2021 Annual Report

Ignace Water Pollution Control Plant

Prepared for: The Ministry of the Environment, Conservation and Parks

Prepared by: Northern Waterworks Inc. on behalf of the Township of Ignace

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1 Introduction

1.1 Annual Reporting Requirements

The Ignace Water Pollution Control Plant (WPCP) is regulated by the terms and conditions within amended Environmental Compliance Approval No. 0923-9V7JCC (the ECA), issued to the Corporation of the Township of Ignace on April 29, 2015. This Report summarizes the facility's performance over the previous calendar year (January 1 to December 31, 2021) and is intended (1) to provide a performance record for future references, (2) to ensure that the Ministry is made aware of problems as they arise and (3) to provide a compliance record for the terms and conditions outlined in the ECA.

This Annual Report has been prepared in accordance with Condition 10(6) of the ECA and must contain, but shall not be limited to, the following information:

- a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7 of the ECA, including an overview of the success and adequacy of the sewage works (refer to sections 2.3, 6.1 and 7);
- a description of any operating problems encountered and corrective actions taken (refer to section 6);
- a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the sewage works (refer to section 5.1);
- a summary of any effluent quality assurance or control measures undertaken in the reporting period (refer to section 2.2);
- a summary of the calibration and maintenance carried out on all effluent monitoring equipment (refer to section 5.2);
- a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6 of the ECA (refer to sections 2.2, 3 and 6.1);

- 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 a summary of the locations to where the sludge was disposed (refer to section 4);

- a summary of any complaints received during the reporting period and any steps taken to address the complaints (refer to section 6.2);

- a summary of all bypass, overflow, spill or abnormal discharge events (refer to section 6.3);

- a copy of all *Notice of Modifications* submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification (refer to section 5.3);

- a report summarizing all modifications completed as a result of Schedule B, Section 3 (refer to section 5.4); and,

- any other information the Water Supervisor requires from time to time.

1.2 System Description

The Ignace Water Pollution Control Plant utilizes an extended aeration wastewater treatment process that relies upon a combination of physical, biological and chemical processes to treat incoming wastewater. The overall goal of the treatment process is to reduce or remove contaminants from influent wastewater to a level that will not adversely impact or impair receiving waters, including preventing the introduction of pathogens that could affect downstream users. The facility is owned by the Corporation of the Township of Ignace and was operated and maintained by Northern Waterworks Inc. (NWI) for the duration of the reporting period.

The Ignace Water Pollution Control Plant has a hydraulic rated capacity of 2,536 m^3/day (average daily flow) and consists of influent works, secondary treatment units, air supply equipment, chemical feed systems for phosphorus reduction, disinfection, and pH adjustment, a sludge management system and an outfall sewer discharging final effluent to Agimak Creek. In 2015, the facility underwent a major renewal project intended to restore operation to the smaller capacity treatment unit and to complete various upgrades. This project resulted in the issuance of an updated ECA on April 29, 2015.

The Ignace Water Pollution Control Plant consists of the following components:

- Inlet (influent) works consisting of an inlet chamber, two (2) 560 mm wide by 660 mm deep grit channels, a splitter box for flow distribution to the secondary treatment units, and a 200 mm diameter emergency bypass to the effluent discharge manhole. The inlet works accept raw sewage from the main sewage pumping station located on Pine Street, approximately 300 m from the WPCP. The station is equipped with three (3) submersible pumps and a 200 mm diameter force-main extending from the station to the inlet works;

- Two (2) secondary treatment units:

  - The old (small capacity) plant has an average rated capacity of 786 m^3/day with a peak flow rate of 1,275 m^3/day, and consists of one (1) 637 m^3 semi-circular two-stage extended aeration tank equipped with fine bubble aeration system, one (1) 7.2 m diameter circular secondary clarifier equipped with sludge scraper and scum skimmer mechanisms complete with air lift pumping systems for scum and return activated sludge, and one (1) 21.0 m^3 two-compartment chlorine contact chamber with a 200 mm diameter pipe to the effluent discharge manhole;

  - The new (large capacity) plant has an average rated capacity of 1,750 m^3/day with a peak flow rate of 6,225 m^3/day, and consists of one (1) 1,360 m^3 semi-circular one-stage extended aeration tank equipped with fine bubble aeration system, one (1) 15.2 m diameter circular secondary clarifier equipped with sludge scraper and scum skimmer mechanisms complete with air-assisted gravity drain system for scum and air lift pumping system for return activated sludge, and one (1) 71.5 m^3 two-compartment chlorine contact chamber with a 250 mm diameter pipe to the effluent discharge manhole;

- Three (3) air blowers (two standby) housed in the control building, with two rated at 2,400 m^3/h at 69 kPa each and one rated at 1,189 m^3/h at 62 kPa;

- A phosphorus reduction system consisting of one (1) 13,620 L chemical storage tank and two (2) chemical metering pumps housed in the control building, with feed lines extending to the old plant and new plant;

- A disinfection system consisting of one (1) 300 L sodium hypochlorite storage tank and two (2) chemical metering pumps housed in the control building, with feed lines extending to the old plant and new plant;

- A sodium hydroxide system for pH adjustment consisting of one (1) 300 L storage tank and one (1) chemical metering pump housed in the control building, with a feed line extending to the influent grit channel;

- A temporary effluent dechlorination system consisting of dechlorinating pucks submerged in the effluent water stream of the respective treatment units. Dechlorination at the facility is required to achieve the federal effluent water quality standard for total residual chlorine that came into force on January 1, 2021. Specifically, the facility must achieve an effluent total residual chlorine (TRC) concentration of 0.02 mg/L or less, calculated over a calendar quarter. This temporary system was installed on December 11, 2020;

- An effluent discharge manhole and an 89 m long by 250 mm diameter effluent outfall sewer to Agimak Creek;

- An aerobic sludge digestion and storage system for sludge management consisting of one (1) 114 m^3 aerobic digester and a sludge transfer pump;

- An outdoor, self-contained, 347/600V,180 kW diesel generator set with sub-base fuel tank; and,

- A workshop and a control building, with the control building housing a control room with a SCADA system for process monitoring and control, a laboratory and washroom.

2 Water Quality

2.1 Monitoring Programs

The minimum requirements for the sampling and testing of raw sewage and final effluent parameters are provided within Condition 9 (Monitoring and Recording) of the ECA. Samples are collected by licenced operators and submitted to an accredited laboratory for analysis on a monthly basis for influent (raw sewage) parameters and on a weekly basis for effluent (treated) parameters. Sampling is also conducted in accordance with the Ministry's Procedure F-10-1 (*Procedures for sampling and analysis requirements for municipal and private sewage treatment works – liquid waste streams only*) and with the federal *Wastewater Systems Effluent Regulations* (WSER).

2.2 Quality Assurance & Control

Licenced operators also conduct in-house testing to determine the operational performance of the various stages of the treatment process and for quality assurance purposes as it concerns final effluent parameters. **Table 1** summarizes those parameters that were routinely tested for operational control or quality assurance purposes during the reporting period. This table is intended to provide a summary of effluent quality assurance measures undertaken in the reporting period as required by Condition 10(6)(d) of the ECA.

Typical control measures that may be implemented in response to test results include adjusting the rate of return activated sludge flow, altering the volume of solids removed from the treatment process (i.e. waste activated sludge), modifying the flow distribution to the respective treatment units, adjusting chlorine dosages to optimize disinfection, adjusting aluminum sulphate dosages to optimize phosphorus reduction, adjusting sodium hydroxide dosages to optimize nitrification processes and effluent pH, altering the operation of air supply equipment and conducting plant cleaning and maintenance.

