further information is provided at the end of the Areas of Interest document relating to recent changes to the Environmental Assessment Act through Bill 197, Covid-19 Economic Recovery Act 2020.**

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

The proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to the proposed project, **the MECP is delegating the procedural aspects of rights-based consultation to the proponent through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

The project is located within the John Collins' Purchase, 1785, within the traditional territory of the Chippewas of the Williams Treaties First Nations and an area of Archaeological interest to the Huron Wendat. Based on information provided to date and the Crown's preliminary assessment the proponent is required to consult with the following communities who have been identified as potentially affected by the proposed project:

- Chippewas of Rama First Nation
- Chippewas of Georgina Island First Nation
- Beausoleil First Nation

***** Huron-Wendat- Should there be any impact to archaeological resources as a result of excavation**

This advice was based on the information provided at the time of review. While this project may not trigger the duty to consult, other aspects of the overall work being carried out may. As new information becomes available through, but not limited to public consultation, expressed concern by communities, etc. about how this project may impact rights, the advice provided above may also require re-evaluation.

Steps that the proponent may need to take in relation to Aboriginal consultation for the proposed project are outlined in the "[Code of Practice for Consultation in Ontario's Environmental Assessment Process](#)". Additional information related to Ontario's Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments.

Please also refer to the attached document "A Proponent's Introduction to the Delegation of Procedural Aspects of consultation with Aboriginal Communities" for further information, including the MECP's expectations for EA report documentation related to consultation with communities.

The proponent must contact the Director of Environmental Assessment Branch (EABDirector@ontario.ca) under the following circumstances after initial discussions with the communities identified by the MECP:

- Aboriginal or treaty rights impacts are identified to you by the communities;
- You have reason to believe that your proposed project may adversely affect an Aboriginal or treaty right;
- Consultation with Indigenous communities or other stakeholders has reached an impasse; or
- A Section 16 Order request is expected based on impacts to Aboriginal or treaty rights

The MECP will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play should additional steps and activities be required.

A draft copy of the report should be sent directly to me prior to the filing of the final report, allowing a minimum of 30 days for the ministry's technical reviewers to provide comments.

Please also ensure a copy of the final notice is sent to the ministry's Central Region EA notification email account (eanotification.cregion@ontario.ca) after the draft report is reviewed and finalized.

Should you or any members of your project team have any questions regarding the material shared, please contact me at chunmei.liu@ontario.ca.

Sincerely,



Chunmei Liu
Regional Environmental Planner – Central Region

Cc: Gavin Battarino, Supervisor, Project Review Unit, MECP
Chris Hyde, Manager, Barrie District Office, MECP
Suzanne Troxler, Manager, Tatham Engineering Limited

Enclosed: Areas of Interest

Attached: Client's Guide to Preliminary Screening for Species at Risk

A Proponent's Introduction to the Delegation of Procedural Aspects of Consultation with Aboriginal Communities

AREAS OF INTEREST (v. August 2022)

It is suggested that you check off each section after you have considered / addressed it.

Planning and Policy

- Applicable plans and policies should be identified in the report, and the proponent should describe how the proposed project adheres to the relevant policies in these plans.
 - Projects located in MECP Central, Eastern or West Central Region may be subject to [A Place to Grow: Growth Plan for the Greater Golden Horseshoe \(2020\)](#).
 - Projects located in MECP Central or Eastern Region may be subject to the [Oak Ridges Moraine Conservation Plan \(2017\)](#) or the [Lake Simcoe Protection Plan \(2014\)](#).
 - Projects located in MECP Central, Southwest or West Central Region may be subject to the [Niagara Escarpment Plan \(2017\)](#).
 - Projects located in MECP Central, Eastern, Southwest or West Central Region may be subject to the [Greenbelt Plan \(2017\)](#).
 - Projects located in MECP Northern Region may be subject to the [Growth Plan for Northern Ontario \(2011\)](#).
- The [Provincial Policy Statement \(2020\)](#) contains policies that protect Ontario's natural heritage and water resources. Applicable policies should be referenced in the report, and the proponent should describe how the proposed project is consistent with these policies.
- In addition to the provincial planning and policy level, the report should also discuss the planning context at the municipal and federal levels, as appropriate.

Source Water Protection

The *Clean Water Act*, 2006 (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e. systems that are not municipal residential systems). MEA Class EA projects may include

activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Class EA projects (where the project includes an activity that is a threat to drinking water) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

- In October 2015, the MEA Parent Class EA document was amended to include reference to the Clean Water Act (Section A.2.10.6) and indicates that proponents undertaking a Municipal Class EA project must identify early in their process whether a project is or could potentially be occurring with a vulnerable area. **Given this requirement, please include a section in the report on source water protection.**
 - The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area.
 - If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.
- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.
- In order to determine if this project is occurring within a vulnerable area, proponents can use [Source Protection Information Atlas](#), which is an online mapping tool available to the public. Note that various layers (including WHPAs, WHPA-Q1 and WHPA-Q2, IPZs, HVAs, SGRAs, EBAs, ICAs) can be turned on through the “Map Legend” bar on the left. The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.

- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the report and include all communication documents/correspondence.**

More Information

For more information on the *Clean Water Act*, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to [Conservation Ontario's website](#) where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in [section 1.1 of Ontario Regulation 287/07](#) made under the *Clean Water Act*. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional "local" threat activities, as approved by the MECP.

Climate Change

The document "[Considering Climate Change in the Environmental Assessment Process](#)" (Guide) is now a part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA. Proponents should review this Guide in detail.

- **The MECP expects proponents of Class EA projects to:**
 1. Consider during the assessment of alternative solutions and alternative designs, the following:
 - a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
 - b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
 2. Include a discrete section in the report detailing how climate change was considered in the EA.

How climate change is considered can be qualitative or quantitative in nature and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered.

- The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "[Community Emissions Reduction Planning: A Guide for Municipalities](#)" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

Air Quality, Dust and Noise

- If there are sensitive receptors in the surrounding area of this project, a quantitative air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare to all applicable standards or guidelines for all contaminants of concern. **Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.**
- If a quantitative Air Quality Impact Assessment is not required for the project, the MECP expects that the report contain a qualitative assessment which includes:
 - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
 - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
 - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
 - A discussion of potential mitigation measures.
- As a common practice, "air quality" should be used an evaluation criterion for all road projects.
- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.
- The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to [Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities](#) report prepared for Environment Canada. March 2005.

- The report should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

Ecosystem Protection and Restoration

- Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.
- Natural heritage and hydrologic features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:
 - Key Natural Heritage Features: Habitat of endangered species and threatened species, fish habitat, wetlands, areas of natural and scientific interest (ANSIs), significant valleylands, significant woodlands; significant wildlife habitat (including habitat of special concern species); sand barrens, savannahs, and tallgrass prairies; and alvars.
 - Key Hydrologic Features: Permanent streams, intermittent streams, inland lakes and their littoral zones, seepage areas and springs, and wetlands.
 - Other natural heritage features and areas such as: vegetation communities, rare species of flora or fauna, Environmentally Sensitive Areas, Environmentally Sensitive Policy Areas, federal and provincial parks and conservation reserves, Greenland systems etc.

We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features. In addition, for projects located in Central Region you may consider the provisions of the Rouge Park Management Plan if applicable.

Species at Risk

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. Information, standards, guidelines, reference materials and technical resources to assist you are found at <https://www.ontario.ca/page/species-risk>.
- The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019) has been attached to the covering email for your reference and use. Please review this document for next steps.

- For any questions related to subsequent permit requirements, please contact SAROntario@ontario.ca.

Surface Water

- The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.
- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's [Stormwater Management Planning and Design Manual \(2003\)](#) should be referenced in the report and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the Class EA process that includes:**
 - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
 - Watershed information, drainage conditions, and other relevant background information
 - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
 - Information on maintenance and monitoring commitments.
- Ontario Regulation 60/08 under the *Ontario Water Resources Act* (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If the proposed sewage treatment plant is listed in Table 1 of the regulation, the report should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.
- Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information. Additionally, an

Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

Groundwater

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the report.
- If the potential construction or decommissioning of water wells is identified as an issue, the report should refer to Ontario Regulation 903, Wells, under the OWRA.
- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.
- Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information.
- Consultation with the railroad authorities is necessary wherever there is a plan to use construction dewatering in the vicinity of railroad lines or where the zone of influence of the construction dewatering potentially intercepts railroad lines.

Excess Materials Management

- In December 2019, MECP released a new regulation under the Environmental Protection Act, titled “On-Site and Excess Soil Management” (O. Reg. 406/19) to support improved management of excess construction soil. This regulation is a key step to support proper management of excess soils, ensuring valuable resources don’t go to waste and to provide clear rules on managing and reusing excess soil. New risk-based standards referenced by

this regulation help to facilitate local beneficial reuse which in turn will reduce greenhouse gas emissions from soil transportation, while ensuring strong protection of human health and the environment. The new regulation is being phased in over time, with the first phase in effect on January 1, 2021. For more information, please visit <https://www.ontario.ca/page/handling-excess-soil>.

- The report should reference that activities involving the management of excess soil should be completed in accordance with O. Reg. 406/19 and the MECP's current guidance document titled "[Management of Excess Soil – A Guide for Best Management Practices](#)" (2014).
- All waste generated during construction must be disposed of in accordance with ministry requirements

Contaminated Sites

- Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites. We recommend referring to the [MECP's D-4 guideline](#) for land use considerations near landfills and dumps.
 - Resources available may include regional/local municipal official plans and data; provincial data on [large landfill sites](#) and [small landfill sites](#); Environmental Compliance Approval information for waste disposal sites on [Access Environment](#).
- Other known contaminated sites (local, provincial, federal) in the study area should also be identified in the report (Note – information on federal contaminated sites is found on the Government of Canada's [website](#)).
- The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.
- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act* (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.

Servicing, Utilities and Facilities

- The report should identify any above or underground utilities in the study area such as transmission lines, telephone/internet, oil/gas etc. The owners should be consulted to discuss impacts to this infrastructure, including potential spills.
- The report should identify any servicing infrastructure in the study area such as wastewater, water, stormwater that may potentially be impacted by the project.
- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with MECP's Environmental Permissions Branch to determine whether a new or amended ECA will be required for any proposed infrastructure.
- We recommend referring to the ministry's [environmental land use planning guides](#) to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

Mitigation and Monitoring

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.
- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.
- The proponent's construction and post-construction monitoring plans must be documented in the report, as outlined in Section A.2.5 and A.4.1 of the MEA Class EA parent document.

Consultation

- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout

the planning process. The report should also include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments (as directed by the Class EA to include full documentation).

- Please include the full stakeholder distribution/consultation list in the documentation.

Class EA Process

- If this project is a Master Plan: there are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. **The Master Plan should clearly indicate the selected approach for conducting the plan**, by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to Part II Order Requests under the Environmental Assessment Act, although the plan itself would not be. **Please include a description of the approach being undertaken (use Appendix 4 as a reference).**
- If this project is a Master Plan: Any identified projects should also include information on the MCEA schedule associated with the project.
- The report should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.
- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment (including planning, natural, social, cultural, economic, technical). The report should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments, cultural heritage assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the report.
- Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, species at risk permits, MTO permits and approvals under the *Impact Assessment Act*, 2019.
- Ministry guidelines and other information related to the issues above are available at <http://www.ontario.ca/environment-and-energy/environment-and-energy>. We encourage you to review all the available guides and to reference any relevant information in the report.

Amendments to the EAA through the Covid-19 Economic Recovery Act, 2020

Once the EA Report is finalized, the proponent must issue a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the proponent. The Notice of Completion must be sent to the appropriate MECP Regional Office email address.

The public can request a higher level of assessment on a project if they are concerned about potential adverse impacts to constitutionally protected Aboriginal and treaty rights. In addition, the Minister may issue an order on his or her own initiative within a specified time period. The Director (of the Environmental Assessment Branch) will issue a Notice of Proposed Order to the proponent if the Minister is considering an order for the project within 30 days after the conclusion of the comment period on the Notice of Completion. At this time, the Director may request additional information from the proponent. Once the requested information has been received, the Minister will have 30 days within which to make a decision or impose conditions on your project.

Therefore, the proponent cannot proceed with the project until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, the proponent may not proceed after this time if:

- a Section 16 Order request has been submitted to the ministry regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, or
- the Director has issued a Notice of Proposed order regarding the project.

Please ensure that the Notice of Completion advises that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding concerns regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, Section 16 Order requests on those matters should be addressed in writing to:

Minister David Piccini
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
EABDirector@ontario.ca

From: [Suzanne Troxler](#)
To: [REDACTED]; [Robin Deduro](#); dburke@severn.ca; [Brad Oster](#)
Bcc: [Orillia File](#)
Subject: RE: Coldwater Wastewater Treatment Plant expansion (321867)
Date: Friday, April 14, 2023 5:38:00 PM
Attachments: [image001.jpg](#)

[REDACTED]

We have checked our calculations for the projected flows for the WWTP expansion Class EA and discussed with the Township.

We can confirm that the projections include [REDACTED], which is the number of units for the portion that is within the settlement area boundary.

The Township planner has told us there is no plan to expand the Coldwater Settlement Area boundary to include all of [REDACTED], as the County's MCR indicates there is sufficient residential lands to accommodate growth. Therefore the direction we have received is to keep the projected number of units as is for the Class EA study.

The Township can be contacted directly to respond to other planning questions and comments.

Hope you have a good weekend.

Suzanne

From: [REDACTED]
Sent: Tuesday, April 4, 2023 2:17 PM
To: dburke@severn.ca
Cc: Suzanne Troxler <stroxler@tathameng.com>; [REDACTED]
Subject: Coldwater Wastewater Treatment Plant expansion

CAUTION: This email originated from outside of Tatham Engineering or Envision-Tatham. Do not click on links or open attachments unless you know the sender and have verified the sender's email address and know the content is safe.

Hello Derek,

I am providing the attached letter on behalf of [REDACTED] and the owners of [REDACTED], Coldwater, regarding study area considerations for the upcoming Municipal Class Environmental Assessment and Coldwater Wastewater Treatment Plant expansion.

As stated in the letter, we would appreciate the opportunity to discuss the matter with yourself and Suzanne at your earliest convenience. Please let us know your upcoming availabilities for a potential meeting.

Regards,

[REDACTED]

Markup Response Form

Application Date March 29, 2023 **Applicant:** Tatham Engineering
Date Returned: April 14, 2023
Rogers Ref. No.: S23A632 **Applicant Ref. No.:** N/A
Location / Municipality: Upper Big Chute Rd & Anderson Line

Rogers Communications has reviewed your drawing(s) as requested.
Our comments follow below with an "X" indicating Rogers' stance on your proposed plan.

Markup Response is valid for 6 months from the date issued.

Please inform Rogers Communications a minimum of 6 - 12 months in advance of the proposed construction schedule in order to coordinate our plant relocation.

Contact Ontario One Call at 1-800-400-2255 or www.on1call.com at least 5 business days before beginning work to obtain utility locates.
Hand dig / Vac truck when crossing, or within 1.0m of existing Rogers plant.
Plant is to approximation.

Comments:

- ☒ **Markup Only** Not for PUCC Approval
- ☒ **For your Reference** Rogers Communications currently has existing plant as marked on your drawing. Our standard depth in this municipality is: 1m.
Please ensure you maintain clearances of 1.0m vertically and 1.0m horizontally.
- ☐ **No Conflict** Rogers Communications currently does not possess existing plant in the area indicated on your attached plans.
- ☐ **CONFLICT** Your proposed construction appears to encroach within existing Rogers Communications plant. Please ensure you maintain clearances of 0.3 m vertically and 1 m horizontally. For hand dig maintain 0.6 m and for directional bore maintain 1.0 m horizontally. Please relocate your proposed construction to allow adequate clearance.

CAUTION NOTES:

- ☐ Use vactruck and expose ducts, maintain minimum of 0.6m clearance.
- ☒ Rogers Communications has aerial plant in this area, as it is indicated on the attached plans.
- ☐ Fiber Optic Cable is present in the area of your proposed construction. Please obtain locates and maintain minimum 1.0m/1.0m clearance.
- ☐ Proposed Fiber Optic Cable in a joint use duct structure .
- ☐ Plant currently under construction.

Appendix F: Consultation Phase 2



TOWNSHIP OF SEVERN
COLDWATER WASTEWATER TREATMENT
PLANT EXPANSION
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

NOTICE OF PUBLIC INFORMATION CENTRE No. 1

The Township of Severn is undertaking a Class Environmental Assessment (Class EA) for the expansion of the Coldwater Wastewater Treatment Plant (WWTP) and the Main Sewage Pumping Station (SPS). The Class EA will identify and evaluate options for increasing the wastewater pumping and treatment capacity to accommodate anticipated growth in Coldwater.

The Class EA follows the Schedule C requirements of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (March 2023).

A Public Information Centre (PIC) will be held in-person and virtually to present the wastewater infrastructure needs, alternative solutions under consideration, and the preliminary recommendations, for public input. There will be a PowerPoint presentation followed by a question and answer period for in person and online participants. Attendees can join the meeting online by accessing the Zoom link that will be available on the Township website at severn.ca/coldwaterwwtpexpansion. The recorded presentation will be posted on the project webpage following the PIC.