Table 1: Summary of operational control and quality assurance testing - 2021[1]

Parameter	Units	No. of Tests Conducted	Min. Result	Max. Result	Annual Average
Effluent Monitoring					
Dissolved Oxygen	mg/L	361	7.58	11.34	9.43
pH[2]	---	361	6.16	7.37	6.82
Temperature[2]	°C	359	2.3	20.5	11.5
Free Residual Chlorine	mg/L	277	0.00	0.09	0.01
TRC – Small Plant – Upstream[3]	mg/L	157	0.02	2.19	0.58
TRC – Large Plant – Upstream[3]	mg/L	160	0.13	1.55	0.51
TRC – Combined Effluent – Downstream[2,3]	mg/L	365	0.00	0.27	0.01
Total Suspended Solids (TSS)	mg/L	52	0.8	13.4	5.5
Process Monitoring					
Small Plant – Aeration 30 Minute Settling	%	128	10	60	39
Small Plant – Aeration Inlet DO	mg/L	133	0.35	12.33	2.27
Small Plant – Aeration Outlet DO	mg/L	134	0.22	14.19	7.53
Small Plant – Aeration pH	---	132	5.5	7.6	6.5
Small Plant – Clarifier Sludge Depth	feet	125	0.1	6.6	1.3
Small Plant – Aeration TSS	mg/L	52	1624	7702	4771
Small Plant – Return Activated Sludge TSS	mg/L	52	2300	27024	8671
Large Plant – Aeration 30 Minute Settling	%	127	22	89	61
Large Plant – Aeration Inlet DO	mg/L	134	0.26	11.69	1.12
Large Plant – Aeration Outlet DO	mg/L	134	0.39	9.66	5.34
Large Plant – Aeration pH	---	133	5.1	7.0	6.5
Large Plant – Clarifier Sludge Depth	feet	121	0.6	4.1	1.9
Large Plant – Aeration TSS	mg/L	52	1532	8930	6548
Large Plant – Return Activated Sludge TSS	mg/L	52	5968	24738	12615

1. All samples collected for operational control and quality assurance testing are grab samples.
2. These are regulated parameters under the amended ECA. Regulatory sampling and testing for effluent pH, temperature and TRC are achieved through the in-house testing program.
3. Effluent total residual chlorine (TRC) is sampled and tested both upstream and downstream from the point of dechlorination.

2.3 Monitoring Results & Comparison with Performance Criteria

In accordance with Condition 10(6)(a) of the ECA, this report must provide a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7 of the ECA. The sewage works must be designed, constructed, operated and maintained such that effluent compliance limits are not exceeded. Limits are expressed as a maximum monthly average concentration for the parameters carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), total ammonia nitrogen and total phosphorus, as a maximum monthly geometric mean density for the parameter E. coli, and as a single sample result range for the parameter pH. Effluent limits expressed as maximum monthly average loadings also exist for the parameters CBOD5, TSS and total phosphorus.

In accordance with Condition 10(6)(f) of the ECA, this report must provide a description of efforts made and results achieved in meeting the effluent objectives of Condition 6 of the ECA. Similar to limits, best efforts must be applied to design, construct, operate and maintain the sewage works such that the objectives are achieved. Objectives are set at more stringent values than compliance limits and are expressed in the same manner. The Owner must also use best efforts to ensure that the effluent from the facility is essentially free of floating and settleable solids and does not contain oil or any other substances in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters. Design objectives pertaining to flow rates are discussed in section 3.

Table 2 summarizes effluent monitoring results for regulated parameters and compares them to the relevant compliance limits and design objectives. Individual effluent monitoring results are provided in **Appendix A**. All effluent compliance limits were achieved throughout the reporting period. All objectives were achieved with the exception of the objectives for the effluent parameters total phosphorus and pH. Refer to section 6.1 for more information concerning these effluent objective exceedances.

Raw sewage samples are collected monthly and tested for various parameters in accordance with Condition 9 of the ECA. Influent monitoring results are provided in **Appendix B**.

Sludge samples are collected annually and tested for total solids, total phosphorus, and metals in accordance with the Ministry's Procedure F-10-1 (*Procedures for sampling and analysis requirements for municipal and private sewage treatment works – liquid waste streams only*). Annual sludge sample results are provided in **Appendix C**.

Table 2: Effluent monitoring results summary and comparison with compliance limits and objectives[1]

Month	CBOD5		TSS		Total P		TAN[2]	pH		E. coli	TRC		
	MAC (mg/L)	MAL (kg/d)	MAC (mg/L)	MAL (kg/d)	MAC (mg/L)	MAL (kg/d)	MAC (mg/L)	Min. Result	Max. Result	MGMD (MPN/ 100mL)	Min. Result	Max. Result	MAC (mg/L)
Objective	15	n/a	15	n/a	0.5	n/a	3 or 5	6.5	9.0	150	n/a		
Limit	25	63.4	25	63.4	1.0	2.54	6 or 10	6.0	9.5	200	n/a		
Jan	2.3	2.2	5.0	4.7	0.26	0.25	0.91	6.71	7.25	10	0.00	0.27	0.03
Feb	2.7	2.4	8.5	7.4	0.36	0.31	0.04	6.71	7.37	10	0.00	0.13	0.02
Mar	2.0	1.6	5.6	4.4	0.37	0.28	0.19	6.74	7.08	26	0.00	0.02	0.01
Apr	2.1	2.0	7.5	7.2	0.37	0.35	0.06	6.59	7.06	90	0.00	0.05	0.01
May	2.0	2.1	5.5	5.7	0.31	0.32	0.05	6.57	7.30	10	0.00	0.03	0.01
Jun	2.0	2.0	5.6	5.5	0.42	0.41	0.04	6.16	7.28	10	0.00	0.04	0.01
Jul	2.0	1.6	4.7	3.7	0.44	0.35	0.04	6.31	6.91	17	0.00	0.04	0.01
Aug	2.1	1.5	6.5	4.8	0.60	0.45	0.04	6.25	6.96	10	0.00	0.04	0.02
Sep	2.3	1.7	6.5	4.8	0.65	0.48	0.61	6.71	7.49	12	0.00	0.04	0.01
Oct	2.0	1.6	4.3	3.4	0.64	0.51	0.03	6.76	7.05	10	0.00	0.07	0.01
Nov	2.0	1.5	5.1	3.7	0.39	0.29	0.04	6.32	6.97	10	0.00	0.08	0.02
Dec	2.7	1.8	4.9	3.4	0.65	0.45	0.17	6.20	7.34	13	0.00	0.04	0.01

1. CBOD5 = five-day total carbonaceous biochemical oxygen demand; TSS = total suspended solids; Total P = total phosphorus; TAN = total ammonia nitrogen; TRC = total residual chlorine; MAC = monthly average concentration; MAL = monthly average loading; MGMD = monthly geometric mean density.
2. The effluent limit and objective for total ammonia nitrogen is seasonal. The limit is 6.0 mg/L (objective 3.0 mg/L) between May 1 and October 31; the limit is 10.0 mg/L (objective 5.0 mg/L) between November 1 and April 30.

2.4 Acute Lethality Concerns & Investigation

An investigation into the source of failed acute lethality tests was previously initiated after the results of a federal *Wastewater Systems Effluent Regulations* inspection conducted on October 1, 2018. Between November 4, 2019, and January 6, 2020, various samples were collected and tested for metals. The results were evaluated against results provided by other wastewater treatment facilities and known water quality standards. An evaluation of the metals data suggested that high influent (raw sewage) zinc concentrations were responsible for effluent toxicity. Annual sludge sample results also indicated excessive zinc concentrations at the Ignace facility when compared to the results from other facilities.

Samples were then collected and tested for zinc concentrations at the treatment facility and throughout the wastewater collection system between February 19, 2020 and May 11, 2020. The results established that the source of zinc was likely located between the intersection of West Street & Naumann Lane and the manhole located at 210 Naumann Lane. Notably, three (3) effluent acute lethality samples were collected on February 19, 2020, in an effort to determine whether there was a difference between the two treatment units. All samples failed the testing protocol and confirmed the results of previous samples collected in 2019. The investigation into the source of excessive zinc concentrations was supplemented with local groundwater, surface water and wastewater collection system infiltration zinc results. The investigation also involved multiple camera inspections and determined that the buildings connected to that section of gravity collector sewer were unlikely to be the source.

Based on the results of the investigation, it was then presumed that the source of high zinc concentrations was the accumulated sediment in the affected part of the wastewater collection system. In September and again in November 2020, the section of the collection system with high zinc concentrations was flushed and cleaned. Specifically, accumulated sediment was flushed into a downstream manhole and removed with a vacuum truck. Zinc concentrations were significantly reduced following both cleaning procedures, although effluent zinc concentrations at the treatment facility initially remained unchanged.

Zinc was then monitored in raw sewage and final effluent on a monthly basis in 2021 to evaluate the impact of the cleaning procedures. Zinc concentrations in final effluent decreased between the months of August and September and were sustained below 200 µg/L from September to December. Two (2) effluent samples collected on September 13 & November 8, 2021, also passed the acute lethality test. Importantly, these were the first passing acute lethality tests following the initial federal *WSER* inspection in October 2018.

Based upon the reduction in zinc concentrations and the acute lethality test results, new operating guidelines for managing effluent acute lethality were established and implemented in January 2022. Specifically, zinc will continue to be sampled and tested on a monthly basis in both raw sewage and final effluent. Resampling will be conducted when any effluent result exceeds 200 µg/L. If the resample result also exceeds 200 µg/L, then an acute lethality test will be completed. If the acute lethality test fails, an action plan will be developed to reduce effluent zinc concentrations and/or modify zinc toxicity. Specifically, the action plan may include increasing effluent pH or alkalinity to reduce zinc toxicity and/or targeted sewer cleaning. The action plan may also include conducting additional acute lethality sampling or sampling for zinc in the wastewater collection system.

The results from zinc monitoring are provided in **Table 3**. The *Certificates of Analysis* for all acute lethality testing conducted in 2021 are provided in **Appendix D**.

Table 3: Raw sewage and final effluent zinc results

Sample Date	Raw Sewage Zinc Concentration (µg/L)	Final Effluent Zinc Concentration (µg/L)
18-Jan-2021	317	363
22-Feb-2021	1,360	418
08-Mar-2021	521	321
12-Apr-2021	616	680
10-May-2021	535	500
21-Jun-2021	363	390
28-Jun-2021	447	---
12-Jul-2021	274	410
09-Aug-2021	375	408
13-Sep-2021	307	119
13-Oct-2021	249	98
08-Nov-2021	150	188
13-Dec-2021	179	134

3 Flow Monitoring

Condition 6(2)(b) of the ECA states that the Owner shall use best efforts to operate the facility within its rated capacity. The rated capacity of the Ignace WPCP refers to the average daily flow for which the sewage works are approved to handle, where average daily flow is defined in the ECA as the cumulative total sewage flow to the facility during a calendar year divided by the number of days during which sewage was flowing to the sewage works in that year. Specifically, the average daily flow must not exceed 2,536 m^3/day over the course of a calendar year.

Table 4 summarizes flow monitoring and solids management results for the 2021 calendar year. Throughout the reporting period the facility operated within its rated capacity and approximately 306,232 m^3 of effluent was deposited. On an average day in 2021, 839 m^3 of effluent was discharged to the natural environment, which represents 33% of the rated capacity of both treatment units. The maximum daily amount of effluent deposited in 2021 was 1,549 m^3, which represents 21% of the combined peak flow rate (7,500 m^3/day).

Table 4: Effluent flow monitoring results and solids management summary - 2021

Month	Effluent Flow Monitoring Results				Sludge Volume Generated and Removed (m^3)
	Total Volume (m^3)	Average Daily Flow (m^3/day)	Capacity Assessment (%)	Maximum Daily Flow (m^3/day)	
Jan	29,349	947	37%	1,549	106
Feb	24,450	873	34%	1,361	91
Mar	23,976	773	30%	909	223
Apr	28,996	967	38%	1,369	114
May	31,986	1,032	41%	1,241	91
Jun	29,596	987	39%	1,207	114
Jul	24,522	791	31%	992	114
Aug	23,093	745	29%	888	219
Sep	22,349	745	29%	1,174	109
Oct	24,386	787	31%	1,016	114
Nov	21,996	733	29%	890	114
Dec	21,532	695	27%	1,135	106
Total	306,232	---	---	---	1,407
Average	25,519	839	33%	---	128

Table 5 summarizes recent historical flow monitoring results for the Ignace Water Pollution Control Plant. Average daily flows have varied considerably over the previous six (6) reporting periods, and the facility has operated at between 30% and 71% of its rated capacity. Notably, average and maximum daily flows were substantially reduced between 2016 and 2018, which in turn may be attributable to the replacement of aging sanitary sewers and a corresponding reduction in inflow and infiltration. The system is expected to operate within its rated capacity over the next reporting period. A common design objective of wastewater treatment facilities stipulates that average daily flows should not exceed 80% of the rated capacity. Average daily flows in excess of this objective generally require an assessment of the issues and recommendations for corrective actions.

Table 5: Recent historical effluent flow monitoring results

Year	Total Volumes (m^3)			Daily Flows (m^3/day)		Capacity Assessments	
	Large Capacity Treatment Unit	Small Capacity Treatment Unit	Combined	Average	Maximum	Rated Capacity	Peak Flow Rate
2016	537,320	122,165	659,485	1,802	3,001	71%	40%
2017	442,904	97,985	540,889	1,482	3,698	58%	49%
2018	204,889	77,320	282,209	773	1,524	30%	20%
2019	287,375	106,801	394,176	1,080	2,621	43%	35%
2020	232,145	92,207	324,352	886	1,376	35%	18%
2021	216,422	89,810	306,232	839	1,549	33%	21%

4 Solids Management

In accordance with Condition 10(6)(g) of the ECA, this report must provide a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated over the next reporting period and a summary of the locations to where the sludge was disposed. The volume of solids in the treatment process is controlled by directing activated sludge (i.e., waste activated sludge) to the sludge holding tank (aerobic digester). Sludge directed to the digester is concentrated by allowing the sludge to settle and removing the supernatant. As the sludge stabilizes and accumulates over time, it must be periodically removed from the digester by truck haulage for disposal at the Ignace Landfill Site (environmental approval no. A600501). This site includes drying beds that have been approved for the disposal of sludge from the facility. Stabilized sludge is classified as processed organic waste and was hauled exclusively by Northwest Sewage and Septic (environmental approval no. A920402) for the entire reporting period. Sludge management methods and disposal areas to be utilized over the next reporting period are not expected to change.

A tabulation of the amount of sludge generated in the reporting period is provided in **Table 4,** and recent historical sludge volumes are provided in **Table 6**. In 2021, approximately 1,407 m^3 of sludge was generated and disposed of at the drying beds located at the Landfill Site. The volume of sludge generated and removed from the facility in 2022 is anticipated to be between 500 m^3 and 2,000 m^3.