Public Information Centre No. 1

Date: Thursday June 1, 2023

Time: 2:00 to 4:00 p.m.

Presentation at 2:15 p.m. Online questions accepted until 3:00 p.m.

Location: Coldwater Community Centre, 11 Michael Ann Drive

Comments can be submitted at the PIC, or using the online comment form, or by e-mail to the contacts below. Comments will be accepted until June 16, 2023, to be considered in the study. Following PIC No. 1 and upon review of comments, the preferred solution will be selected, and alternative design concepts for the preferred solution will be developed and evaluated.

If you have any questions or concerns, and/or would like to be added to the study's direct mailing list, please contact one of the study representatives listed below:

Derek Burke

Township of Severn

Director of Public Works
1024 Hurlwood Lane
Orillia, Ontario, L3V 6J3
Tel: 705-325-2315 ext. 230
Email: dburke@severn.ca

Suzanne Troxler

Tatham Engineering Limited

Manager of Water & Wastewater Engineering
115 Sandford Fleming Drive, Suite 200
Collingwood, Ontario, L9Y 5A6
Tel: 705-444-2565 ext. 2089
Email: stroxler@tathameng.com

Comments and information received during this Class EA are collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act*. All comments will be part of the public record.

321867 Coldwater WWTP Expansion
Mailing List
Last updated 2023-05-12

Municipalities	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Township of Severn - Planning and Development	Administrative Assistant, Planning	Ms.	Chelsea	Wallinger	Severn	L3V 6J3
Township of Severn - Planning and Development	Director of Planning and Development	Ms.	Andrea	Woodrow	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 1	Mr.	Mark	Taylor	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 2	Mr.	Dan	Janssen	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 3	Mr.	Philip	Brennan	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 4	Ms.	Wanda	Minnings	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 5	Mr.	Jim	McIntyre	Severn	L3V 6J3
Tay Township	GM Operational Services/Manager of Engineering Services	Mr.	Shawn	Berriault	Victoria Harbour	L0K 2A0
Township of Oro-Medonte - Administration	Chief Administrative Officer	Mr.	Robin	Dunn	Oro-Medonte	L0L 2E0
Township of Oro-Medonte - Drinking Water	Director of Environmental Services	Ms.	Michelle	Jakobi	Oro-Medonte	L0L 2E0
Town of Midland - Environment & Infrastructure	Deputy CAO, Executive Director of Environment & Infrastructure	Mr.	Andy	Campbell	Midland	L4R 1R2
Township of Tiny - Office of the Chief Administrative Officer	Chief Administrative Officer	Mr.	Robert	Lamb	Tiny	L0L 2J0
City of Orillia - Chief Administrative Office	Chief Administrative Officer	Ms.	Gayle	Jackson	Orillia	L3V 7T5
City of Orillia - Environment and Infrastructure Services Department	Manager of Environmental Services	Mr.	Greg	Preston	Orillia	L3V 7T5
Township of Georgian Bay	Chief Administrative Officer	Mr.	Greg	Mariotti	Port Severn	L0K 1S0
County of Simcoe - Administration Centre	County Clerk	-	-	-	Midhurst	L9X 1N6
Local Agencies	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Simcoe County District School Board	Manager of Planning	Mr.	Andrew	Keuken	Midhurst	L0L 1X0
Simcoe Muskoka Catholic District School Board	Manager of Planning and Properties	Ms.	Jennifer	Sharpe	Barrie	L4M 5K3
Simcoe Muskoka District Health Unit	Medical Officer of Health	Mr.	Charles	Gardner	Barrie	L4M 6K9
Severn Sound Environmental Association	Executive Director	Ms.	Julie	Cayley	Port McNicoll	L0K 1R0
Orillia and District Construction Association	Executive Administrator	Ms.	Sarah	Knappett	Orillia	L3V 6J3
Provincial Agencies	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Ministry of the Environment, Conservation and Parks - Central Region	Regional Director	Dr.	Rachael	Fletcher	Toronto	M2M 4J1
Ministry of the Environment, Conservation and Parks - Barrie District	District Manager	Mr.	Chris	Hyde	Barrie	L4N 1R7
Ministry of Municipal Affairs and Housing	Manager (acting), Community Planning and Development	Mr.	Eric	Boyd	London	N6E 1J3
Ministry of Municipal Affairs and Housing - Provincial Policies and Planning	Senior Planner	Mr.	John M.	Taylor	Toronto	M7A 2J3
Ministry of Northern Development, Mines, Natural Resources and Forestry	District Manager	Mr.	Dan L	Thompson	Midhurst	L9X 1N8
Ministry of Northern Development, Mines, Natural Resources and Forestry	District Planner	Mr.	Ken	Mott	Midhurst	L9X 1N8
Ministry of Transportation - Central Operations Division	Director	Ms.	Becca	Lane	Toronto	M3M 0B7
Ministry of Transportation	Project Engineer				Downsview	M3M 1J8
Ministry of Indigenous Affairs - Indigenous Relations and Programs Division	Executive Advisor		Ayn	Cooney	Toronto	M7A 2E6
Ministry of Heritage, Sport, Tourism and Culture Industries	Team Lead (A), Heritage	Ms.	Karla	Barbozza	Toronto	M7A 2R9
Ministry of Heritage, Sport, Tourism and Culture Industries- Regional Development	Regional Development Advisor	Ms.	Caitlin	Andrews	Midhurst	L0L 1X0
Ontario Heritage Trust				Sir/Madam	Toronto	M5C 1J3
Infrastructure Ontario	President, Real Estate	Mr.	Toni	Rossi	Toronto	M5G 1Z3
Ministry of Indigenous Relations and Reconciliation - Assistant Deputy Minister	Manager			Rising	Toronto	M7A 2E6
Ministry of Indigenous Relations and Reconciliation	Special Policy Advisor	Ms.	Lareina	Jarvis	Toronto	M7A 2E6
Ministry of Agriculture, Food and Rural Affairs - Central Region	Land Use Policy & Stewardship	Mr.	David	Marriott	Elora	N0B 1S0
Federal Agencies	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Indigenous Services Canada - Sustainable Infrastructure Planning, Regional Programs	Regional Manager	Mr.	Derek	Nadeau	Gatineau, QC	K1A 0H4
Environment and Climate Change Canada	Manager	Mr.	Rob	Dobos	Burlington	L7S 1A1
Environment and Climate Change Canada	Manager, Environmental Assessment Section Environmental Protection	Mr.	Wes	Plant	Downsview	M3H 5T4
Fisheries and Oceans Canada, Eastern Ontario District - Small Craft Harbour	Regional Manager	Ms.	Chantal	Larochelle	Burlington	L7S 1A1
Parks Canada c/o Trent-Severn Waterway	Resource Management Officer II	Ms.	Hillary	Knack	Smiths Falls	K7A 2A8
Transport Canada - Ontario Region (PHE)					Nrth York	M2N 6A5
Utilities	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Rogers	System Planner	Mr.	Jason	Dwyer	Barrie	L4M 6B8
Eastlink	Outside Plant Design	Mr.	Christopher	Henningsen	Halifax	B3K 5M3
Enbridge	Advisor, Construction and Project Management	Mr.	Kevin	Schmus	Waterloo	N2V 1K3
Hydro One	Supervising Planning Technician	Ms.	Sarah	Szymczak	Barrie	L4N 8Z2
First Nations Groups	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Chippewas of Georgina Island	Chief		Donna	Big Canoe	Sutton West	L0E 1R0
Beausoleil First Nation	Chief		Joanne	Sandy	Christian Island	L0K1C0
Chippewas of Mnjikaning First Nation (Rama)	Chief		Ted	Williams	Rama	L0K 1T0
Williams Treaties First Nations	Coordinator/Barrister, Solicitor	Ms.	Karry	Sandy-McKenzie	Barrie	L4M 2J7
Huron-Wendat Nation	Grand Chief		Rémy	Vincent	Wendake (Québec)	G0A 4V0
Great Lakes Métis Council	President		Peter	Coture	Owen Sound	N4K 1P3
Saugeen Ojibway Nation Environment Office (SON)	Resources and Infrastructure Manager		Emily	Martin	Neyaashiinigmiing	N0H 2T0
Métis Nation of Ontario - Gravenhurst Branch					Gravenhurst	P1P 1B8
Alderville First Nations Chief			Dave	Simpson	Alderville	K0K 2X0
Chippewas of Rama First Nation	Community Consultation Worker, Communications		Sharday	James	Rama	L3V 6H6
Curve Lake First Nations	Consultation Liason		Kaitlin	Hill	Curve Lake	K0L 1R0
Georgian Bay Metis Council					Midland	L4R 0B7
Great Lakes Métis Council	Consultation Assessment Coordinator		James	Wagar	Owen Sound	N4K 1P1
Hiawatha First Nation	Lands and Resource Consultation		Sean	Davison	Hiawatha First Nation	G0J 0E6
Historic Saugeen Métis	President		Archie	Indoe	Southampton	N0H 2L0
Mississaugas of Scugog Island	Chief		Kelly	Larocca	Port Perry	L9L 1B6
Other	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Morgan Planning & Development			Josh	Morgan	Orillia	L3V 1Y2
Barrie Welding & Machine			Ron	Sheardown	Barrie	L4N 2C7
Celeste Phillips Planning Inc.			Celeste	Phillips	Barrie	L4M 3A7
South Shore Homes			Rob	Cheslock	Oro-Medonte	L3V 0K1
Plan Muskoka						
JPS Consulting Engineers			C	Sellers		
Capes Engineering				Clayton		
Homelife Miracle			Ajeet	Vankwani		
			Earl	Brandon	Coldwater	L0K 1E0
			C	Denardiseng		
			Maria	Squire		
			Marco	Shamm		
			Doug	Howard		
			G	Walker		
			Neil	Shinder		



COLDWATER WASTEWATER TREATMENT PLANT EXPANSION CLASS ENVIRONMENTAL ASSESSMENT PUBLIC INFORMATION CENTRE NO. 1

June 1, 2023



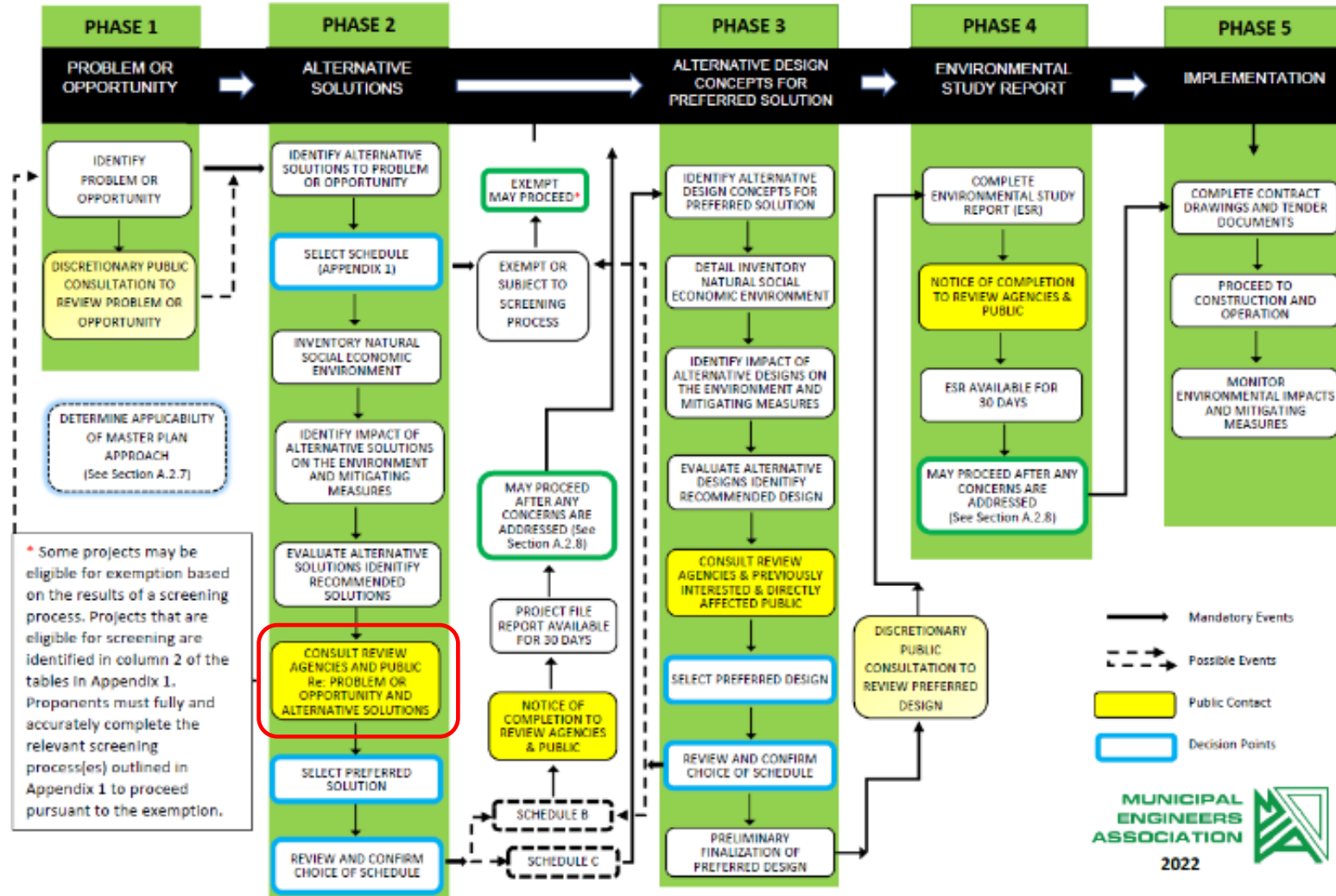
PROBLEM STATEMENT



The community of Coldwater is expected to grow significantly over the next 20 years. The Coldwater wastewater treatment plant (WWTP) does not have capacity to treat the wastewater associated with the anticipated population growth in Coldwater, nor does the Main SPS have capacity to convey the projected wastewater flows to the WWTP.

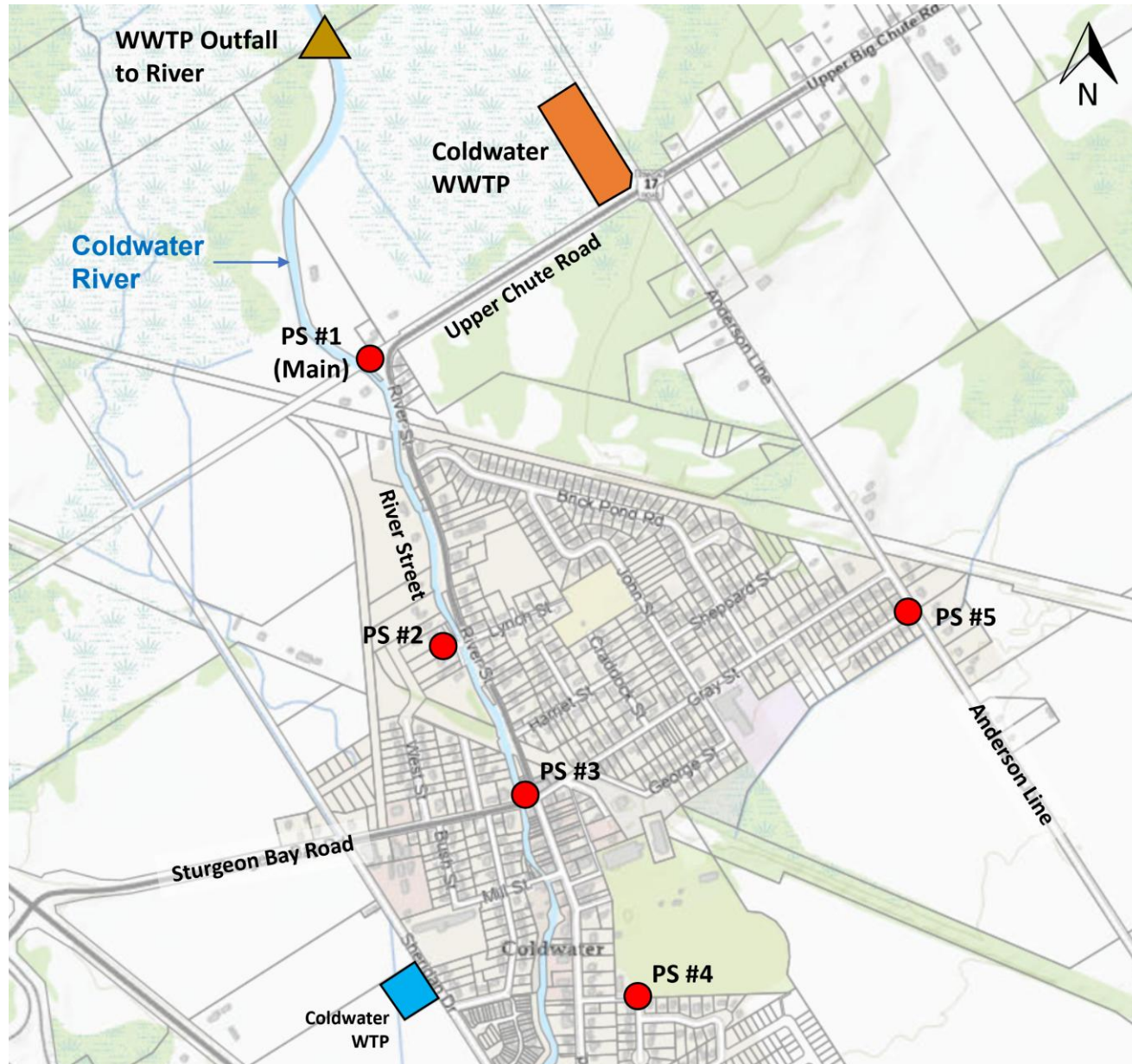
EXHIBIT A.2. MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS

NOTE: This flow chart is to be read in conjunction with Part A of the MCEA



CLASS EA PROCESS

- We are at Phase 2



EXISTING WASTEWATER INFRASTRUCTURE

- Sanitary sewage collection system
- 5 pumping stations
- Coldwater WWTP
- Treated effluent outfall to Coldwater River

EXISTING MAIN SPS AND COLDWATER WWTP



- The Main SPS (SPS No. 1) is a below-ground station with 3 submersible pumps
- The Coldwater WWTP:
 - receives pumped sewage from the Main SPS
 - has two package treatment plants: an extended aeration (EA) plant and a sequencing batch reactor (SBR) plant
 - treatment includes phosphorus removal and UV disinfection
 - discharges treated effluent to Coldwater River
 - biosolids are digested and stored before disposal by land application

CAPACITIES AND HISTORICAL FLOWS



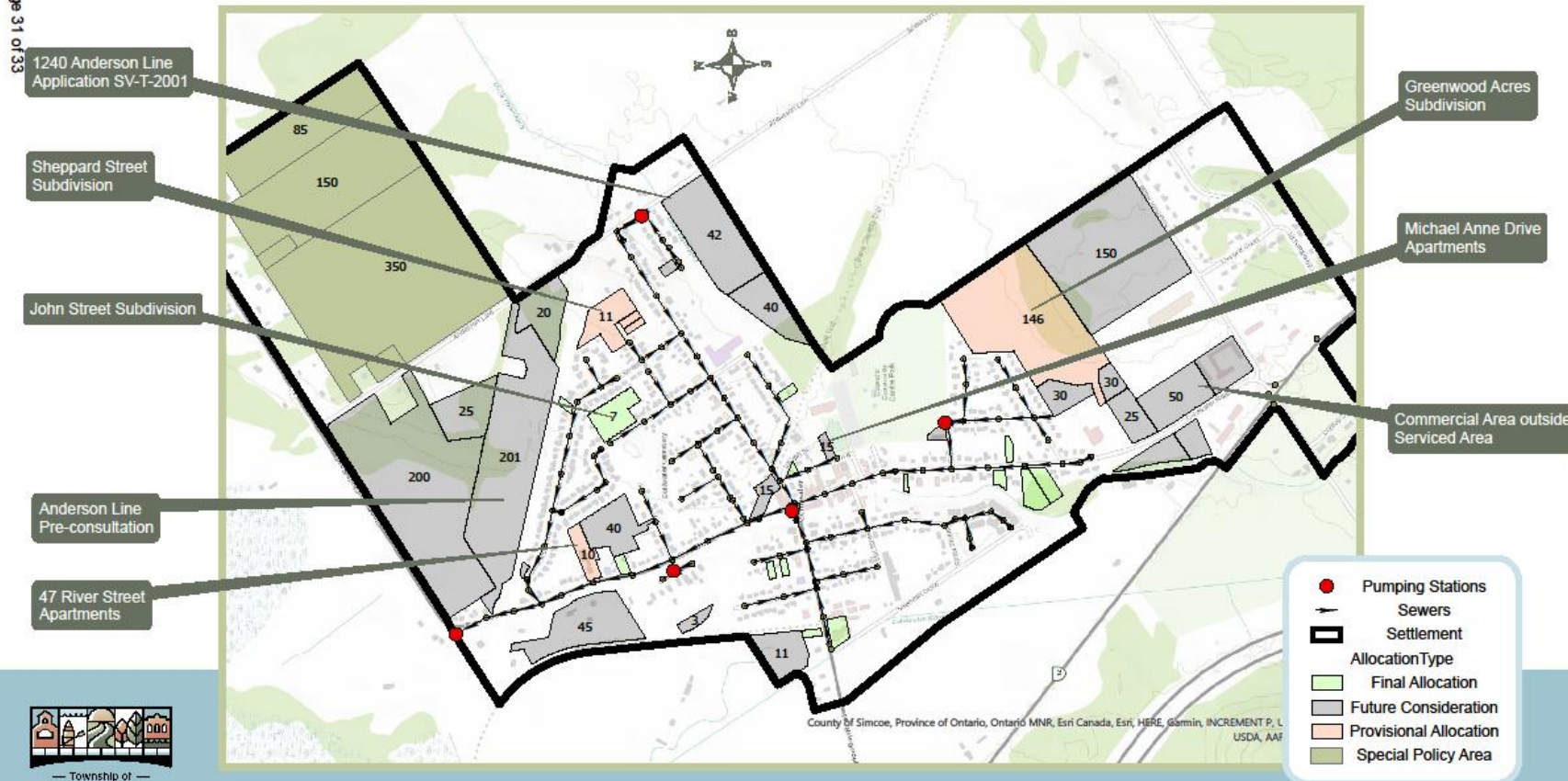
- The WWTP has an average day capacity of 921 m³/day and a peak flow capacity of 3,240 m³/day
- The Main SPS has a rated capacity of 18.8 L/s (1,624 m³/day)
- Sewage is occasionally hauled from Main SPS to WWTP, because of insufficient capacity of Main SPS

	Influent			Effluent Average Flow	
	Average	Maximum	MDF	SBR	EA
5-year Average (m ³ /day)	580		3.4	208	434
5-year Max (m ³ /day)		2,392	4.3		
Rated Capacity (m ³ /day)	921	3,240	3.5	375	546
Percent Utilization (%)	63	74		55	80

Coldwater Wastewater Capacity Allocation

The Township of Severn does not guarantee the accuracy of ERU's allocated to future consideration allocation type. These estimates are based on typical servicing density and potential land use

Page 31 of 33



GROWTH AREAS

- Township plan showing the anticipated growth areas in 2022

POPULATION PROJECTIONS



Assumptions

- Commercial/industrial lands wastewater generation rate of 20,000 L/ ha/day
- Projected average occupancy: 2.7 person/unit
- Allowance of 2.5% of new units

	Equivalent Residential Units	Equivalent Population
Existing and Allocated		
Existing	566	1,500
Allocated (Final and Provisional)	187	506
Existing and Allocated	753	2,006
Future		
0 – 10 Years	661	1,784
10 – 20 Years	629	1,697
20+ Years	971	2,622
Future	2,261	6,103
Allowance	61	165
Total	3,075	8,274

GENERATION RATES & DESIGN CRITERIA



- 5-year average wastewater generation rate: 387 L/person/day
- Inflow and Infiltration (I/I) investigation in 2016 found high I/I in the spring due to high groundwater table and snowmelt

	Criteria for Planning
WWTP Design	
Domestic Wastewater Generation Rate, incl. average I/I	400 L/p/day
Maximum Day Factor	4
SPS Design	
Peak I/I	0.23 L/ha/s
Harmon Peaking Factor	As calculated for tributary population

WWTP PROJECTED FLOWS AND DEFICITS



- WWTP will be operating at 88% of its rated capacity when all allocated units are built
- Insufficient capacity to accommodate anticipated growth in next 10 years
- Design of WWTP expansion should be initiated at about 85% of its rated capacity

	Cumulative Equivalent Population	Projected Average Flows (m ³ /day)	Residual WWTP Avg. Capacity (m ³ /day)
Existing and Allocated	2,018	807	114
10-year Growth	3,847	1,539	(618)
20-year Growth	5,587	2,235	(1,314)
Build-out (20+ Years)	8,274	3,310	(2,389)

DESIGN FLOWS AND CAPACITY EXPANSIONS



- Based on projections, a 2-phase WWTP expansion would be needed, to be confirmed in Class EA Phase 3
- For build-out condition, SPS would need to be expanded from 18.8 L/s to 108 L/s.

WWTP Phased Expansions	Average Capacity (m ³ /day)	Peak Capacity (m ³ /day)
Existing WWTP	921	3,240
Phase 1 Expansion (20-year growth)	2,400	9,600
Phase 2 Expansion (Build-out)	3,300	13,200

WWTP PERFORMANCE



- WWTP consistently meets its effluent objectives and compliance criteria
- In the past 5 years, there was only one exceedance of a compliance limit

Parameter	Influent Quality (Avg.)	Effluent Quality		Effluent Objective	Effluent Limit
		Average	No. of Exceedances		
Total Suspended Solids (mg/L)	125	7	1	10	15
CBOD (mg/L)	119	3	0	10	15
Total Phosphorus (mg/L)	3.4	0.1	0	0.3	0.5
Ammonia (mg/L)		1.5		1 – 3	
E. Coli (cfu)		13		200	

COLDWATER RIVER WATER QUALITY



Parameter	Upstream Sampling Locations		Downstream Sampling Locations	
	1989-1990	2021-2022	1989-1990	2021-2022
Dissolved Oxygen (mg/L)	11.6	12.4	9.6	10.3
Total Suspended Solids (mg/L)	8.9	14.7	9.1	13.5
Total Phosphorus (mg/L)	0.025	0.019	0.841	0.024
Ammonia (mg/L)	0.07	0.03	0.07	0.06
Unionized Ammonia (mg/L)	0.0003 – 0.0017		0.0003 – 0.0025	

- Water quality in Coldwater River was measured upstream and downstream of WWTP outfall in 1989-1990 and 2021-2022
- WWTP outfall had minimal effects on the water quality in Coldwater River
- Total Phosphorus below PWQO of 0.03 mg/L to prevent algae growth
- Unionized Ammonia well below PWQO of 0.02 mg/L to prevent toxicity to aquatic life

FUTURE WWTP EFFLUENT QUALITY



- Effluent quality of expanded WWTP will need to be improved proportional to the increase in effluent flows to Coldwater Creek to maintain the current approved loading limits
- Required effluent quality will be confirmed in pre-consultation with MECP

Parameter	Effluent Loading Limit / Objective (kg/day)	Expected Effluent Quality Limits (mg/L)		
		Existing 921 m ³ /day	Expansion 1 2,400 m ³ /day	Expansion 2 3,300 m ³ /day
CBOD & Suspended Solids	13.8	15	6	4
Total Phosphorus	0.28	0.3	0.13	0.09
Ammonia – Summer	0.92	1	0.4	0.3
Ammonia – Winter	2.76	3	1.2	0.9

ALTERNATIVE PLANNING SOLUTIONS



1. Do Nothing / Limit Growth
 - Growth limited to available capacity of WWTP
2. Reduce Wastewater Flows
 - Rehabilitate sewers to reduce extraneous flows
3. Expand Coldwater WWTP and Main SPS at Existing Sites
 - Expand existing facilities on current sites
4. Build a new WWTP on the Existing Site and Expand Main SPS
 - Replace existing WWTP with new WWTP on existing site
 - Expand Main SPS on existing site
5. Build a new WWTP on a New Site and Expand Main SPS
 - Replace existing WWTP with new WWTP on a new site
 - Expand Main SPS on existing site

Criteria	Alt 1 Do Nothing/ Limit Growth	Alt 2 Reduce Wastewater Flows	Alt 3 Expand WWTP & Main SPS at Ex. Sites	Alt 4: Build new WWTP & Expand Main SPS	
				4A. Build New WWTP on Ex. Site	4B. Build New WWTP on New Site
Addresses Problem	No	No	Yes	Yes	Yes
Impact to Coldwater River	None	None	Low potential impact	Low potential impact	Low potential impact
Natural, Cultural, and Archaeological Impacts	None	None	Low potential impacts on existing disturbed site	Low potential impacts on existing disturbed site	Higher potential impact on undisturbed land
Impacts on Residents	None	Temporary impacts during sewer construction	Capital costs paid by DCs	Capital costs paid by DCs and ex. residents	Capital costs paid by DCs and ex. residents Land acquisition
Flexibility for Phasing/Future	None	None	Some flexibility	More flexibility	More flexibility
Use of Existing Infrastructure	Yes	Yes	Yes	No	No
Climate Change Resiliency	No	Could reduce impacts of severe wet weather events	Opportunity to build-in climate change resiliency	More opportunity to build in climate change resiliency	More opportunity to build in climate change resiliency

Legend:

Very positive

Positive

No impact

Minor negative

Negative

EVALUATION OF ALTERNATIVE SOLUTIONS



- Do Nothing/Limit Growth (Alt. 1) does not address the Problem Statement
- Reduce Wastewater Flows (Alt. 2) is not sufficient on its own to generate the required wastewater capacity, but I/I in sewers should be addressed
- Expanding the Coldwater WWTP and Main SPS on the current sites (Alt. 3) would be feasible, have low potential environmental impacts, and have the lowest costs, paid through DCs from new developments.
- Building a new WWTP on the current site or new site (Alt. 4) would have more potential environmental impacts and higher costs, and would not maximize use of existing infrastructure, but would provide more flexibility/opportunity for energy-efficient and climate change resilient facility

Preliminary Preferred Solution:

- **Expand Coldwater WWTP and Main SPS on existing sites**
- **Implement an I/I control program**

CLASS EA NEXT STEPS



- Obtain and review comments from public, agencies and stakeholders
- Incorporate comments into assessment and select preferred solution
- Proceed to Phase 3 of the Class EA process:
 - Develop and assess alternative design concepts for the preferred planning solution
- Hold PIC 2 to seek input on assessment of design concepts
- Prepare Draft Environmental Study Report
- 30-day public and agency review

Please fill in a comment sheet and submit to us by June 16, 2023

THANK YOU FOR YOUR INPUT





COLDWATER WASTEWATER TREATMENT PLANT EXPANSION
CLASS ENVIRONMENTAL ASSESSMENT

PUBLIC INFORMATION CENTRE No. 1 - JUNE 1, 2023

SIGN-IN SHEET

#	NAME	COMPANY	ADDRESS	PHONE #	EMAIL
1	MIKE BURKETT				
2	BRIAN SMITH				
3	TONY DRAUW				
4	Judith Cox				
5	Neil Shinder				
6	Rayanne Gabe				
7	Andrea Woodrow				
8	RON SHEARDON				
9					
10					
11					
12					

Privacy statement

Information contained on this form is collected under the authority of the [Municipal Act](#). Information collected will be used and managed by the Township of Severn in accordance with the [Municipal Freedom of Information and Protection of Privacy Act](#). If you require additional information, please view our [Freedom of Information and Routine Disclosure Policy](#).

Comment Form

Please use this form to provide your comments on the [Municipal Class Environmental Assessment](#) for the Coldwater Wastewater Treatment Plant Expansion.

All questions and comments received will be responded to in writing (either by email or letter).

Please enter your comments *

The SSEA would like to know what efforts are being made to deal with the septage that results from the wastewater treatment process (both from the current plant and the proposed expansion). Many years ago, there was work done by several North Simcoe municipality to investigate the feasibility of a shared treatment facility. Would the Township consider such a partnership venture?

Name *

Aisha Chiandet

If you are submitting comments on behalf of an organization, please enter the name of the organization

Severn Sound Environmental Association

Street address *

[REDACTED]

Municipality *

Tay

Province *

ON

Postal code *

L0K1R0

Email: *

From: [Suzanne Troxler](#)
To: [REDACTED]
Cc: [Derek Burke](#); [Robin Deduro](#)
Bcc: [Orillia File](#)
Subject: Coldwater WWTP Class EA - Response to Question (321867)
Date: Tuesday, June 13, 2023 2:35:50 PM

[REDACTED]

Thank you for participating in the first PIC for the Coldwater WWTP Class EA.

Currently, the biosolids produced from the treatment process at the Coldwater WWTP are aerobically digested at the WWTP. The digested sludge is stored in an above-ground tank on the WWTP site. The sludge is hauled and applied to farm land by an approved NASM contractor. This sludge management approach will most likely continue for the expansion of the WWTP. The available storage volume will be reviewed to ensure that it provides the recommended minimum 180 days of storage required by MECP Design Guidelines.

The Coldwater WWTP currently does not accept septage or any hauled waste. It is in the scope of work of this Class EA to consider if and how the expanded Coldwater WWTP could start to accept septage through a properly designed septage receiving facility. The Township is aware of the need for septage handling facilities in the area. As was discussed during the Q&A at the PIC, the volume of septage that the expanded Coldwater WWTP would be capable of receiving will be fairly small because septage volume is limited to typically no more than 5% of the total wastewater flow so that it does not upset the biological treatment process.

We hope this answers your questions. Please do not hesitate to contact us if you have any other questions.

Suzanne

From: [Derek Burke](#)
To: [Suzanne Troxler](#)
Cc: [Anthony Drouin](#)
Subject: FW: Coldwater Waste Treatment Plant Expansion
Date: Tuesday, June 13, 2023 3:20:42 PM
Attachments: [PastedGraphic-5.png](#)
[image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)

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For the comments registry.