Table 6: Recent historical sludge volumes

Year	Total Sludge Volume Generated & Removed (m^3)
2015	936
2016	551
2017	1,522
2018	1,630
2019	2,605[1]
2020	560
2021	1,407

1. In 2019, a significant volume of solids was removed from the treatment process between March and September in order to prepare the treatment process for the removal of the isolation valves between the aeration tanks and secondary clarifiers on both treatment units. The removal of these valves allowed for the full operational use of the facility's aerobic digester.

5 Maintenance and Modifications

5.1 Planned Maintenance, Repairs & Minor Modifications

In accordance with Condition 10(6)(c) of the ECA, this report must include a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the sewage works. A planned maintenance program is employed at the facility that ensures that the sewage works and related equipment that are installed or used to achieve compliance are properly operated and maintained. Licenced operators perform routine inspection and maintenance on all equipment including pumps, air supply equipment, chemical feed systems, monitoring equipment, alarm systems, safety equipment and other treatment components.

Additional significant maintenance activities and minor repairs and modifications that occurred during the reporting period are summarized in **Table 7**.

Table 7: Summary of maintenance activities, minor repairs and modifications - 2021

Date	Task
9-Apr-2021	Representatives with M. C. Lough Electric Inc. completed the removal of the old generator and associated fuel tank from the treatment facility.
22-Jun-2021	Representatives with Hoover Electric wired the new emergency generator controller to the facility's programmable logic controller (PLC). This work established communication between the generator and the PLC and allowed for generator status to be monitored by the SCADA system.
29-Jun-2021	Representatives with Digital Engineering completed the integration of the generator control panel with the SCADA system. This work allowed for alarm transmission capability concerning generator faults.
6-Oct-2021	A representative with Power System Solutions Ltd. conducted a thermal imaging inspection of electrical equipment.
16-Oct-2021	Calibration verification for the one (1) influent and two (2) effluent flow measuring devices was conducted by a representative from Synergy Controls Corporation.

5.2 Flow Monitoring Equipment Calibration and Maintenance

In accordance with Condition 10(6)(e) of the ECA, this report must provide a summary of the calibration and maintenance carried out on all flow monitoring equipment. Condition 9(6) of the ECA requires the Owner to install and maintain continuous flow measuring devices to measure the influent to and/or effluent from the facility with an accuracy to within plus or minus 15 percent of the actual flowrate for the entire design range of the flow measuring devices. All flow measurement devices at the Ignace WPCP are inspected daily and calibration is verified annually. Calibration or replacement may be indicated if devices fail the protocol.

Calibration verification for the one (1) influent and two (2) effluent flow measuring devices was conducted by a representative from Synergy Controls Corporation on October 16, 2021. The verification reports are provided in **Appendix E**.

5.3 Summary of Schedule B, Section 1 Modifications

In accordance with Condition 10(6)(j) of the ECA, this report must include copies of all *Notice of Modifications* submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification. Such modifications must adhere to the criteria for limited operational flexibility and may affect sewage pumping stations, sewage treatment processes, the sewage treatment plant outfall, sanitary sewers, or may otherwise be related to pilot systems.

No Schedule B, Section 1 modifications were completed during the reporting period.

5.4 Summary of Schedule B, Section 3 Modifications

In accordance with Condition 10(6)(k) of the ECA, this report must summarize all modifications completed as a result of Schedule B, Section 3. Such modifications refer to normal or emergency operational modifications, such as repairs, reconstructions or other improvements that are part of maintenance activities, including cleaning or renovations to existing approved sewage works equipment, provided that the modification is made with equivalent equipment. Such modifications are not required to follow the notification protocols under the Limited Operational Flexibility condition, provided that the number of pieces and description of the equipment as described in the ECA does not change.

No Schedule B, Section 3 modifications were completed during the reporting period.

6 Operating Problems

In accordance with Condition 10(6)(b) of the ECA, this report must provide a description of any operating problems encountered and corrective actions taken during the reporting period. For the purposes of this report, operating problems may be indicated by 1) effluent limit and objective exceedances, 2) complaints, 3) significant equipment, infrastructure and process failures and 4) bypasses, overflows, spills and abnormal discharge events.

6.1 Effluent Limit and Objective Exceedances

6.1.1 Total Phosphorus

The compliance limit for effluent total phosphorus was achieved throughout the reporting period. The monthly average concentration for effluent total phosphorus exceeded the design objective of 0.50 mg/L in the months of August (0.60 mg/L), September (0.65 mg/L), October (0.64 mg/L) and December (0.65 mg/L). The aluminum sulphate dosage was significantly increased on September 7, 2021, in an attempt to reduce effluent phosphorus concentrations. The dosage increase was effective at reducing effluent total phosphorus concentrations, and the objective exceedance in December was attributable to a single outlier result (1.82 mg/L) associated with a sample collected on December 29, 2021. The monthly average concentration for effluent total phosphorus was reduced to 0.27 mg/L in January 2022.

6.1.2 pH

The compliance limit for effluent pH was achieved throughout the reporting period. The design objective for pH (pH < 6.5) was exceeded on twenty-one (21) occasions during the reporting period in the months of June, July, August, November & December. The exceedances occurred across 361 samples, representing an objective exceedance rate of 5.8%. As per the *2019 Annual Report*, a goal of the sewage treatment program is to maintain the effluent pH objective exceedance rate below 10%. On all occasions, the applied dosage of sodium hydroxide (pH/alkalinity adjustment) was increased to restore effluent pH when pH was either significantly below the objective or was below the objective for consecutive days.

The primary factor for low pH events and objective exceedances at the facility involves the relative concentrations of total ammonia nitrogen and alkalinity in the raw sewage introduced to the facility. In the nitrification process that converts total ammonia nitrogen to nitrate, alkalinity is consumed by nitrifying bacteria and acid is formed. Low effluent pH events indicate that the nitrification process has progressed, but that there was insufficient alkalinity remaining in the water to buffer against a change in pH. Ultimately, the raw sewage being introduced to the treatment facility does not consistently have enough alkalinity to both support the nitrification process and to subsequently buffer against a pH change upon acid formation. Importantly, the installation of the sodium hydroxide chemical feed system in 2019 now allows for a significant amount of operational control over effluent pH and nitrification processes.

6.2 Complaints

In accordance with Condition 10(6)(h) of the ECA, this report must provide a summary of any complaints received during the reporting period and any steps taken to address the complaints.

No complaints related to the operation and maintenance of the Ignace Water Pollution Control Plant were received during the reporting period.

6.3 Bypasses, Overflows, Spills and Abnormal Discharge Events

In accordance with Condition 10(6)(i) of the ECA, this report must provide a summary of all bypasses, overflows, spills or abnormal discharge events.

A bypass refers to the diversion of sewage around one or more unit processes within the treatment facility, whereby diverted sewage flows are returned to the treatment facility upstream of the final effluent sampling location and are discharged to the environment through the plant outfall. Bypasses are prohibited except in certain situations and may be planned (e.g., for maintenance or research purposes) or unplanned (e.g., during emergency situations).

An overflow means a discharge to the environment from the wastewater collection system or at the sewage treatment facility at a location other than the plant outfall or into the outfall downstream of the final effluent sampling location. Overflows are similarly prohibited except in certain situations.

Spills are releases of pollutants into the natural environment from or out of a structure, vehicle or other container that is abnormal in quality or quantity in light of all the circumstances of the discharge. Concerning the Ignace sewage works, spills include the releases of all pollutants other than raw sewage or partially treated sewage, which are otherwise classified as Class I spills and are exempt from Part X of the Environmental Protection Act as per O. Reg. 675/98. Specifically, spills of raw sewage or partially treated sewage are discharges (bypasses and overflows) that are authorized by and are conducted in accordance with an environmental compliance approval.

Abnormal discharge events include any other abnormal events not otherwise classified as a bypass, overflow or spill.

There were no bypasses, overflows, spills or abnormal discharge events during the reporting period for the Ignace sewage works.

6.4 Equipment, Infrastructure and Process Failures

Operating problems associated with significant equipment, infrastructure, and process failures that occurred during the reporting period are summarized in **Table 8**. These failures exclude minor equipment faults or power supply interruptions that otherwise do not significantly impact the treatment process.

Table 8: Summary of significant equipment, infrastructure and process failures - 2021

Event Date	Event Description	Resolution Date
29-Jan-2021	Beginning on January 29, 2021, various treatment components froze in cold weather conditions, including the small treatment unit return activated sludge line, the first air supply drop line and the alum chemical feed line. The return activated sludge and air drop lines were thawed and normal operation was restored. The alum chemical feed line could not be thawed, and a temporary line was installed. The effluent chamber associated with the small treatment unit also began to freeze over, and a temporary air line was installed to aerate the chamber and prevent freezing on February 9, 2021.	9-Feb-2021

7 Conclusion

In accordance with Condition 10(6)(a) of the ECA, this report must include an overview of the success and adequacy of the sewage works. Water quality and flow monitoring results suggest a successful and adequate sewage treatment program. The Ignace Water Pollution Control Plant was capable of consistently achieving all effluent compliance limits throughout the reporting period. Concerning compliance limits, the favourable performance of the facility in 2021 was consistent with recent historical performance (summarized in **Table 9**). Daily flows from the sewage works were also below the average and peak flow rated capacities.

Table 9: Performance history – total number of effluent exceedances

Year	No. of Compliance Limit Exceedances					
	CBOD	TSS	TAN	Total P	EC	pH
2015	0	4	4	0	2	45
2016	0	0	2	0	0	11
2017	0	0	1	1	0	0
2018	0	0	0	1	0	0
2019	0	0	0	0	0	0
2020	0	0	0	0	1	0
2021	0	0	0	0	0	0

Appendix A

Effluent Monitoring Results

ALS		Sample ID	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT WEEKLY
		ALS ID	L2545370-1	L2545370-2	L2547224-1	L2547224-2	L2549399-2	L2549399-3	L2551569-1	L2551569-2
Multiple Work Orders		Date Sampled	1/4/2021 1:49:00 PM	1/4/2021 1:18:00 PM	1/11/2021 3:06:00 PM	1/11/2021 3:08:00 PM	1/18/2021 2:20:00 PM	1/18/2021 2:20:00 PM	1/25/2021 1:32:00 PM	1/25/2021 1:21:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	7.02	-	7.03	-	-	6.89	6.84	-
Temperature, Client Supplied	Degree C	0	5.9	-	10.8	-	-	7.8	4.6	-
Total Suspended Solids	mg/L	3	4.7	-	9.1	-	-	<3.0	<3.0	-
Alkalinity, Total (as CaCO3)	mg/L	2	52.3	-	26.9	-	-	30.2	23.7	-
Ammonia, Total (as N)	mg/L	0.005	3.1	-	0.026	-	-	0.353	0.153	-
Ammonia, Un-ionized (as N)	mg/L	0.01	0.00528	-	0.000067	-	-	0.00052	0.000155	-
Total Kjeldahl Nitrogen	mg/L	0.05	4.5	-	1.35	-	-	1.4	0.9	-
Phosphorus, Total	mg/L	0.003	0.331	-	0.391	-	-	0.0715	0.256	-
Escherichia Coli	MPN/100mL	10	-	10	-	<10	<10	-	-	<10
BOD Carbonaceous	mg/L	2	2.3	-	2.5	-	-	<2.0	2.5	-

ALS		Sample ID	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)
		ALS ID	L2553551-1	L2553551-2	L2556275-1	L2556275-2	L2558025-2	L2558025-3	L2559983-1	L2559983-3
Multiple Work Orders		Date Sampled	2/1/2021 3:03:00 PM	2/1/2021 2:55:00 PM	2/9/2021 2:40:00 PM	2/9/2021 2:23:00 PM	2/16/2021 2:40:00 PM	2/16/2021 2:32:00 PM	2/22/2021 3:10:00 PM	2/22/2021 3:03:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	7.32	-	7.19	-	-	6.79	7.15	-
Temperature, Client Supplied	Degree C	0	10.4	-	6.3	-	-	5.6	10.8	-
Total Suspended Solids	mg/L	3	9.3	-	9.1	-	-	5.9	9.7	-
Alkalinity, Total (as CaCO3)	mg/L	2	25.4	-	23.2	-	-	8.3	22.9	-
Ammonia, Total (as N)	mg/L	0.005	0.031	-	0.039	-	-	0.038	0.041	-
Ammonia, Un-ionized (as N)	mg/L	0.01	0.000151	-	0.000101	-	-	0.0000372	0.00014	-
Total Kjeldahl Nitrogen	mg/L	0.05	1.1	-	1.48	-	-	1.17	1.57	-
Phosphorus, Total	mg/L	0.003	0.341	-	0.38	-	-	0.296	0.409	-
Escherichia Coli	MPN/100mL	10	-	10	-	<10	<10	-	-	10
BOD Carbonaceous	mg/L	2	3.7	-	3	-	-	<2.0	2.2	-

ALS		Sample ID	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)
		ALS ID	L2562495-1	L2562495-2	L2564805-2	L2564805-3	L2567697-1	L2567697-2	L2569388-1	L2569388-2
Multiple Work Orders		Date Sampled	3/1/2021 1:45:00 PM	3/1/2021 1:45:00 PM	3/8/2021 2:56:00 PM	3/8/2021 2:50:00 PM	3/15/2021 1:50:00 PM	3/15/2021 1:46:00 PM	3/22/2021 2:30:00 PM	3/22/2021 2:33:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	6.84	-	-	7.06	7.07	-	7.08	-
Temperature, Client Supplied	Degree C	0	7.8	-	-	9.2	9	-	10.6	-
Total Suspended Solids	mg/L	3	4.6	-	-	6.5	6.4	-	6.5	-
Alkalinity, Total (as CaCO3)	mg/L	2	25.2	-	-	35.1	30	-	25.4	-
Ammonia, Total (as N)	mg/L	0.005	0.189	-	-	0.638	0.041	-	0.046	-
Ammonia, Un-ionized (as N)	mg/L	0.01	0.000248	-	-	0.00155	0.000099	-	0.000129	-
Total Kjeldahl Nitrogen	mg/L	0.05	1.04	-	-	1.77	1.44	-	1.4	-
Phosphorus, Total	mg/L	0.003	0.388	-	-	0.417	0.36	-	0.33	-
Escherichia Coli	MPN/100mL	10	-	<10	20	-	-	30	-	100
BOD Carbonaceous	mg/L	2	<2.0	-	-	2	2.1	-	2	-