Thank you,
Derek



Derek Burke
Director of Public Works

Email: dburke@severn.ca
Phone: 705-325-2315 x230

severn.ca



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We follow the Municipal Freedom of Information and Protection of Privacy Act to collect, use and manage information. Your name, address and correspondence may become public and/or appear on our website as part of a council or committee agenda unless you ask us to remove it. For more information, please contact us at 705-325-2315 x232 or clerk@severn.ca.

From: Coordinator LRC HSM <hsm1rcc@bmts.com>
Sent: Thursday, May 25, 2023 9:35 AM
To: Derek Burke <dburke@severn.ca>
Subject: Coldwater Waste Treatment Plant Expansion

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Derek,

Please be advised that the Coldwater Waste Treatment Plant Expansion project is not located within the Traditional Territory of the Historic Saugeen Métis and as such no further correspondence is needed.

Regards,

Chris Hachey

Coordinator, Lands, Resources & Consultation
Historic Saugeen Métis
204 High Street
Southampton, ON
saugeenmetis.com
519.483.4000



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COLDWATER WASTEWATER TREATMENT PLANT EXPANSION CLASS ENVIRONMENTAL ASSESSMENT

PUBLIC INFORMATION CENTRE No. 1 - JUNE 1, 2023

COMMENT SHEET

NAME: [REDACTED]

ORGANIZATION: resident of Moonstone/Coldwater

ADDRESS: [REDACTED]

PHONE: [REDACTED] EMAIL: [REDACTED]

DATE: June 1/23

Do you wish to be added to the project mailing list? You will be notified of the study conclusions.

☐ Yes

☒ No

Do you have any specific comments, questions or suggestions?

Could you summarize the impact/benefit of the options that will affect the river (3 options to expansion & building).
ie. temperature
quality
amount of contaminants going into the river
Thank you!

From: [Suzanne Troxler](#)
To: [REDACTED]
Cc: [Robin Deduro](#); [Derek Burke](#)
Subject: [REDACTED] - Coldwater River impact (321867)
Date: Friday, June 2, 2023 1:35:52 PM

[REDACTED]

Thank you for coming to the PIC.

For an expansion of the existing Coldwater WWTP or a replacement WWTP, the treated effluent quality that is currently mandated by the Ministry of the Environment (MECP) in the Certificate of Approval, will likely be better.

The MECP Certificate of Approval states the maximum concentration (mg/L) and loading (kg/day or year) of various parameters that the WWTP can discharge to the Coldwater River. These limits were initially set so that the WWTP effluent would not negatively impact the river water quality. The current C of A sets objectives and limits on BOD (indicator of organic content), suspended solids, total phosphorus, ammonia, E.Coli, chlorine, and pH.

We reviewed the water quality of the Coldwater River in 2021-2022, both upstream and downstream of the WWTP effluent outfall, and it meets all of the relevant Provincial Water Quality Objectives. This indicates that the current effluent limits are appropriate to maintain river water quality.

Because of this, we will advance the study on the basis that the expanded or new WWTP must produce a better effluent quality so that the total amounts of suspended solids, BOD, ammonia and nitrogen do not increase as the volume of effluent discharged to the River is increased. In other words, the WWTP expansion, or new WWTP, will be designed with a higher level of treatment so that it does not cause a change in the river water quality.

The design of the WWTP expansion, or new WWTP, will be reviewed by the MECP to verify the design is sound and that the proposed project can meet the MECP environmental protection requirements. The MECP will issue an Environmental Compliance Approval that will update the effluent quality limits and objectives. The ECA will likely include effluent temperature as one of the criteria to minimize potential impacts on aquatic life.

In summary, the expansion of the Coldwater WWTP is very unlikely to cause a deterioration of the Coldwater River water quality because the WWTP effluent quality will be improved.

We trust that this answers your question. Please do not hesitate to contact the project team if you have any other questions.

Sincerely,

Suzanne

From: [REDACTED]
Sent: Thursday, June 1, 2023 3:30 PM
To: Suzanne Troxler <stroxler@tathameng.com>
Subject: [REDACTED] - Coldwater River impact

CAUTION: This email originated from outside of Tatham Engineering or Envision-Tatham. Do not click on links or open attachments unless you know the sender and have verified the sender's email address and know the content is safe.

Hi Suzanne,

Thank you for the presentation today and for starting at the beginning of the project so I was able to understand the background leading up to where you are in the process. When you have some time, could you summarize the impact a new WWTP or expansion of the existing WWTP would have on the Coldwater River in regards to the fish environment (i.e. quality of water, temperature)?

You time is much appreciated,

[REDACTED]

Appendix G: Consultation Phase 3



TOWNSHIP OF SEVERN

COLDWATER

**WASTEWATER TREATMENT PLANT EXPANSION
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT**

NOTICE OF PUBLIC INFORMATION CENTRE No. 2

The Township of Severn is undertaking a Class Environmental Assessment (Class EA) for the expansion of the Coldwater Wastewater Treatment Plant (WWTP) and the Main Sewage Pumping Station (SPS). The Class EA will identify and evaluate options for increasing the wastewater pumping and treatment capacity to accommodate anticipated growth in Coldwater.

The Class EA follows the Schedule C requirements of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (March 2023).

A Public Information Centre (PIC) will be held in-person to present the wastewater treatment and sewage pumping design options under consideration and the preliminary recommendations for public input. There will be a PowerPoint presentation followed by a question and answer period. The presentation will be posted on the project webpage following the PIC at severn.ca/coldwaterwwtpexpansion

Public Information Centre No. 2

Date: Thursday May 29, 2025

Time: 4:00 to 5:30 p.m.

Location: Coldwater Community Centre, 11 Michael Anne Drive, Coldwater

Comments can be submitted at the PIC, or using the online comment form, or by e-mail to the contacts below. Comments will be accepted until June 13, 2025, to be considered in the study. Following PIC No. 2 and upon review of comments, the preferred design concepts will be selected and documented in the Environmental Study Report.

If you have any questions or concerns, and/or would like to be added to the study's direct mailing list, please contact one of the study representatives listed below:

Colt Newman

Township of Severn

Manager of Capital Projects

1024 Hurlwood Lane

Severn, Ontario, L3V 6J3

Tel: 705-325-2315 ext. 254

Email: cnewman@severn.ca

Suzanne Troxler

Tatham Engineering Limited

Senior Engineer

115 Sandford Fleming Drive, Suite 200

Collingwood, Ontario, L9Y 5A6

Tel: 705-444-2565 ext. 2089

Email: stroxler@tathameng.com

Comments and information received during this Class EA are collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act*. All comments will be part of the public record.

321867 Coldwater WWT Expansion
Mailing List
Last updated 2025-05-13

Municipalities	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Township of Severn - Planning and Development	Administrative Assistant, Planning	Ms.	Chelsea	Wallering	Severn	L3V 6J3
Township of Severn - Planning and Development	Director of Planning and Development	Ms.	Andrea	Woodrow	Severn	L3V 6J3
Township of Severn	Director of Public Works	Mr.	Derek	Burke	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 1	Mr.	Mark	Taylor	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 2	Mr.	Dan	Janssen	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 3	Mr.	Philip	Brennan	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 4	Ms.	Wanda	Minnings	Severn	L3V 6J3
Township of Severn - Councillors	Councillor, Ward 5	Mr.	Jim	McIntyre	Severn	L3V 6J3
Tay Township	GM Operational Services/Manager of Engineering Services	Ms.	Shawn	Barrault	Victoria Harbour	L0K 2A0
Township of Oro-Medonte - Administration	Chief Administrative Officer	Mr.	Robin	Dunn	Oro-Medonte	L0L 2E0
Township of Oro-Medonte - Drinking Water	Director of Environmental Services	Ms.	Michelle	Jakobi	Oro-Medonte	L0L 2E0
Town of Midland - Environment & Infrastructure	Deputy CAO, Executive Director of Environment & Infrastructure	Mr.	Andy	Campbell	Midland	L4R 1R2
Township of Tiny - Office of the Chief Administrative Officer	Chief Administrative Officer	Mr.	Robert	Lamb	Tiny	L0L 2J0
City of Orillia - Chief Administrative Officer	Chief Administrative Officer	Mr.	Amanpreet	Singh Sindhu	Orillia	L3V 7T5
City of Orillia - Environment and Infrastructure Services Department	General Manager of Environment and Infrastructure Services	Mr.	Roger	Young	Orillia	L3V 7T5
Township of Georgian Bay	Chief Administrative Officer	Mr.	Greg	Mariotti	Port Severn	L0K 1S0
County of Simcoe - Administration Centre	Chief Administrative Officer	Mr.	Mark	Aitken	Midhurst	L9X 1N6
Local Agencies	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Simcoe County District School Board	Manager of Planning	Mr.	Andrew	Keuken	Midhurst	L0L 1X0
Simcoe Muskoka Catholic District School Board	Manager of Planning and Properties	Ms.	MaryLou	Campeau	Barrie	L4M 5K3
Simcoe Muskoka District Health Unit	Medical Officer of Health	Mr.	Charles	Gardner	Barrie	L4M 6K9
Severn Sound Environmental Association	Executive Director	Ms.	Julie	Cayley	Port McNicoll	L0K 1R0
Orillia and District Construction Association	Executive Administrator	Ms.	Sarah	Knappett	Orillia	L3V 6J3
Provincial Agencies	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Ministry of the Environment, Conservation and Parks - Central Region Office	Regional Director	Dr.	Rachael	Fletcher	Toronto	M2M 4J1
Ministry of the Environment, Conservation and Parks - Barrie District Office	District Manager	Mr.	Chris	Hyde	Barrie	L4N 5R7
Ministry of the Environment, Conservation and Parks - Environmental Assessment Region	Regional EA Coordinator	Ms	Chunmei	Liu	Toronto	M4V 1P5
Ministry of the Environment, Conservation and Parks - Central Region EA Notices	Manager (acting), Community Planning and Development	Mr.	Erick	Boyd	London	N6E 1L3
Ministry of Municipal Affairs and Housing	Senior Planner	Mr.	John M.	Taylor	Toronto	M7A 2J3
Ministry of Municipal Affairs and Housing - Provincial Policies and Planning	Senior Planner	Mr.	Dan L.	Thompson	Midhurst	L9X 1N8
Ministry of Northern Development, Mines, Natural Resources and Forestry - District Manager	District Manager	Mr.	Dan L.	Thompson	Midhurst	L9X 1N8
Ministry of Northern Development, Mines, Natural Resources and Forestry - District Planner	District Planner	Mr.	Dan L.	Thompson	Midhurst	L9X 1N8
Ministry of Transportation - Central Operations Division	Director	Ms.	Becca	Lane	Toronto	M3M 0B7
Ministry of Indigenous Affairs - Indigenous Relations and Programs Division	Executive Advisor	Ms.	Ayn	Cooney	Toronto	M7A 2E6
Ministry of Heritage, Sport, Tourism and Culture Industries	Team Lead (A), Heritage	Ms.	Karla	Barbozza	Toronto	M7A 2R9
Ministry of Heritage, Sport, Tourism and Culture Industries- Regional and County Office	Regional Development Advisor	Ms.	Caitlin	Andrews	Midhurst	L0L 1X0
Ontario Heritage Trust	President, Real Estate	Mr.	Toni	Rossi	Toronto	M5C 1J3
Infrastructure Ontario	Special Policy Advisor	Ms.	Emma	Jarvis	Toronto	M7A 2E6
Ministry of Indigenous Relations and Reconciliation	Land Use Policy & Stewardship	Mr.	David	Marriott	Elora	N0B 1S0
Federal Agencies	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Indigenous Services Canada - Sustainable Infrastructure Planning, Regional	Program Manager	Mr.	Derek	Nadeau	Gatineau, QC	K1A 0H4
Environment and Climate Change Canada	Manager	Mr.	Rob	Dobos	Burlington	L7S 1A1
Environment and Climate Change Canada	Manager, Environmental Assessment Section	Ms.	Wes	Plant	Downsview	M3H 5T4
Fisheries and Oceans Canada, Eastern Ontario District - Small Craft Harbour	Regional Manager	Ms.	Chantal	Larochelle	Burlington	L7S 1A1
Parks Canada c/o Trent-Severn Waterway	Resource Management Officer II	Ms.	Hillary	Knack	Smiths Falls	K7A 2A8
Transport Canada - Ontario Region (PHE)					Nrth York	M2N 6A5
Utilities	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Rogers	System Planner	Mr.	Jason	Dwyer	Barrie	L4M 6B8
Eastlink	Outside Plant Design	Mr.	Christopher	Henningsen	Halifax	B3K 5M3
Enbridge	Advisor, Construction and Project Management	Mr.	Kevin	Schimus	Waterloo	N2V 1K3
Hydro One	Supervising Planning Technician	Ms.	Sarah	Szymczak	Barrie	L4N 8Z2
First Nations Groups	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Chippewas of Georgina Island	Chief		Donna	Big Canoe	Sutton West	L0E 1R0
Chippewas of Georgina Island First Nation	Community Consultation Worker		JL	Porte		
Beausoleil First Nation	Chief		Joanne	Sandy	Christian Island	L0K1C0
Chippewas of Mnjikaning First Nation (Rama)	Chief		Ted	Williams	Rama	L0K 1T0
Williams Treaties First Nations	Coordinator/Barrister, Solicitor		Karry	Sandy-McKenzie	Barrie	L4M 2J7
Huron-Wendat Nation	Grand Chief		Remy	Vincent	Wendake (Québec)	G0A 4V0
Great Lakes Metis Council	President		Peter	Coture	Owen Sound	N4K 1P3
Saugeen Ojibway Nation Environment Office (SON)	Resources and Infrastructure Manager		Emily	Martin	Neyaashlingmning	N0H 2T0
Métis Nation of Ontario - Gravenhurst Branch					Gravenhurst	P1P 1B8
Alderville First Nations Chief			Dave	Simpson	Alderville	K0K 2X0
Chippewas of Rama First Nation	Community Consultation Worker		Dillon	Bickell	Rama	L3V 6H6
Curve Lake First Nations	Consultation Liason		Kaitlin	Hill	Curve Lake	K0L 1R0
Georgian Bay Metis Council					Midland	L4R 0B7
Great Lakes Métis Council					Owen Sound	N4K 1P1
Hiawatha First Nation	Consultation Assessment Coordinator		James	Wagar	Hiawatha First Nation	K9J 0E6
Historic Saugeen Métis	Lands and Resource Consultation		Sean	Davison	Southampton	N0H 2L0
Mississaugas of Scugog Island	President		Archie	Indoe	Port Perry	L9L 1B6
Mississaugas of Scugog Island	Chief		Kelly	Larocca	Port Perry	L9L 1B6
Other	Job Title	Contact Suffix	Contact First Name	Contact Last Name	City	PC
Morgan Planning & Development			Josh	Morgan	Orillia	L3V 1Y2
Barrie Welding & Machine			Ron	Sheardown	Barrie	L4N 2C7
Celeste Phillips Planning Inc.			Celeste	Phillips	Barrie	L4M 3A7
South Shore Homes			Rob	Cheslock	Oro-Medonte	L3V 0K1
Plan Muskoka			C	Sellers		
JPS Consulting Engineers				Clayton		
Capes Engineering			Ajeet	Vankwani		
Homelife Miracle			Earl	Brandon		
374220 Ontario Ltd.			C	Denardiseng	Coldwater	L0K 1E0
			Maria	Squire		
			Marco	Shamm		
			Doug	Howard		
			G	Walker		
			Neil	Shinder		