ALS		Sample ID	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)
		ALS ID	L2571616-1	L2571616-2	L2573749-1	L2573749-2	L2575848-2	L2575848-3	L2578158-1	L2578158-2
Multiple Work Orders		Date Sampled	3/29/2021 1:51:00 PM	3/29/2021 1:43:00 PM	4/6/2021 3:12:00 PM	4/6/2021 3:05:00 PM	4/12/2021 3:00:00 PM	4/12/2021 3:00:00 PM	4/19/2021 3:01:00 PM	4/19/2021 2:56:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	6.84	-	7.06	-	-	6.87	6.84	-
Temperature, Client Supplied	Degree C	0	8.6	-	10.8	-	-	9.6	8.5	-
Total Suspended Solids	mg/L	3	4.2	-	8	-	-	7.9	3.5	-
Alkalinity, Total (as CaCO3)	mg/L	2	16.5	-	24	-	-	13.7	15.3	-
Ammonia, Total (as N)	mg/L	0.005	0.04	-	0.034	-	-	0.03	0.141	-
Ammonia, Un-ionized (as N)	mg/L	0.01	0.000056	-	0.000093	-	-	0.000049	0.000195	-
Total Kjeldahl Nitrogen	mg/L	0.05	1.22	-	1.33	-	-	1.29	1.08	-
Phosphorus, Total	mg/L	0.003	0.331	-	0.392	-	-	0.377	0.257	-
Escherichia Coli	MPN/100mL	10	-	20	-	90	10	-	-	2400
BOD Carbonaceous	mg/L	2	<2.0	-	2.1	-	-	<2.0	<2.0	-

ALS		Sample ID	FINAL EFFLUENT (WEEKLY)	FINAL EFFLEUNT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)
		ALS ID	L2580723-1	L2580723-2	L2583194-1	L2583194-2	L2586085-2	L2586085-3	L2588958-1	L2588958-2
Multiple Work Orders		Date Sampled	4/26/2021 3:00:00 PM	4/26/2021 2:54:00 PM	5/3/2021 2:45:00 PM	5/3/2021 2:39:00 PM	5/10/2021 2:52:00 PM	5/10/2021 2:53:00 PM	5/17/2021 1:40:00 PM	5/17/2021 2:00:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	6.78	-	6.69	-	-	6.99	6.82	-
Temperature, Client Supplied	Degree C	0	12.3	-	10.6	-	-	10.4	11.9	-
Total Suspended Solids	mg/L	3	10.6	-	3.4	-	-	7.2	4.1	-
Alkalinity, Total (as CaCO3)	mg/L	2	15	-	15.5	-	-	17.5	19.5	-
Ammonia, Total (as N)	mg/L	0.005	0.024	-	0.029	-	-	0.0325	0.0465	-
Ammonia, Un-ionized (as N)	mg/L	0.01	0.000039	-	0.000033	-	-	<0.010	<0.010	-
Total Kjeldahl Nitrogen	mg/L	0.05	1.19	-	0.95	-	-	1.3	1.29	-
Phosphorus, Total	mg/L	0.003	0.442	-	0.26	-	-	0.414	0.211	-
Escherichia Coli	MPN/100mL	10	-	30	-	10	<10	-	-	<10
BOD Carbonaceous	mg/L	2	2.1	-	<2.0	-	-	<2.0	<2.0	-

ALS		Sample ID	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)
		ALS ID	L2592109-1	L2592109-2	L2594799-1	L2594799-2	L2597972-1	L2597972-2	L2601906-1	L2601906-2
Multiple Work Orders		Date Sampled	5/25/2021 3:27:00 PM	5/25/2021 3:14:00 PM	5/31/2021 3:35:00 PM	5/31/2021 3:41:00 PM	6/7/2021 2:55:00 PM	6/7/2021 2:49:00 PM	6/14/2021 2:26:00 PM	6/14/2021 2:30:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	7.19	-	7.3	-	6.86	-	6.44	-
Temperature, Client Supplied	Degree C	0	12.5	-	11.5	-	12.9	-	13	-
Total Suspended Solids	mg/L	3	9.7	-	3.2	-	7.3	-	<3.0	-
Alkalinity, Total (as CaCO3)	mg/L	2	28.3	-	17.3	-	24.2	-	17.5	-
Ammonia, Total (as N)	mg/L	0.005	0.121	-	0.033	-	0.0348	-	0.034	-
Ammonia, Un-ionized (as N)	mg/L	0.01	<0.010	-	<0.010	-	<0.010	-	<0.010	-
Total Kjeldahl Nitrogen	mg/L	0.05	1.6	-	1.64	-	0.875	-	0.9	-
Phosphorus, Total	mg/L	0.003	0.411	-	0.261	-	0.457	-	0.35	-
Escherichia Coli	MPN/100mL	10	-	<10	-	<10	-	<10	-	<10
BOD Carbonaceous	mg/L	2	2	-	<2.0	-	<2.0	-	<2.0	-

ALS		Sample ID	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT WEEKLY
		ALS ID	L2604246-2	L2604246-3	L2607433-1	L2607433-2	L2609867-1	L2609867-2	L2613422-2	L2613422-3
Multiple Work Orders		Date Sampled	6/21/2021 3:12:00 PM	6/21/2021 3:19:00 PM	6/28/2021 3:11:00 PM	6/28/2021 3:11:00 PM	7/5/2021 3:20:00 PM	7/5/2021 3:07:00 PM	7/12/2021 3:23:00 PM	7/12/2021 3:21:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	-	7.06	-	6.55	6.78	-	-	6.91
Temperature, Client Supplied	Degree C	0	-	11	-	16.5	17.8	-	-	13.7
Total Suspended Solids	mg/L	3	-	5.1	-	7	7.4	-	-	3.2
Alkalinity, Total (as CaCO3)	mg/L	2	-	22.7	-	18.4	24.9	-	-	25.2
Ammonia, Total (as N)	mg/L	0.005	-	0.031	-	0.0459	0.045	-	-	0.041
Ammonia, Un-ionized (as N)	mg/L	0.01	-	<0.010	-	<0.010	0.000111	-	-	0.0001
Total Kjeldahl Nitrogen	mg/L	0.05	-	1.06	-	0.995	1.19	-	-	0.88
Phosphorus, Total	mg/L	0.003	-	0.44	-	0.419	0.484	-	-	0.405
Escherichia Coli	MPN/100mL	10	<10 *	-	<10	-	-	<10 *	<10	-
BOD Carbonaceous	mg/L	2	-	<2.0	-	<2.0	<2.0	-	-	<2.0

ALS		Sample ID	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFLUENT (WEEKLY)	FINAL EFLUENT (WEEKLY)
		ALS ID	L2616608-1	L2616608-2	L2618914-1	L2618914-2	L2622410-1	L2622410-2	L2624532-2	L2624532-3
Multiple Work Orders		Date Sampled	7/19/2021 3:22:00 PM	7/19/2021 3:09:00 PM	7/26/2021 2:58:00 PM	7/26/2021 2:53:00 PM	8/3/2021 2:41:00 PM	8/3/2021 2:43:00 PM	8/9/2021 3:11:00 PM	8/9/2021 3:09:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	6.69	-	6.57	-	6.94	-	-	6.96
Temperature, Client Supplied	Degree C	0	17.6	-	17	-	13.7	-	-	13.6
Total Suspended Solids	mg/L	3	4.8	-	3.5	-	8.5	-	-	4.7
Alkalinity, Total (as CaCO3)	mg/L	2	16.1	-	24.6	-	18.3	-	-	16.8
Ammonia, Total (as N)	mg/L	0.005	0.0434	-	0.0435	-	0.0377	-	-	0.0314
Ammonia, Un-ionized (as N)	mg/L	0.01	<0.010	-	<0.010	-	<0.010	-	-	<0.010
Total Kjeldahl Nitrogen	mg/L	0.05	0.709	-	0.589	-	0.671	-	-	1.23
Phosphorus, Total	mg/L	0.003	0.461	-	0.424	-	0.541	-	-	0.536
Escherichia Coli	MPN/100mL	10	-	80	-	<10	-	10	<10	-
BOD Carbonaceous	mg/L	2	<2.0	-	<2.0	-	<2.0	-	-	<2.0