COLDWATER WASTEWATER TREATMENT PLANT EXPANSION CLASS ENVIRONMENTAL ASSESSMENT PUBLIC INFORMATION CENTRE NO. 2

May 29, 2025



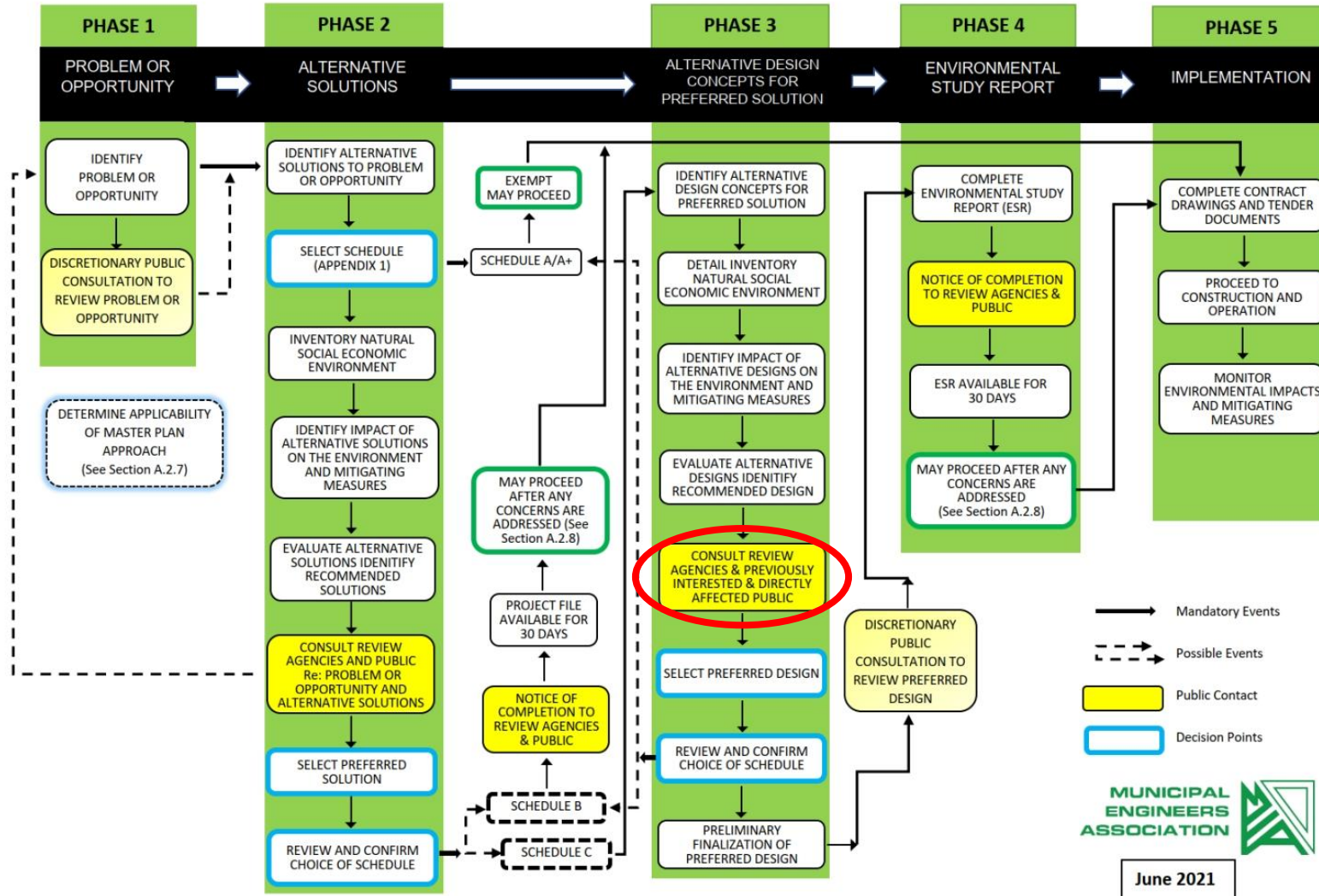
PROBLEM STATEMENT



The community of Coldwater is expected to grow significantly over the next 20 years. The Coldwater wastewater treatment plant (WWTP) does not have capacity to treat the wastewater associated with the anticipated population growth in Coldwater, nor does the Main SPS have capacity to convey the projected wastewater flows to the WWTP.

MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS

NOTE: This flow chart is to be read in conjunction with Part A of the Municipal Class EA

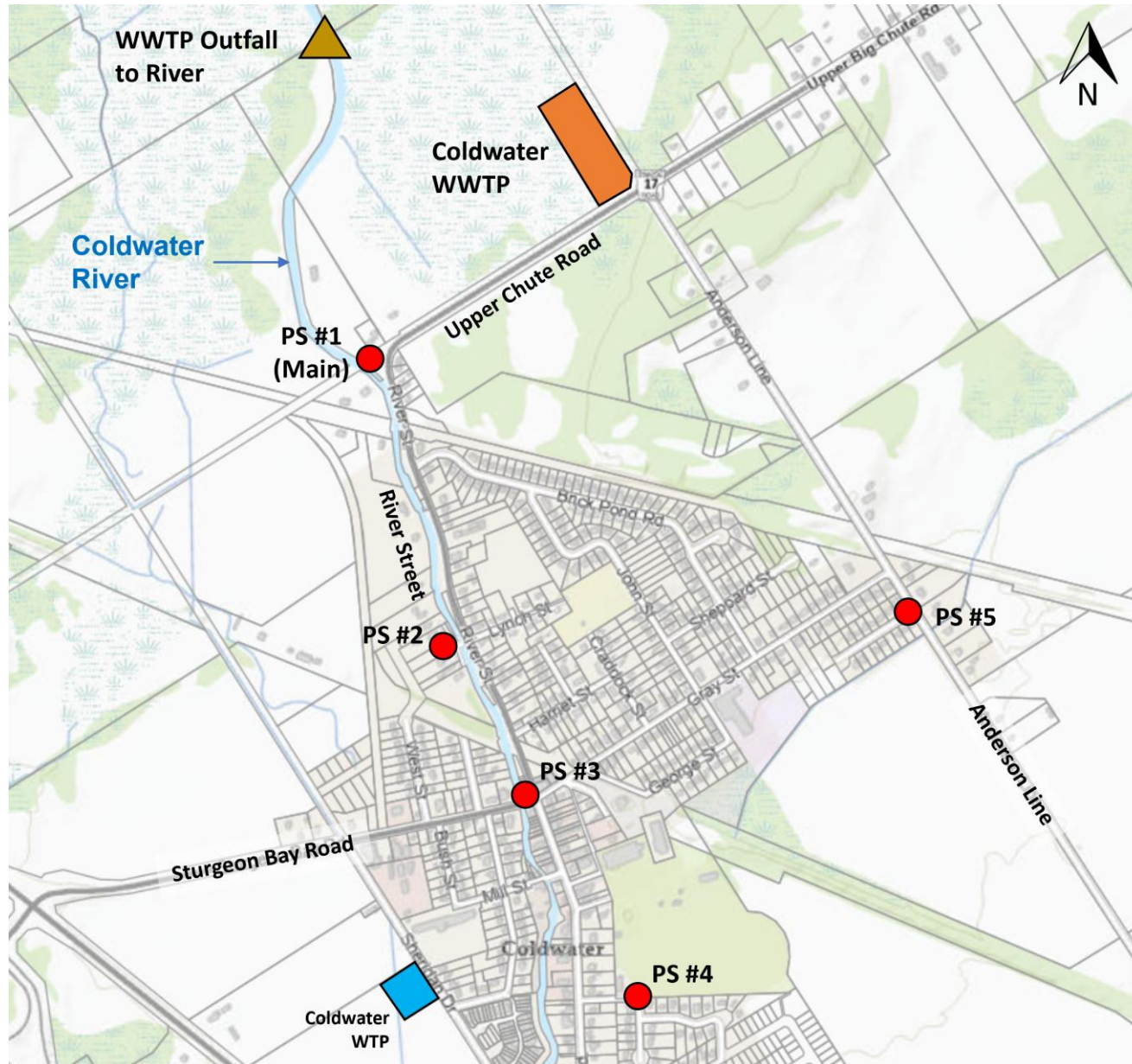


CLASS EA PROCESS

We are at Class EA Phase 3 to determine the preferred design concepts for the preferred solution

Preferred solution is to:

- Expand Coldwater WWTP and Main SPS on existing sites
- Implement inflow and infiltration control program to reduce peak wastewater flows



EXISTING WASTEWATER INFRASTRUCTURE

This Class EA addresses:

- PS #1 (Main sewage pumping station)
- Coldwater WWTP with treated effluent outfall to Coldwater River

EXISTING MAIN SPS AND COLDWATER WWTP



- The Main SPS is an 18.8 L/s (1,624 m³/day) below-ground station that pumps to the WWTP
- The Coldwater WWTP:
 - has an average day rated capacity of 921 m³/day and a peak flow capacity of 3,240 m³/day
 - in 2024, it operated at 74% of its rated capacity; the maximum influent flow reached 63% of its peak flow capacity
 - consistently meets its effluent objectives and compliance criteria
 - has two package treatment plants:
 - 546 m³/day extended aeration (EA) plant
 - 375 m³/day sequencing batch reactor (SBR) plant
 - treatment includes screening, phosphorus removal and UV disinfection
 - discharges treated effluent to the Coldwater River
 - biosolids are digested and stored before disposal by land application

PROPOSED WWTP AND SPS EXPANSION



- Current Coldwater population: approx. 1,500 persons
- Servicing Master Plan projection: 3,113 persons by 2051
- Full buildout: approx. 8,000 persons
- **Phase 1 expansion to 1,500 m³/day will be designed**
- Consideration for 2 further expansions as population grows

Expansion Phases	Average Capacity (m ³ /day)	Peak Capacity (m ³ /day)	Population	Equivalent Units	Years of Growth (@ 30 units/yr)
Existing WWTP	921	3,240	2,300	851	
Phase 1 Expansion	1,500	6,000	3,750	1,388	18
Phase 2 Expansion	2,000	8,000	5,000	1,851	33
Phase 3 Expansion	3,000	12,000	7,500	2,778	64

REQUIRED WWTP EFFLUENT QUALITY



- Receiving Water Assessment determined WWTP effluent quality that will maintain Coldwater River's good water quality
- Township and MECP agreed to more stringent effluent quality objectives and compliance criteria for Phase 1 expansion

Parameter	Effluent Quality Limits (mg/L)		Annual Loading (kg/yr)	
	Existing 921 m ³ /day	Expansion I 1,500 m ³ /day	Existing 921 m ³ /day	Expansion I 1,500 m ³ /day
CBOD ₅ (mg/L)	15	10		
Suspended Solids (mg/L)	15	10		
Total Phosphorus (mg/L)	0.5	0.18	110	66
Ammonia Summer (mg/L)	n/a	2		
Ammonia Winter (mg/L)	n/a	6		
E. Coli	n/a	200/100 mL		
pH	n/a	6.5 – 8.5		



WWTP PHASE 1 EXPANSION COMPONENTS

- New common headworks facility for pre-treatment
- New secondary treatment unit
- Existing extended aeration (EA) secondary treatment unit
- New secondary effluent pumping station
- New tertiary filtration facility
- Expanded UV disinfection facility
- Existing chemical feed facility
- Existing sludge management facility

WWTP AND SPS DESIGN CONCEPT OPTIONS



Design concept options considered for WWTP main treatment components and for Main SPS expansion

Screening

Existing: Manual bar screens

Options:

- 1: In-channel conveyor screen
- 2: Manual bar screen
- 3: Rotary drum screen

Secondary Treatment

Existing: Extended Aeration (EA) and SBR

Options:

- 1: Extended aeration (EA)
- 2: Sequencing batch reactor (SBR)
- 3: Moving bed biofilm reactor (MBBR)

Tertiary Filtration

Existing: None

Options:

- 1: Disk filtration
- 2: Granular media filtration
- 3: Membrane filtration

Main SPS

Existing: Small below-ground wet well and pumps

Options:

- 1: Expand and upgrade SPS
- 2: Replace SPS

ASSESSMENT OF WWTP SCREENING OPTIONS



In-channel conveyor screen with bypass manual screen

- Fine screening, conveying and dewatering
- Mechanically and automatically cleaned
- Must be protected from frost
- Low manual labour and efficient
- Estimated installed cost: \$450,000

Manual bar screens only

- Coarse screening (12 mm)
- Manually cleaned by operators
- Can be installed outdoor
- Operation is labour intensive
- Estimated installed cost: \$150,000

Rotary drum screen

- Fine screening and dewatering
- Mechanically and automatically cleaned
- High-capacity and larger system more suitable for larger WWTPs
- Not considered further

Preliminary Preferred Solution

- Reduces O&M labour as flows increase
- Better screening
- Installed within new headworks building



ASSESSMENT OF SECONDARY TREATMENT OPTIONS



Extended Aeration (EA)

- Required level of treatment
- Small footprint
- Operator familiarity
- Easy to operate and maintain
- Low energy requirements
- Handles well flow fluctuations
- Lowest O&M costs
- Estimated installed cost: \$5.8M

Sequencing Batch Reactor (SBR)

- Required level of treatment
- Small footprint
- Operator familiarity
- More complex O&M
- Higher energy requirements
- Does not handle flow fluctuations well
- Higher O&M costs
- Estimated installed cost: \$4.5M

Moving Bed Biofilm Reactor (MBBR)

- Required level of treatment
- Small footprint
- Similar O&M to extended aeration
- Highest energy requirements
- Resilient to flow and quality fluctuations
- Not common at municipal WWTPs
- Highest O&M costs
- Estimated installed cost: \$8.2M

Preliminary Preferred Solution

- Flexible and resilient
- Operator preference



ASSESSMENT OF TERTIARY FILTRATION OPTIONS



Disk Filter

- Provides required level of treatment
- Continuous filtration process
- Does not need backwash water tank
- Compact and modular system
- Low O&M requirements
- Estimated installed cost: \$1.5M

Granular Media Filter

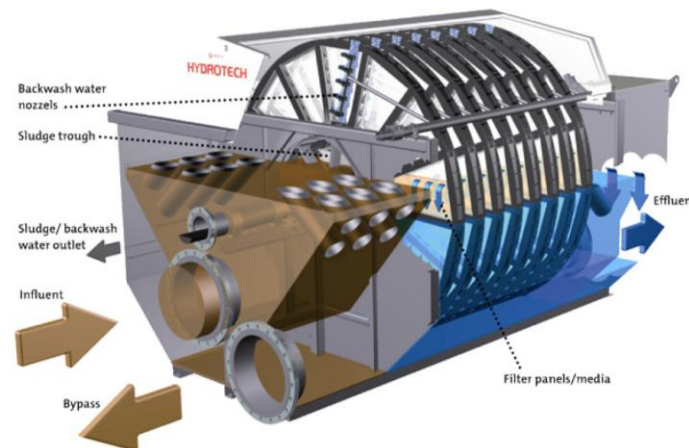
- Provides required level of treatment
- Has separate backwash cycle
- Requires backwash water tank
- Larger footprint
- More O&M requirements
- Higher capital costs

Membrane Filter

- Higher level of treatment than required
- Complex system
- High maintenance to prevent membrane fouling
- High energy requirements
- Highest capital costs

Preliminary Preferred Solution

- Compact
- Uninterrupted filtration
- Easy to operate and maintain



ASSESSMENT OF SPS EXPANSION OPTIONS



Build New SPS

- Build new, larger below-ground station
- Maintain existing structure for emergency overflow
- Estimated installed cost: \$2.8M

Expand & Upgrade Existing SPS

- Keep the existing structure
- Upsize the pumps and piping
- Add a below-ground wet well
- Estimated installed cost: \$3.3M

Preliminary Preferred Solution

- Provides opportunity to improve station design
- Facilitates construction
- Lower construction cost



PROPOSED WWTP PHASE 1 EXPANSION



PROPOSED WWTP PHASE 2 EXPANSION



CLASS EA NEXT STEPS AND SCHEDULE



- Obtain and review comments from public, agencies and stakeholders
- Incorporate comments into assessment and select preferred design concepts
- Proceed to Phase 4 of the Class EA process:
 - Prepare Draft Environmental Study Report
 - Prepare conceptual design and cost estimate
 - Notice of Study Completion (September 2025)
- 30-day public and agency review

Please fill in a comment sheet and submit to us by June 13, 2025

THANK YOU FOR YOUR INPUT





**COLDWATER WASTEWATER TREATMENT PLANT EXPANSION
CLASS ENVIRONMENTAL ASSESSMENT**

PUBLIC INFORMATION CENTRE No. 2 - May 29, 2025

SIGN-IN SHEET

#	NAME	COMPANY	ADDRESS	PHONE #	EMAIL
1	Ed Hardy				
2	HEATHER CORY				
3	Judith Cox				
4	BRYAN SMITH				
5	Ron Skelton				
6	Neil Shinde				
7	Phil Brennan				
8					
9					
10					
11					
12					

Comment Form

Please use this form to provide your comments on the [Municipal Class Environmental Assessment](#) for the Coldwater Wastewater Treatment Plant Expansion.

All questions and comments received will be responded to in writing (either by email or letter).

Please enter your comments *

Good morning.

We are wondering what your plans are for P2. on Original Reinbird St. It is right in front of our home at 8 Reinbird. It is a flat cement station that is there now. This one isn't too bad but a few years ago the electrical panel and a meter were placed beside it. We weren't let know that it would be put in and mess with the view from and of our home. In the summer depending on which way the wind blows the smell isn't very nice. The other worry we have is when the river rises the chance of back up of sewer into our home is a possibility we were warned about this past spring. We have been here 49 years and it hasn't happened yet. The staff said that if the river rose and they couldn't get the generator in it was a possibility.

As I said we wondered what plans you have for P2 without infringing on our river front property

Name *

[REDACTED]

If you are submitting comments on behalf of an organization, please enter the name of the organization

Enter the name of the organization

Street address *

[REDACTED]

Municipality *

Coldwater, Severn

Province *

Ontario

Postal code *

[REDACTED]

Email: *

[REDACTED]

Privacy statement

Information contained on this form is collected under the authority of the [Municipal Act](#). Information collected will be used and managed by the Township of Severn in accordance with the [Municipal Freedom of Information and Protection of Privacy Act](#). If you require additional information, please view our [Freedom of Information and Routine Disclosure Policy](#).

From: [Derek Burke](#)
To: [Stefan Szczerbak](#)
Cc: [Colt Newman](#); [Suzanne Troxler](#); [Katie Mandeville](#)
Subject: RE: Class EA - Coldwater Wastewater Treatment Plant Expansion PIC # 2
Date: Tuesday, June 10, 2025 9:51:31 AM
Attachments: [image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image011.png](#)
[image012.png](#)
[image013.png](#)
[image014.png](#)
[image015.png](#)
[image016.png](#)
[image017.png](#)
[image018.png](#)

CAUTION: This email originated from outside of Tatham Engineering or Envision-Tatham. Do not click on links or open attachments unless you know the sender and have verified the sender's email address and know the content is safe.

Hi Stefan,
My apologies for the delayed response. Yes, we have received your comment on behalf of Cipponeri Holdings Inc. within the commenting period and will be adding this comment into the registry to provide context to our report. Take care.

NOTE: A formal letter has been sent to Mr. Burke that included the appropriate figures.

May 29, 2025
Derek Burke – Director of Public Works
Township of Severn
1024 Hurlwood Lane
PO Box 159
Orillia, ON L3V 6J3

Dear Mr. Burke:

Reference: Class Environmental Assessment for the Coldwater Wastewater Treatment Plan Expansion – Public Information Centre # 2

Thank you for taking the time to speak with me about this project. As discussed, we are the planning consultants for Cipponeri Holdings Inc. who own land at 1240 Anderson Line – partially within the Coldwater Urban Boundary. The following is a brief planning analysis to consider my client's property within the proposed capacity of the plant and to also consider the possibility of a minor boundary expansion, or "rounding out" of an existing settlement boundary to include the balance of our client's property. The request is particularly important given the recent changes to the Provincial Planning Statement that permits boundary expansions without a Municipal Comprehensive Review.

Overview

Cipponeri Holdings Inc. (CHI) owns property at 1240 Anderson Line, that is located partially within the settlement boundary of Coldwater, in the Township of Severn. Figure 1. shows the general location of the property within the northern limits of the County of Simcoe. Figure 2. is an excerpt of Schedule 5.1 – Land Use Designations of the County of Simcoe's Official Plan identifying the location of the Springwater settlement boundary, in relation to the subject lands, and Figure 3. shows the full property limit and the approximate location of the Coldwater Settlement Boundary.

A plan of subdivision for the portion of CHI's lands that are currently within the Coldwater settlement area boundary is already in process. The application included all the required supporting documents and was deemed to be a complete application on July 22, 2020, by the County of Simcoe. The current plan (Figure 4.) proposes the creation of 42 new residential lots, together with a block of land to be developed as a retirement home. A Public Information Meeting was held at the Township of Severn on January 20, 2021, and CHI has been working with Township staff to resolve comments received from Township staff. However, for the reasons outlined below, CHI is considering bringing forward a revised plan of subdivision application that incorporates the entirety of its lands.

Figure 1. Location Map (Northern Limits of Simcoe County)
Property Characteristics

The entire property is approximately 26.3 hectares (65 acres) in size, while the area of the proposed subdivision (i.e. the portion that is already within the municipal settlement area boundary) is only 5.02 hectares (12.4 acres). The lands are generally level and currently used for soybean crop as the agriculture arability is limited. There is a treed natural feature located at the western side of the property that includes a small wetland area and a municipal drain (watercourse) that traverses the northern end of the property. The opposite side of the municipal drain contains existing suburban development. Anderson Line forms the easterly boundary, while the Trans Canada Trail (former Canadian Pacific Railway) land abuts the westerly boundary. In addition, various community uses, including the Coldwater Public School and Coldwater Community Centre, are not centrally located within the present approved areas within the existing boundary but would be central to (within walking distance) the larger subdivision proposed by adding the remaining 44 acres to the 12 acres already approved within the boundary. Municipal water and sanitary services are located nearby to the north and along Anderson Lane.

Figure 2. Excerpt of Schedule 5.1 of the County of Simcoe Official Plan – Springwater Settlement Area

Figure 3. Detailed Property Location

Figure 4. Draft Plan of Subdivision

Request

Based on the high level Planning Analysis below, it is our opinion that the balance of the subject lands should be included within the settlement boundary of Coldwater as it is an ideal location to "round out" the current settlement boundary. In addition, the entire property should be considered in the expansion of the wastewater plant as this seems like a logical and easy expansion to the urban boundary considering its location and existing development rights. Finally, the inclusion of the balance of this property follows the current priority of the Provincial Government to build "more homes – faster" and it would align with the provincial growth targets for the Simcoe County area.

CHI expects the entire property could achieve approximately 381 new residential units, including 98 single dwellings, 15 semi-detached, 108 townhouses and 60 condominium units. Should the property be included in this EA process, our clients are aware the Township of Severn and the Simcoe County Official Plans must be amended to reflect the enlarged boundary. CHI will proceed and seek to finalize the current plan and work through the necessary applications and supporting documents for the balance of the property. Knowing the balance of the property is included within the Coldwater boundary gives the owners confidence to immediately proceed with this future phase. We have been in recent discussions with Township and County staff and they are aware of CHI's intention to include the balance of the property within the community boundary limits. Finally, incorporating the entire property into the community boundary provides the appropriate means to finance the construction of the new municipal road and extend the services which is not financially feasible if limited to only the 5 hectares acres presently approved and within the existing boundary.

With respect to consultation, we will follow the County and Township public processes that include appropriate public consultation at both levels.

PLANNING ANALYSIS

Planning Act, R.S.O. 1990, c.P.13

The Planning Act, R.S.O. 1990, c. P.13 (the 'Planning Act') is the legislative document that controls land use planning and development approvals in the Province of Ontario. While development is primarily guided by the Provincial Planning Statement (2024), the County of Simcoe Official Plan, and Area Municipality Official Plans, certain sections of the Planning Act deal directly with the proposed subdivision and are warrant being addressed.

Section 2 of the Planning Act contains matters of provincial interest that all Planning Act applications must have regard to. The relevant matters to this proposal are:

- (a) the protection of ecological systems, including natural areas, features and functions;
- (b) the protection of the agricultural resources of the Province; ...
- (d) the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest;
- (e) the supply, efficient use and conservation of energy and water; ...
- (h) the orderly development of safe and healthy communities; ...
- (j) the adequate provision of a full range of housing, including affordable housing; ...
- (l) the protection of the financial and economic well-being of the Province and its municipalities; ...
- (p) the appropriate location of growth and development; and
- (q) the promotion of development that is designed to be sustainable, to support public transit and to be oriented to pedestrians.

To ensure the protection of the natural environment, an environmental report was conducted and submitted with the existing draft plan of subdivision. A Stage 1 and 2 Archaeological Assessment was also prepared to appropriately address the conservation of cultural heritage resources and an agricultural impact assessment will be required to appropriately review the lands located outside of the existing settlement area. With respect to servicing capacity, the owners will have to wait for the completion of this EA process and construction of the plant.

The current proposal seeks to develop within the existing boundaries of the settlement area of Coldwater in an orderly fashion and create a healthy and safe community. Additional housing for the community will be made available through the proposal, which offers single-detached dwellings and several different forms of residential development including higher density housing. The subdivision is adjacent to existing residential development, local schools and recreational facilities and will contribute to existing the current public transit network.

Provincial Planning Statement, 2024

Section 2.3.1 of the PPS provides the policy direction to ensure settlement areas are the focus of future growth and development (Section 2.3.1.1).

The subject property also aligns with Section 2.3.1.2 where the proposed land use patterns within settlement areas shall be based on densities and mixed residential land uses which:

- a) efficiently use land and resources;
- b) optimize existing and planned infrastructure and public service facilities; and
- c) support active transportation; and
- d) are transit-supportive, as appropriate.

The northern portion of the property already permits residential development and municipal services are already located directly adjacent to the lands on Anderson Line and Grays Street. Being directly adjacent to the Trans Canada trail and the Coldwater Community Centre, provides and promotes active transportation and the rounding out of the community boundary will support intensification by utilizing existing road patterns from Anderson Line and a possible link to the residential lots to the north accessed from Grays Street.

Section 3.2.1.3 states that "Planning authorities shall support general intensification and redevelopment to support the achievement of complete communities, including by planning for a range and mix of housing options and prioritizing planning and investment in the necessary infrastructure and public service facilities." Moreover, "Planning authorities shall establish and implement minimum targets for intensification and redevelopment within built-up areas, based on local conditions" and "Planning authorities are encouraged to establish density targets for designated growth areas, based on local conditions" (see 3.2.1.4-5). For clarity, designated growth areas are defined as "lands within settlement areas designated for growth or lands added to settlement areas that have not yet been fully developed. Designated growth areas include lands which are designated and available for residential growth in accordance with policy 2.1.4.a)."

The subject lands are consistent with this definition, as they are partially located within the settlement area of Coldwater and an expansion to this boundary will provide an ideal location for additional residential development. The proposed development is directly adjacent to a previously developed subdivision which makes it accessible to existing infrastructure into the proposed subdivision for a range of residential housing.

Section 2.3.2.1 states:

"In identifying a new settlement area or allowing a settlement area boundary expansion, planning authorities shall consider the following:

- a) the need to designate and plan for additional land to accommodate an appropriate range and mix of land uses;
- b) if there is sufficient capacity in existing or planned infrastructure and public service facilities;
- d) the evaluation of alternative locations which avoid prime agricultural areas and, where avoidance is not possible, consider reasonable alternatives on lower priority agricultural lands in prime agricultural areas;
- e) whether the new or expanded settlement area complies with the minimum distance separation formulae;
- f) whether impacts on the agricultural system are avoided, or where avoidance is not possible, minimized and mitigated to the extent feasible as determined through an agricultural impact assessment or equivalent analysis, based on provincial guidance; and
- g) the new or expanded settlement area provides for the phased progression of urban development."

Notwithstanding section 2.3.2.1, planning authorities may identify a new settlement area only where it has been demonstrated that the infrastructure and public service facilities to support development are planned or available (see 2.3.2.2). We hope your EA process would ensure sufficient capacity for the entire property.

In an effort to assist the Province in achieving their goals to create additional housing units within the Province, the subject lands are an ideal location where infrastructure already exists, natural features and their functions will be protected and future use for agricultural purposes is quite limited. All other technical reports (environmental, stormwater management, archeological, functional servicing, etc.) have been prepared and will be revised to properly assess the balance of the property through the OPA, plan of subdivision and zoning processes.

Official Plans

The County of Simcoe and Township of Severn Official Plans contain a similar policy direction that promotes development within identified settlement boundaries. Similar to the direction of the PPS, they contain detailed policies to protect identified natural features and their functions, require various forms of residential development, encourage opportunities for economic development and require the efficient use of existing municipal services and community facilities to ensure each settlement area achieves the goals and objectives contained within these documents. A full policy analysis has been completed for the current plan of subdivision and an update to this document will be required for the future planning processes identified above.

Conclusion

In conclusion, as it relates to your Class EA Process for the Coldwater Wastewater Treatment Plant, the proposed minor boundary expansion, or "rounding out" to include the balance of the subject property is consistent with the policy direction of the Planning Act, R.S.O. 1990, c.P.13, the 2024 Provincial Planning Statement, and will conform to the applicable Official Plans. Including this property into the plant expansion will ensure an obvious expansion to the urban boundary in an ideal location. It also follows the current government's immediate priorities to provide various residential housing stock and allocate growth to the Simcoe Region. The request represents good planning.

Should you have any questions or clarifications with this submission, please contact the undersigned.

Yours truly,

PLANScape INC.
Stefan Szczerbak, M.Sc, MCIP, RPP
Principal

Thank you,
Derek



Derek Burke
Director of Public Works

Email: dburke@severn.ca
Phone: 705-325-2315 x230

severn.ca



From: Stefan Szczerbak <sszczerbak@planscape.ca>
Sent: June 9, 2025 2:26 PM
To: Derek Burke <dburke@severn.ca>
Subject: RE: Class EA - Coldwater Wastewater Treatment Plant Expansion PIC # 2

You don't often get email from sszczerbak@planscape.ca. [Learn why this is important](#)

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Good afternoon Derek,

Just following up on our submission. Kindly confirm receipt.

Thank you.

Stefan S.

From: Stefan Szczerbak
Sent: May 29, 2025 4:41 PM
To: Derek Burke <dburke@severn.ca>
Cc: Katie Mandeville <KMandeville@severn.ca>; Colt Newman <cnewman@severn.ca>; Adriana Cipponeri <adriana@castlegulfhomes.com>; MARIA PATRICELLI <patricelli@rogers.com>
Subject: Class EA - Coldwater Wastewater Treatment Plant Expansion PIC # 2

Good afternoon Derek,

Thank you again for your time last week and I appreciate the additional information you provided with respect to this process. I am sorry that I could not attend the PIC in person. Please accept the attached letter as my client's formal submission for the Class EA process for the Coldwater wastewater treatment plant expansion. I also submitted it online, but it would not accept the figures.

Please let me know if you have any questions and we will look forward to hearing back from you. Have a great afternoon.

Sincerely,

Stefan

Stefan Szczerbak, MCIP, RPP
Principal
PLANSCAPE INC.
104 Kimberley Avenue
BRACEBRIDGE, ON P1L 1Z8
Tel: 705 645-1556 Ext 105 / Fax: 705 645-4500 / Mobile 705 641-8163
Email: sszczerbak@planscape.ca

From: Emily Hehl <ehel@severn.ca>
Sent: Wednesday, May 21, 2025 1:59 PM
To: Stefan Szczerbak <sszczerbak@planscape.ca>
Cc: Katie Mandeville <KMandeville@severn.ca>; Derek Burke <dburke@severn.ca>; Colt Newman <cnewman@severn.ca>
Subject: RE: Follow up

Hi Stefan,

Nice to see you again today as well!

Derek Burke is the Township's Director of Public Works (copied here). I have also copied Colt Newman on this email, who is the Manager of Capital Projects. You may wish to reach out to Colt and/or Derek directly with any questions pertaining to the ongoing Class EA for the Coldwater Waste Treatment Plant. Further, please note that there is an upcoming Public Information Centre (PIC) scheduled for May 29th, 2025. It will be held in person at 4:00pm in the Coldwater Community Centre (11 Michael Anne Drive); however, there is also an online comment form available here too: [Comment Form - Township of Severn](#).

Have a great rest of your week!

Thanks,
Emily



Emily Hehl, BBRM, MSc

Planner

Email: ehehl@severn.ca

Phone: 705-325-2315 x255

severn.ca



From: Stefan Szczerbak <sszczerbak@planscape.ca>

Sent: May 21, 2025 11:03 AM

To: Emily Hehl <ehehl@severn.ca>

Subject: Follow up

You don't often get email from sszczerbak@planscape.ca. [Learn why this is important](#)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Emily,

Great to see you at the meeting today and I appreciate your input.

Can you please send me Derek's (I missed his last name) contact info?

Enjoy the rest of the day.

Stefan

Stefan Szczerbak, MCIP, RPP

Principal

PLANSCAPE INC.