ALS		Sample ID	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)
		ALS ID	L2627966-1	L2627966-2	L2631072-1	L2631072-2	L2633562-1	L2633562-2	L2637110-1	L2637110-2
Multiple Work Orders		Date Sampled	8/16/2021 3:33:00 PM	8/16/2021 3:42:00 PM	8/23/2021 3:14:00 PM	8/23/2021 3:07:00 PM	8/30/2021 3:15:00 PM	8/30/2021 3:15:00 PM	9/7/2021 3:00:00 PM	9/7/2021 3:08:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	6.59	-	6.95	-	6.73	-	7.04	-
Temperature, Client Supplied	Degree C	0	13.6	-	12.4	-	12.9	-	15.7	-
Total Suspended Solids	mg/L	3	4.1	-	10.7	-	4.3	-	5.3	-
Alkalinity, Total (as CaCO3)	mg/L	2	14.6	-	23.3	-	25.1	-	49.7	-
Ammonia, Total (as N)	mg/L	0.005	0.0406	-	0.0354	-	0.0351	-	2.32	-
Ammonia, Un-ionized (as N)	mg/L	0.01	<0.010	-	<0.010	-	<0.010	-	<0.010	-
Total Kjeldahl Nitrogen	mg/L	0.05	1.47	-	0.931	-	1	-	3.43	-
Phosphorus, Total	mg/L	0.003	0.708	-	0.718	-	0.493	-	0.615	-
Escherichia Coli	MPN/100mL	10	-	10	-	<10	-	<10	-	20
BOD Carbonaceous	mg/L	2	<2.0	-	2.4	-	<2.0	-	<2.0	-

ALS		Sample ID	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)
		ALS ID	L2638853-2	L2638853-3	L2642064-1	L2642064-2	L2644485-1	L2644485-2	L2647296-1	L2647296-2
Multiple Work Orders		Date Sampled	9/13/2021 3:09:00 PM	9/13/2021 2:27:00 PM	9/20/2021 3:00:00 PM	9/20/2021 3:09:00 PM	9/27/2021 2:50:00 PM	9/27/2021 2:41:00 PM	10/4/2021 3:49:00 PM	10/4/2021 3:54:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	-	7.49	7.06	-	6.9	-	6.93	-
Temperature, Client Supplied	Degree C	0	-	13.4	16.4	-	14.8	-	16.4	-
Total Suspended Solids	mg/L	3	-	7.1	8.1	-	5.5	-	4.3	-
Alkalinity, Total (as CaCO3)	mg/L	2	-	50.4	52.5	-	40.6	-	51.3	-
Ammonia, Total (as N)	mg/L	0.005	-	0.032	0.048	-	0.0286	-	0.0351	-
Ammonia, Un-ionized (as N)	mg/L	0.01	-	<0.010	<0.010	-	<0.010	-	<0.010	-
Total Kjeldahl Nitrogen	mg/L	0.05	-	1.12	1.17	-	0.863	-	0.962	-
Phosphorus, Total	mg/L	0.003	-	0.713	0.685	-	0.576	-	0.574	-
Escherichia Coli	MPN/100mL	10	<10	-	-	10	-	<10	-	10
BOD Carbonaceous	mg/L	2	-	3.3	<2.0	-	<2.0	-	<2.0	-

ALS		Sample ID	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)
		ALS ID	L2651039-2	L2651039-3	L2653084-1	L2653084-2	L2655418-1	L2655418-2	L2658087-1	L2658087-2
Multiple Work Orders		Date Sampled	10/13/2021 8:41:00 AM	10/13/2021 8:41:00 AM	10/18/2021 1:30:00 PM	10/18/2021 1:27:00 PM	10/25/2021 3:10:00 PM	10/25/2021 3:10:00 PM	11/1/2021 3:03:00 PM	11/1/2021 3:01:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	-	7.02	6.81	-	6.94	-	6.97	-
Temperature, Client Supplied	Degree C	0	-	14.1	14.2	-	11.9	-	11.5	-
Total Suspended Solids	mg/L	3	-	3.8	3.3	-	5.8	-	<3.0	-
Alkalinity, Total (as CaCO3)	mg/L	2	-	48.4	36.6	-	32.2	-	25.2	-
Ammonia, Total (as N)	mg/L	0.005	-	0.0341	0.0344	-	0.0342	-	0.0304	-
Ammonia, Un-ionized (as N)	mg/L	0.01	-	<0.010	<0.010	-	<0.010	-	<0.010	-
Total Kjeldahl Nitrogen	mg/L	0.05	-	1	0.752	-	0.797	-	1.07	-
Phosphorus, Total	mg/L	0.003	-	0.582	0.903	-	0.512	-	0.386	-
Escherichia Coli	MPN/100mL	10	10	-	-	<10	-	<10	-	<10
BOD Carbonaceous	mg/L	2	-	<2.0	<2.0	-	<2.0	-	<2.0	-

ALS		Sample ID	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)
		ALS ID	L2660693-2	L2660693-3	L2663027-1	L2663027-2	L2665090-1	L2665090-2	L2667723-1	L2667723-2
Multiple Work Orders		Date Sampled	11/8/2021 3:10:00 PM	11/8/2021 3:04:00 PM	11/15/2021 3:21:00 PM	11/15/2021 3:10:00 PM	11/22/2021 3:20:00 PM	11/22/2021 3:45:00 PM	11/29/2021 2:45:00 PM	11/29/2021 2:43:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	-	6.84	6.61	-	6.52	-	6.57	-
Temperature, Client Supplied	Degree C	0	-	11.3	11.3	-	8.4	-	9	-
Total Suspended Solids	mg/L	3	-	4.3	8.3	-	6.9	-	3	-
Alkalinity, Total (as CaCO3)	mg/L	2	-	25	22.8	-	15.6	-	14.7	-
Ammonia, Total (as N)	mg/L	0.005	-	0.0421	0.0518	-	0.0381	-	0.0408	-
Ammonia, Un-ionized (as N)	mg/L	0.01	-	<0.010	<0.010	-	<0.010	-	<0.010	-
Total Kjeldahl Nitrogen	mg/L	0.05	-	1.08	1.09	-	0.426	-	1.02	-
Phosphorus, Total	mg/L	0.003	-	0.393	0.416	-	0.503	-	0.264	-
Escherichia Coli	MPN/100mL	10	<10	-	-	<10	-	10	-	<10
BOD Carbonaceous	mg/L	2	-	<2.0	<2.0	-	<2.0	-	<2.0	-

ALS		Sample ID	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT (WEEKLY)	FINAL EFFLUENT WEEKLY	FINAL EFFLUENT WEEKLY
		ALS ID	L2670374-1	L2670374-2	L2672200-2	L2672200-3	L2674347-1	L2674347-2	L2675868-1	L2675868-2
Multiple Work Orders		Date Sampled	12/6/2021 3:00:00 PM	12/6/2021 3:05:00 PM	12/13/2021 3:30:00 PM	12/13/2021 3:16:00 PM	12/20/2021 2:49:00 PM	12/20/2021 2:02:00 PM	12/29/2021 9:06:00 AM	12/29/2021 9:05:00 AM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water	Water	Water
pH, Client Supplied	pH	0.1	6.68	-	-	6.2	6.93	-	6.81	-
Temperature, Client Supplied	Degree C	0	8.5	-	-	8.4	5.9	-	6.8	-
Total Suspended Solids	mg/L	3	6.4	-	-	4	5.4	-	3.9	-
Alkalinity, Total (as CaCO3)	mg/L	2	16	-	-	24	29	-	157	-
Ammonia, Total (as N)	mg/L	0.005	0.0575	-	-	0.0882	0.21	-	0.319	-
Ammonia, Un-ionized (as N)	mg/L	0.01	<0.010	-	-	<0.010	<0.010	-	<0.010	-
Total Kjeldahl Nitrogen	mg/L	0.05	0.875	-	-	1.27	1	-	1.37	-
Phosphorus, Total	mg/L	0.003	0.403	-	-	0.208	0.167	-	1.82	-
Escherichia Coli	MPN/100mL	10	-	<10	<10	-	-	30	-	<10
BOD Carbonaceous	mg/L	2	<2.0	-	-	<2.0	<2.0	-	4.6	-