104 Kimberley Avenue

BRACEBRIDGE, ON P1L 1Z8

Tel: 705 645-1556 Ext 105 / Fax: 705 645-4500 / Mobile 705 641-8163

Email: sszczerbak@planscape.ca

May 29, 2025

Derek Burke – Director of Public Works
Township of Severn
1024 Hurlwood Lane
PO Box 159
Orillia, ON L3V 6J3

Dear Mr. Burke:

Reference: Class Environmental Assessment for the Coldwater Wastewater Treatment Plan Expansion – Public Information Centre # 2

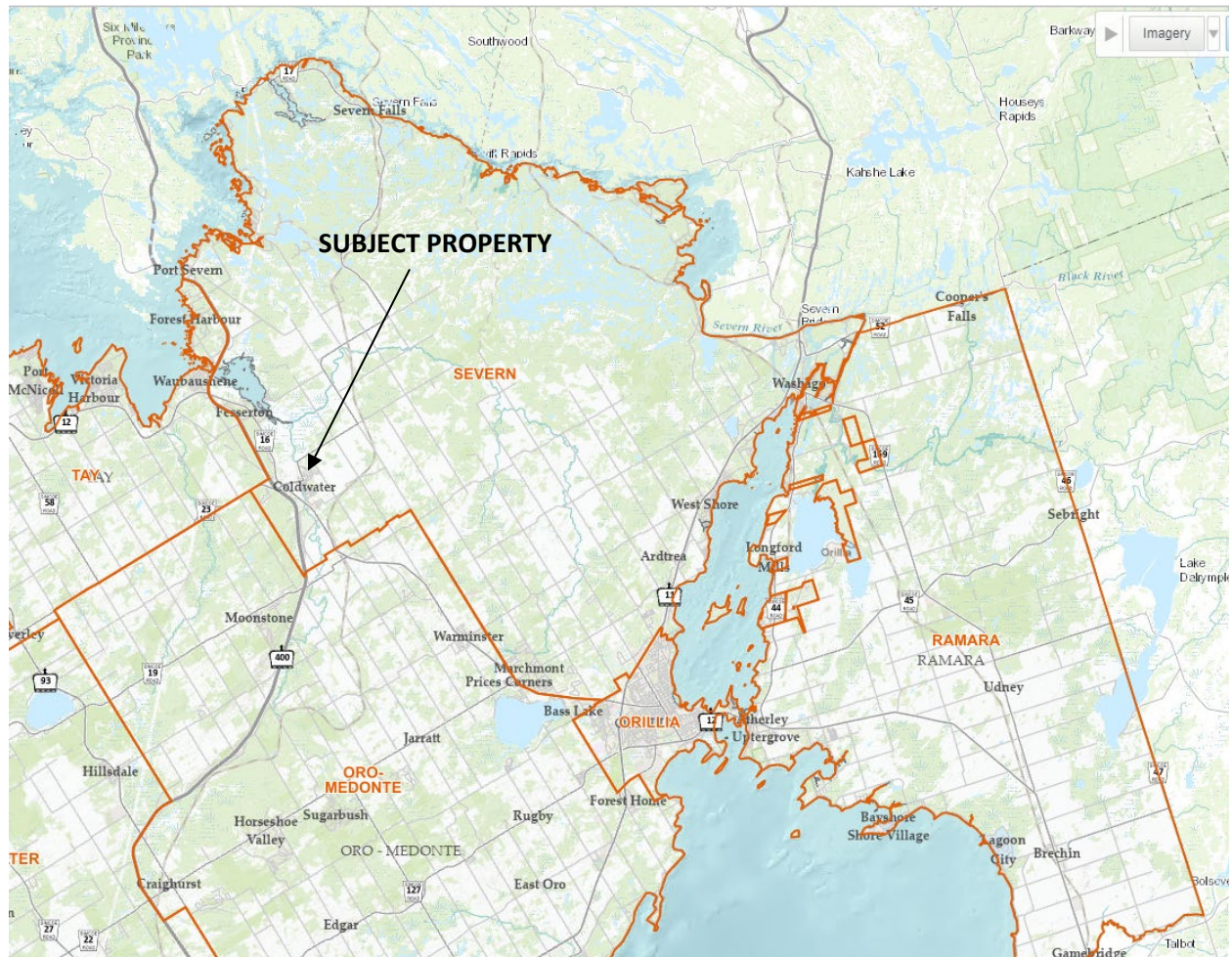
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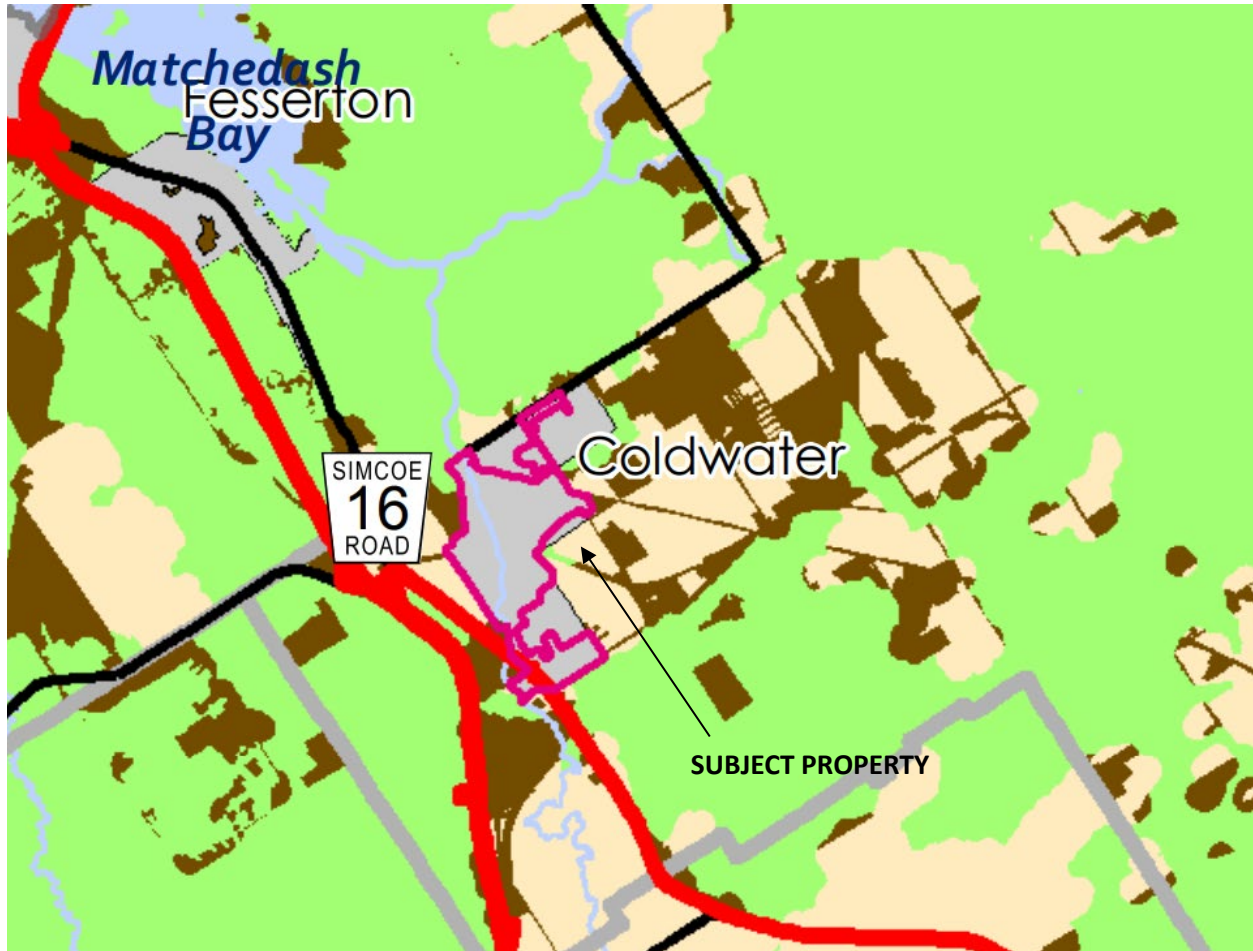


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adding the remaining 44 acres to the 12 acres already approved within the boundary. Municipal water and sanitary services are located nearby to the north and along Anderson Lane.

Figure 2. Except of Schedule 5.1 of the County of Simcoe Official Plan – Springwater Settlement Area



SCHEDULE 5.1

To the County of Simcoe Official Plan

LAND USE DESIGNATIONS

Designations

- Settlements
- Greenlands

Reference Data

- Settlement Area Boundary
- Built Boundaries

AREA WITHIN SETTLEMENT BOUNDARY

SUBJECT PROPERTY

LIMITS OF PROPOSED SUBDIVISION

DONLANDS COURT
REGISTERED PLAN 51M-810
RESIDENTIAL

STREET A

LOT

BLOCK 43

BLOCK 44

BLOCK 45

BLOCK 46

BLOCK 47

STREET B

STREET C

STREET D

STREET E

STREET F

STREET G

STREET H

STREET I

STREET J

STREET K

STREET L

STREET M

STREET N

STREET O

STREET P

STREET Q

STREET R

STREET S

STREET T

STREET U

STREET V

STREET W

STREET X

STREET Y

STREET Z

STREET AA

STREET AB

STREET AC

STREET AD

STREET AE

STREET AF

STREET AG

STREET AH

STREET AI

STREET AJ

STREET AK

STREET AL

STREET AM

STREET AN

STREET AO

STREET AP

STREET AQ

STREET AR

STREET AS

STREET AT

STREET AU

STREET AV

STREET AW

STREET AX

STREET AY

STREET AZ

STREET BA

STREET BB

STREET BC

STREET BD

STREET BE

STREET BF

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STREET BZ

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STREET CD

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STREET CG

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STREET CM

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STREET CV

STREET CW

STREET CX

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STREET EB

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STREET EH

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STREET EL

STREET EM

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Request

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CHI expects the entire property could achieve approximately 381 new residential units, including 98 single dwellings, 15 semi-detached, 108 townhouses and 60 condominium units. Should the property be included in this EA process, our clients are aware the Township of Severn and the Simcoe County Official Plans must be amended to reflect the enlarged boundary. CHI will proceed and seek to finalize the current plan and work through the necessary applications and supporting documents for the balance of the property. Knowing the balance of the property is included within the Coldwater boundary gives the owners confidence to immediately proceed with this future phase. We have been in recent discussions with Township and County staff and they are aware of CHI’s intention to include the balance of the property within the community boundary limits. Finally, incorporating the entire property into the community boundary provides the appropriate means to finance the construction of the new municipal road and extend the services which is not financially feasible if limited to only the 5 hectares acres presently approved and within the existing boundary.

With respect to consultation, we will follow the County and Township public processes that include appropriate public consultation at both levels.

PLANNING ANALYSIS

Planning Act, R.S.O. 1990, c.P.13

The *Planning Act*, R.S.O. 1990, c. P.13 (the ‘*Planning Act*’) is the legislative document that controls land use planning and development approvals in the Province of Ontario. While development is primarily guided by the Provincial Planning Statement (2024), the County of Simcoe Official Plan, and Area Municipality Official Plans, certain sections of the *Planning Act* deal directly with the proposed subdivision and are warrant being addressed.

Section 2 of the *Planning Act* contains matters of provincial interest that all *Planning Act* applications must have regard to. The relevant matters to this proposal are:

- (a) the protection of ecological systems, including natural areas, features and functions;*
- (b) the protection of the agricultural resources of the Province; ...*
- (d) the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest;*

- (e) the supply, efficient use and conservation of energy and water; ...*
- (h) the orderly development of safe and healthy communities; ...*
- (j) the adequate provision of a full range of housing, including affordable housing; ...*
- (l) the protection of the financial and economic well-being of the Province and its municipalities; ...*
- (p) the appropriate location of growth and development; and*
- (q) the promotion of development that is designed to be sustainable, to support public transit and to be oriented to pedestrians.*

To ensure the protection of the natural environment, an environmental report was conducted and submitted with the existing draft plan of subdivision. A Stage 1 and 2 Archaeological Assessment was also prepared to appropriately address the conservation of cultural heritage resources and an agricultural impact assessment will be required to appropriately review the lands located outside of the existing settlement area. With respect to servicing capacity, the owners will have to wait for the completion of this EA process and construction of the plant.

The current proposal seeks to develop within the existing boundaries of the settlement area of Coldwater in an orderly fashion and create a healthy and safe community. Additional housing for the community will be made available through the proposal, which offers single-detached dwellings and several different forms of residential development including higher density housing. The subdivision is adjacent to existing residential development, local schools and recreational facilities and will contribute to existing the current public transit network.

Provincial Planning Statement, 2024

Section 2.3.1 of the PPS provides the policy direction to ensure settlement areas are the focus of future growth and development (Section 2.3.1.1).

The subject property also aligns with Section 2.3.1.2 where the proposed land use patterns within settlement areas shall be based on densities and mixed residential land uses which:

- a) efficiently use land and resources;*
- b) optimize existing and planned infrastructure and public service facilities; and*
- c) support active transportation; and*
- d) are transit-supportive, as appropriate.*

The northern portion of the property already permits residential development and municipal services are already located directly adjacent to the lands on Anderson Line and Grays Street. Being directly adjacent to the Trans Canada trail and the Coldwater Community Centre, provides and promotes active transportation and the rounding out of the community boundary will support intensification by utilizing existing road patterns from Anderson Line and a possible link to the residential lots to the north accessed from Grays Street.

Section 3.2.1.3 states that *“Planning authorities shall support general intensification and redevelopment to support the achievement of complete communities, including by planning for a range and mix of housing options and prioritizing planning and investment in the necessary infrastructure and public service facilities.”* Moreover, *“Planning authorities shall establish and implement minimum targets for intensification and redevelopment within built-up areas, based on local conditions”* and *“Planning authorities are encouraged to establish density targets for designated growth areas, based on local conditions”* (see 3.2.1.4-5). For clarity, designated growth areas are defined as *“lands within settlement areas designated for growth or lands added to settlement areas that have not yet been fully developed. Designated growth areas include lands which are designated and available for residential growth in accordance with policy 2.1.4.a).”*

The subject lands are consistent with this definition, as they are partially located within the settlement area of Coldwater and an expansion to this boundary will provide an ideal location for additional residential development. The proposed development is directly adjacent to a previously developed subdivision which makes it accessible to existing infrastructure into the proposed subdivision for a range of residential housing.

Section 2.3.2.1 states:

“In identifying a new settlement area or allowing a settlement area boundary expansion, planning authorities shall consider the following:

- a) the need to designate and plan for additional land to accommodate an appropriate range and mix of land uses;*
- b) if there is sufficient capacity in existing or planned infrastructure and public service facilities;*
- d) the evaluation of alternative locations which avoid prime agricultural areas and, where avoidance is not possible, consider reasonable alternatives on lower priority agricultural lands in prime agricultural areas;*
- e) whether the new or expanded settlement area complies with the minimum distance separation formulae;*
- f) whether impacts on the agricultural system are avoided, or where avoidance is not possible, minimized and mitigated to the extent feasible as determined through an agricultural impact assessment or equivalent analysis, based on provincial guidance; and*
- g) the new or expanded settlement area provides for the phased progression of urban development.”*

Notwithstanding section 2.3.2.1, planning authorities may identify a new settlement area only where it has been demonstrated that the infrastructure and public service facilities to support development are planned or available (see 2.3.2.2). We hope your EA process would ensure sufficient capacity for the entire property.

In an effort to assist the Province in achieving their goals to create additional housing units within the Province, the subject lands are an ideal location where infrastructure already exists, natural features and

their functions will be protected and future use for agricultural purposes is quite limited. All other technical reports (environmental, stormwater management, archeological, functional servicing, etc.) have been prepared and will be revised to properly assess the balance of the property through the OPA, plan of subdivision and zoning processes.

Official Plans

The County of Simcoe and Township of Severn Official Plans contain a similar policy direction that promotes development within identified settlement boundaries. Similar to the direction of the PPS, they contain detailed policies to protect identified natural features and their functions, require various forms of residential development, encourage opportunities for economic development and require the efficient use of existing municipal services and community facilities to ensure each settlement area achieves the goals and objectives contained within these documents. A full policy analysis has been completed for the current plan of subdivision and an update to this document will be required for the future planning processes identified above.

Conclusion

In conclusion, as it relates to your Class EA Process for the Coldwater Wastewater Treatment Plant, the proposed minor boundary expansion, or “rounding out” to include the balance of the subject property is consistent with the policy direction of the Planning Act, R.S.O. 1990, c.P.13, the 2024 Provincial Planning Statement, and will conform to the applicable Official Plans. Including this property into the plant expansion will ensure an obvious expansion to the urban boundary in an ideal location. It also follows the current government’s immediate priorities to provide various residential housing stock and allocate growth to the Simcoe Region. The request represents good planning.

Should you have any questions or clarifications with this submission, please contact the undersigned.

Yours truly,

PLANSCAPE INC.



Stefan Szczerbak, M.Sc, MCIP, RPP
Principal

c.c. Client

Privacy statement

Information contained on this form is collected under the authority of the [Municipal Act](#). Information collected will be used and managed by the Township of Severn in accordance with the [Municipal Freedom of Information and Protection of Privacy Act](#). If you require additional information, please view our [Freedom of Information and Routine Disclosure Policy](#).

Comment Form

Please use this form to provide your comments on the [Municipal Class Environmental Assessment](#) for the Coldwater Wastewater Treatment Plant Expansion.

All questions and comments received will be responded to in writing (either by email or letter).

Please enter your comments *

NOTE: A formal letter has been sent to Mr. Burke that included the appropriate figures.

May 29, 2025

Derek Burke – Director of Public Works
Township of Severn
1024 Hurlwood Lane
PO Box 159
Orillia, ON L3V 6J3

Dear Mr. Burke:

Reference: Class Environmental Assessment for the Coldwater Wastewater Treatment Plan Expansion –
Public Information Centre # 2

Thank you for taking the time to speak with me about this project. As discussed, we are the planning consultants for Cipponeri Holdings Inc. who own land at 1240 Anderson Line – partially within the Coldwater Urban Boundary. The following is a brief planning analysis to consider my client's property within the proposed capacity of the plant and to also consider the possibility of a minor boundary expansion, or "rounding out" of an existing settlement boundary to include the balance of our client's property. The request is particularly important given the recent changes to the Provincial Planning Statement that permits boundary expansions without a Municipal Comprehensive Review.

Overview

Cipponeri Holdings Inc. (CHI) owns property at 1240 Anderson Line, that is located partially within the settlement boundary of Coldwater, in the Township of Severn. Figure 1. shows the general location of the property within the northern limits of the County of Simcoe. Figure 2. is an excerpt of Schedule 5.1 – Land Use Designations of the County of Simcoe’s Official Plan identifying the location of the Springwater settlement boundary, in relation to the subject lands, and Figure 3. shows the full property limit and the approximate location of the Coldwater Settlement Boundary.

A plan of subdivision for the portion of CHI’s lands that are currently within the Coldwater settlement area boundary is already in process. The application included all the required supporting documents and was deemed to be a complete application on July 22, 2020, by the County of Simcoe. The current plan (Figure 4.) proposes the creation of 42 new residential lots, together with a block of land to be developed as a retirement home. A Public Information Meeting was held at the Township of Severn on January 20, 2021, and CHI has been working with Township staff to resolve comments received from Township staff. However, for the reasons outlined below, CHI is considering bringing forward a revised plan of subdivision application that incorporates the entirety of its lands.

Figure 1. Location Map (Northern Limits of Simcoe County)

Property Characteristics

The entire property is approximately 26.3 hectares (65 acres) in size, while the area of the proposed subdivision (i.e. the portion that is already within the municipal settlement area boundary) is only 5.02 hectares (12.4 acres). The lands are generally level and currently used for soybean crop as the agriculture arability is limited. There is a treed natural feature located at the western side of the property that includes a small wetland area and a municipal drain (watercourse) that traverses the northern end of the property. The opposite side of the municipal drain contains existing suburban development. Anderson Line forms the easterly boundary, while the Trans Canada Trail (former Canadian Pacific Railway) land abuts the westerly boundary. In addition, various community uses, including the Coldwater Public School and Coldwater Community Centre, are not centrally located within the present approved areas within the existing boundary but would be central to (within walking distance) the larger subdivision proposed by adding the remaining 44 acres to the 12 acres already approved within the boundary. Municipal water and sanitary services are located nearby to the north and along Anderson Lane.

Figure 2. Except of Schedule 5.1 of the County of Simcoe Official Plan – Springwater Settlement Area

Figure 3. Detailed Property Location

Figure 4. Draft Plan of Subdivision

Request

Based on the high level Planning Analysis below, it is our opinion that the balance of the subject lands should be included within the settlement boundary of Coldwater as it is an ideal location to “round out” the current

settlement boundary. In addition, the entire property should be considered in the expansion of the wastewater plant as this seems like a logical and easy expansion to the urban boundary considering its location and existing development rights. Finally, the inclusion of the balance of this property follows the current priority of the Provincial Government to build “more homes – faster” and it would align with the provincial growth targets for the Simcoe County area.

CHI expects the entire property could achieve approximately 381 new residential units, including 98 single dwellings, 15 semi-detached, 108 townhouses and 60 condominium units. Should the property be included in this EA process, our clients are aware the Township of Severn and the Simcoe County Official Plans must be amended to reflect the enlarged boundary. CHI will proceed and seek to finalize the current plan and work through the necessary applications and supporting documents for the balance of the property. Knowing the balance of the property is included within the Coldwater boundary gives the owners confidence to immediately proceed with this future phase. We have been in recent discussions with Township and County staff and they are aware of CHI’s intention to include the balance of the property within the community boundary limits. Finally, incorporating the entire property into the community boundary provides the appropriate means to finance the construction of the new municipal road and extend the services which is not financially feasible if limited to only the 5 hectares acres presently approved and within the existing boundary.

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Should you have any questions or clarifications with this submission, please contact the undersigned.

Yours truly,

PLANSCAPE INC.

Stefan Szczerbak, M.SC, MCIP, RPP
Principal

c.c. Client

Name *

Stefan Szczerbak

If you are submitting comments on behalf of an organization, please enter the name of the organization

Cipponeri Holdings Inc.

Street address *

1240 Anderson Line

Municipality *

Coldwater

Province *

Ontario

Postal code *

L0K 1E0

Email: *

sszczerbak@planscape.ca

Appendix H: Air Quality Assessment Data

Coldwater WWTP Expansion Class EA - Air Quality Impact Assessment

Table 1
Source and Contaminants Identification Table

Source Identifier	Location	Description	Status	Expected Contaminants	Included in Modelling?	Rationale
					Significant? (Y/N)	
HW	Headworks	Headworks Facility (Screening and Flow Splitting)	Proposed	Hydrogen Sulphide, Methyl Mercaptan, Dimethyl Sulphide, Carbon Disulphide, Total Reduced Sulphur	Yes	Raw Sewage Handling
EQ	Flow Equalization	EQ Tank	Proposed	Hydrogen Sulphide, Methyl Mercaptan, Dimethyl Sulphide, Carbon Disulphide, Total Reduced Sulphur	Yes	Raw Sewage Handling
EA_E	Secondary Treatment	Existing EA Plant (Napier Reid)	Existing	Hydrogen Sulphide, Methyl Mercaptan, Dimethyl Sulphide, Carbon Disulphide, Total Reduced Sulphur	No	According to US EPA Wastewater Technology Fact Sheet (Note1), Extended Aeration Plants are odour free.
EA_P	Secondary Treatment	Proposed EA Plant (Phase 1 Extended Aeration)	Proposed	Hydrogen Sulphide, Methyl Mercaptan, Dimethyl Sulphide, Carbon Disulphide, Total Reduced Sulphur	No	According to US EPA Wastewater Technology Fact Sheet (Note1), Extended Aeration Plants are odour free.
TT	Tertiary Treatment	Tertiary Disc Filter	Proposed	Hydrogen Sulphide, Methyl Mercaptan, Dimethyl Sulphide, Carbon Disulphide, Total Reduced Sulphur	No	Not Significant
DI	Disinfection	UV Disinfection (UV#1 and UV#2)	Proposed	Hydrogen Sulphide, Methyl Mercaptan, Dimethyl Sulphide, Carbon Disulphide, Total Reduced Sulphur	No	UV system
EF	Effluent Handling	Effluent to Coldwater River	Proposed	Hydrogen Sulphide, Methyl Mercaptan, Dimethyl Sulphide, Carbon Disulphide, Total Reduced Sulphur	No	Final Discharge
SH	Sludge Handling	Sludge Mixing Building	Existing	Hydrogen Sulphide, Methyl Mercaptan, Dimethyl Sulphide, Carbon Disulphide, Total Reduced Sulphur	No	Not Significant (Note 2)
SH	Sludge Handling	Sludge Storage Tank	Existing	Hydrogen Sulphide, Methyl Mercaptan, Dimethyl Sulphide, Carbon Disulphide, Total Reduced Sulphur	No	Not Significant (Note 2)
CT	Control	Control Building	Existing	Hydrogen Sulphide, Methyl Mercaptan, Dimethyl Sulphide, Carbon Disulphide, Total Reduced Sulphur	No	Admin Control Building

Note

1 U.S. Environmental Protection Agency (EPA). (2000). Wastewater Technology Fact Sheet: Package Plants (EPA 832-F-00-016). Office of Water. https://www.epa.gov/sites/default/files/2015-06/documents/package_plant.pdf

2 Odours from aerobic treatment processes, such as aeration tanks, are typically low in intensity, earthy and musty rather than sulphide-based, and are therefore less objectionable to human receptors than those from headworks or primary treatment processes. Furthermore, during pre-consultation meetings, local residents did not raise any comments or concerns regarding the operation of the existing WWTP. As sludge handling equipment forms part of the current operations, the absence of community concern further supports the conclusion that associated odour impacts are not significant.

Coldwater WWTP Expansion Class EA - Air Quality Impact Assessment

Table 2
Source Summary Table

Point Sources

Source Identifier	Description	Process	Stack Volumetric Flow Rate	Stack Exit Temperature	Stack Inner Diameter (m)	Stack Height Above Grade	Stack Height Above Roof	Release Type	Source UTM Coordinates	Contaminant	CAS #	Maximum Emission Rates	Averaging Period	Emission Estimating Technique	Emission Data Quality	% of Overall Emissions
			m ³ /s	°C	m	m	m	V/H/C	x,y							
EG	Emergency Generator	Standby Power	2.58	483	0.254	5.71	2	V	607465.58, 4952944.06	Nitrogen Oxides	10102-44-0	1.42E+00 2.37E-01	1hr 24hr	EF	Above Average	100%
EQ	Gooseneck for EQ Tank	Primary Sewage Holding Tank	0.05	ambient	0.75	0.6	n/a	C	607486.42, 4952924.42	Hydrogen Sulphide	7789-06-4	1.39E-04	10min, 24hr	EC	Average	91%
										Methyl Mercaptan	74-93-1	1.11E-06	10min	EC	Average	74%
										Dimethyl Sulphide	75-18-3	3.58E-08	10min	EC	Average	80%
										Carbon Disulphide	75-15-0	1.43E-08	24hr	EC	Average	91%
										Total Reduced Sulphur	NA-TRS	1.40E-04	10min, 24hr	EC	Average	91%
										Hydrogen Sulphide	7789-06-4	1.39E-05	10min, 24hr	EC	Average	9%
HW	Odour Control Unit Exhaust for Headwork Building	Primary Sewage Treatment Building	0.56	ambient	0.25	3.8	n/a	V	607482.11, 4952938.79	Methyl Mercaptan	74-93-1	3.88E-07	10min	EC	Average	26%
										Dimethyl Sulphide	75-18-3	8.94E-09	10min	EC	Average	20%
										Carbon Disulphide	75-15-0	1.43E-09	24hr	EC	Average	9%
										Total Reduced Sulphur	NA-TRS	1.40E-05	10min, 24hr	EC	Average	9%

Note:

1 Release Type V, H, C refers to Vertical, Horizontal, and Capped exhaust stack

Coldwater WWTP Expansion Class EA - Air Quality Impact Assessment
Table 3
Dispersion Modelling Input Summary

Relevant Section of the Regulation	Section Title	Description of How the Approved Dispersion Model was Used
Section 6	Approved Dispersion Model	AERMOD version 22112
Section 8	Negligible Sources	Source and contaminants that were considered negligible were explicitly identified, and, hence, were not modelled, in accordance with s.9 of O.Reg. 419. See Table 1: Source and Contaminants Identification Table
Section 9	Same Structure Contamination	A same structure contamination assessment is NOT applicable as the Facility is NOT located in a multi-tenant building.
Section 10	Operating Conditions	All equipment was assumed to operate with maximum potential emission rates, based on operating conditions, at the same time.
Section 11	Source of Contaminant Emission Rates	See Table 2: Source Summary Table
Section 12	Combined Effect of Assumptions for Operating Conditions and Emission Rates	All equipment was assumed to operate with the maximum emission rates, based on operating conditions, at the same time. Therefore, considered to result in the highest concentration at POI.
Section 13	Meteorological Conditions	MECP regional dataset was used based on Facility's location
Section 14	Area of Modelling Coverage	Model coverage set to match MECP guidelines
Section 15	Stack Height for Certain new Sources of Contaminant	N/A
Section 16	Terrain Data	MECP cdem files used
Section 17	Averaging Period	Appropriate averaging periods as defined by the regulatory limits outlined in Schedule 3, and in the listing of the ACB list were modelled for each contaminant.

Coldwater WWTP Expansion Class EA - Air Quality Impact Assessment

Table 4

Emission Summary Table

WWTP Operation

Contaminant Name	CAS No.	Total Facility Emission Rate	Air Dispersion Model Used	Maximum POI Concentration	Averaging Period	MECP POI Limit	Limiting Effect	Category	Percentage of MECP POI Limit
		(g/s)		(µg/m ³)	(hr)	(µg/m ³)			%
Hydrogen Sulphide	7789-06-4	1.53E-04	AERMOD	2.8688	24	7	Health	B1	41%
				10.6675	10 minute	13	Odour	B1	82%
Methyl Mercaptan	74-93-1	1.49E-06	AERMOD	0.0853	10 minute	13	Odour	B1	1%
Dimethyl Sulphide	75-18-3	4.47E-08	AERMOD	0.0027	10 minute	30	Odour	B1	0.01%
Carbon Disulphide	75-15-0	1.57E-08	AERMOD	0.0003	24	330	Odour	B1	0.0001%
Total Reduced Sulphur	NA-TRS	1.55E-04	AERMOD	2.8894	24	7	Health	B1	41%
				10.7442	10 minute	13	Odour	B1	83%
				2.8894	24	70	URT	URT	4%

Note

1. Total reduced sulphur (TRS) compounds means a mixture of reduced sulphur compounds (i.e. primarily dimethyl disulphide, dimethyl sulphide, hydrogen sulphide and mercaptans). An amount (or concentration) of total reduced sulphur (TRS) compounds is calculated as the sum of the amounts (or concentrations) of the reduced sulphur compounds (see subsections 1(1) and 1(2.4) of O. Reg. 419/05).

Emergency Generator Testing

Contaminant Name	CAS No.	Total Facility Emission Rate	Air Dispersion Model Used	Maximum POI Concentration	Averaging Period	MECP POI Limit	Limiting Effect	Category	Percentage of MECP POI Limit
		(g/s)		(µg/m ³)	(hr)	(m)			%
Nitrogen Oxides	10102-44-0	1.42E+00	AERMOD	385.05	1	400	Health	B1	96%
		2.37E-01		42.4	24	200			21%
		1.42E+00		317.1	0.5	1880			17%

Note

1. Generators are typically tested once per month for 1 hour, with an annual full load bank test conducted for 4 hours.

Appendix I: Preliminary Construction Cost Estimates

Coldwater WWTP Expansion - Main SPS

CONCEPTUAL COST ESTIMATE

Owner: Township of Severn

September 2025

Contract: 321867

Item	Description	Unit	Item Price
1.0 General Requirements			
1.01	Mobilization and Demobilization	LS	\$ 50,000
1.02	Insurance	LS	\$ 50,000
1.03	Labour and Materials Bonds	LS	\$ 50,000
1.04	Start-up, Testing & Commissioning; Trial Operation	LS	\$ 20,000
1.05	Erosion and Sediment Control	LS	\$ 50,000
1.06	Construction Dewatering	LS	\$ 100,000
Subtotal General Requirements		\$	320,000
2.0 Site Works			
2.01	Excavation and Backfill	LS	\$ 60,000
2.02	Site restoration	LS	\$ 30,000
2.03	Shoring	LS	\$ 600,000
Subtotal Site Works		\$	710,000
3.0 Process			
3.01	Ex. SPS equipment removals	LS	\$ 20,000
3.02	Yard Piping (Inlet Sewer, Overflow Connection)	m	\$ 8,000
3.03	Precast Concrete Wet Well	LS	\$ 140,000
3.04	Forcemain to Ex. Valve Chamber (200Ø HDPE)	LS	\$ 10,000
3.05	Submersible Pumps	LS	\$ 406,000
3.06	Process Piping, Valves, Fittings	LS	\$ 100,000
3.07	Valve Chamber Modifications	LS	\$ 20,000
3.08	Control Panels & VFDs	LS	\$ 240,000
3.09	Pumps and Panels Concrete Pads	ea	\$ 15,000
3.10	Temporary Bypass Pumping	month	\$ 90,000
Subtotal Process		\$	1,049,000
4.0 Electrical			
4.01	Standby Diesel Generator	LS	\$ 200,000
4.02	Electrical Site Modifications	LS	\$ 900,000
Subtotal Electrical		\$	1,100,000
Subtotal		\$	3,179,000
Contingency Allowance		30%	\$ 954,000
TOTAL		\$	4,140,000

Coldwater WWTP Expansion - Phase 1

CONCEPTUAL COST ESTIMATE

Owner: Township of Severn

September 2025

Contract: 321867

Item	Description	Unit	Item Price
1.0 General Requirements			
1.01	Mobilization and Demobilization	LS \$	100,000
1.02	Insurance	LS \$	200,000
1.03	Labour and Materials Bonds	LS \$	200,000
1.04	Start-up, Testing & Commissioning; Trial Operation	LS \$	50,000
1.05	Erosion and Sediment Control	LS \$	100,000
1.06	Construction Dewatering	LS \$	200,000
Subtotal General Requirements		\$	850,000
2.0 Site Works			
2.01	Yard Piping	LS \$	600,000
2.02	Site Restoration	LS \$	100,000
Subtotal Site Works		\$	700,000
3.0 Headworks Facility			
3.01	Site Works (Excavation, Backfill)	LS \$	500,000
3.02	Structural	LS \$	2,800,000
3.03	Process	LS \$	2,500,000
3.04	Building Mechanical	LS \$	400,000
Subtotal Headworks Facility		\$	6,200,000
4.0 Extended Aeration Unit			
4.01	Site Works (Excavation, Backfill)	LS \$	250,000
4.02	Structural	LS \$	900,000
4.03	Process	LS \$	1,500,000
Subtotal Extended Aeration Unit		\$	2,650,000

Item	Description	Unit	Item Price
5.0 Effluent Pumping & Control Building			
5.01	Site Works (Excavation, Backfill)	LS \$	400,000
5.02	Structural	LS \$	2,000,000
5.03	Process	LS \$	600,000
5.04	Building Mechanical	LS \$	300,000
Subtotal Effluent Pumping & Control Building		\$	3,300,000
6.0 Tertiary Filter Building and Interim Lift Station			
6.01	Interim Lift Station	LS \$	800,000
6.02	Site Works for Filtration Building	LS \$	300,000
6.03	Structural	LS \$	1,100,000
6.04	Process	LS \$	2,600,000
6.05	Building Mechanical	LS \$	300,000
Subtotal Tertiary Filter Building and Interim Lift Station		\$	5,100,000
7.0 Electrical (All Facilities)			
7.01	Transformer	LS \$	100,000
7.02	Generator (750 kW, 600V)	LS \$	400,000
7.03	MCCs	LS \$	500,000
7.04	Cabling and Low-Voltage Transformer and Panels	LS \$	100,000
7.05	PLC and Communications Systems	LS \$	300,000
7.06	Materials	LS \$	1,900,000
Subtotal Electrical (All Facilities)		\$	3,300,000
Subtotal		1 to 7 \$	22,100,000
Contingency Allowance		30% \$	6,600,000
TOTAL		1 to 8 \$	28,700,000