Appendix B

Influent Monitoring Results

ALS		Sample ID	RAW SEWAGE (MONTHLY)	RAW SEWAGE (MONTHLY)	RAW SEWAGE (MONTHLY)	RAW SEWAGE (MONTHLY)	RAW SEWAGE (MONTHLY)	RAW SEWAGE (MONTHLY)
		ALS ID	L2549399-1	L2558025-1	L2564805-1	L2575848-1	L2586085-1	L2604246-1
Multiple Work Orders		Date Sampled	1/18/2021 2:38:00 PM	2/16/2021 2:23:00 PM	3/8/2021 2:43:00 PM	4/12/2021 3:15:00 PM	5/10/2021 2:46:00 PM	6/21/2021 3:06:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water
Total Suspended Solids	mg/L	3	292	47.9	61.3	104	80.9	72.1
Total Kjeldahl Nitrogen	mg/L	0.05	31.6	20.2	18	21.1	22.3	16.6
Phosphorus, Total	mg/L	0.003	4.38	1.93	2.04	2.33	2.43	2.12
Biochemical Oxygen Demand	mg/L	10	151	50	61	110	81	72
ALS		Sample ID	RAW SEWAGE MONTHLY	RAW SEWAGE (MONTHLY)	RAW SEWAGE (MONTHLY)	RAW SEWAGE (MONTHLY)	RAW SEWAGE MONTHLY	RAW SEWAGE (MONTHLY)
		ALS ID	L2613422-1	L2624532-1	L2638853-1	L2651039-1	L2660693-1	L2672200-1
Multiple Work Orders		Date Sampled	7/12/2021 3:30:00 PM	8/9/2021 3:23:00 PM	9/13/2021 2:57:00 PM	10/13/2021 9:16:00 AM	11/8/2021 3:40:00 PM	12/13/2021 3:05:00 PM
Analyte	**Units**	**LOR**	Water	Water	Water	Water	Water	Water
Total Suspended Solids	mg/L	3	27	56.8	66.3	61.4	24.1	53.8
Total Kjeldahl Nitrogen	mg/L	0.05	18.7	30.6	25.6	22.3	21.1	27.5
Phosphorus, Total	mg/L	0.003	2.12	2.93	3.86	2.24	2.07	2.79
Biochemical Oxygen Demand	mg/L	10	62	89	103	83	46	76

Appendix C

Certificate of Analysis – Annual Sludge Monitoring

Northern Waterworks - Ignace DWS
ATTN: IGNACE DWS - Northern Waterworks Inc.
Attn: Barry Mantle / Jason LeBlanc
Highway 17 East P.O Box 556
IGNACE ON P0T 1T0

Date Received: 27-JUL-21
Report Date: 09-AUG-21 07:09 (MT)
Version: FINAL

Client Phone: 807-934-2711

Certificate of Analysis

Lab Work Order #: L2618882

Project P.O. #:	ORG# 5828
Job Reference:	IGNACE WPCP
C of C Numbers:	
Legal Site Desc:	Annual Sludge

Jillian Johns
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2618882-1
	Description	Sludge
	Sampled Date	26-JUL-21
	Sampled Time	14:45
	Client ID	SLUDGE
Grouping	**Analyte**	
WATER		
Physical Tests	Total Solids (mg/L)	5840
Total Metals	Aluminum (Al)-Total (mg/L)	148
	Antimony (Sb)-Total (mg/L)	<0.020
	Arsenic (As)-Total (mg/L)	0.024
	Barium (Ba)-Total (mg/L)	1.68
	Beryllium (Be)-Total (mg/L)	<0.020
	Bismuth (Bi)-Total (mg/L)	0.095
	Boron (B)-Total (mg/L)	<2.0
	Cadmium (Cd)-Total (mg/L)	0.0030
	Calcium (Ca)-Total (mg/L)	<100
	Chromium (Cr)-Total (mg/L)	<0.10
	Cobalt (Co)-Total (mg/L)	<0.10
	Copper (Cu)-Total (mg/L)	1.98
	Iron (Fe)-Total (mg/L)	124
	Lead (Pb)-Total (mg/L)	0.092
	Lithium (Li)-Total (mg/L)	<0.20
	Magnesium (Mg)-Total (mg/L)	10
	Manganese (Mn)-Total (mg/L)	1.23
	Mercury (Hg)-Total (mg/L)	<0.0010
	Molybdenum (Mo)-Total (mg/L)	0.015
	Nickel (Ni)-Total (mg/L)	<0.10
	Phosphorus (P)-Total (mg/L)	116
	Potassium (K)-Total (mg/L)	19
	Selenium (Se)-Total (mg/L)	0.014
	Silver (Ag)-Total (mg/L)	<0.010
	Sodium (Na)-Total (mg/L)	46
	Strontium (Sr)-Total (mg/L)	0.351
	Sulfur (S)-Total (mg/L)	<100
	Thallium (Tl)-Total (mg/L)	<0.0020
	Tin (Sn)-Total (mg/L)	0.081
	Titanium (Ti)-Total (mg/L)	0.518
	Tungsten (W)-Total (mg/L)	<0.18
	Uranium (U)-Total (mg/L)	0.0249
	Vanadium (V)-Total (mg/L)	<0.10
	Zinc (Zn)-Total (mg/L)	11.1
	Zirconium (Zr)-Total (mg/L)	<0.060

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Mercury (Hg)-Total	DUP-H	L2618882-1

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-T-SLUDGE-CVAA-WT	Water	Total Mercury in Sludge by CVAAS	SW846 7470A

Liquid sample is digested with a heated, strong, mixed acid solution to convert all forms of mercury to divalent mercury. The divalent mercury is then reduced to elemental mercury, sparged from solution and analyzed by CVAAS.

MET-T-SLUDGE-CCMS-WT	Water	Metals in Sludge by CRC ICPMS	EPA 200.2/6020A (mod)

Sludge samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.

Method Limitation. This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction, depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

TS-TB	Water	Total Solids	APHA 2540 B (modified)

Aqueous matrices are analyzed by evaporation

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Appendix D

Certificates of Analysis – Acute Lethality Testing

Northern Waterworks - Ignace DWS
ATTN: IGNACE DWS - Northern Waterworks Inc.
Attn: Barry Mantle / Jason LeBlanc
Highway 17 East P.O Box 556
IGNACE ON P0T 1T0

Date Received: 26-MAY-21
Report Date: 08-JUN-21 15:28 (MT)
Version: FINAL

Client Phone: 807-934-2711

Certificate of Analysis

Lab Work Order #: L2592217

Project P.O. #: ORG# 5828
Job Reference: IGNACE WPCP
C of C Numbers:
Legal Site Desc:

Jillian Johns
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2592217-1				
	Description	Grab				
	Sampled Date	25-MAY-21				
	Sampled Time	15:04				
	Client ID	FINAL EFFLUENT				
Grouping	Analyte					
EFFLUENT						
Bioassays	Daphnia Magna - Pass/Fail	Attachment				
	Trout Bioassay - Pass/Fail	Attachment				

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210199 Test code: 04

Sample description

Company: Northern Waterworks Inc. (41)
14 Young Street
P.O. Box 1160
Red Lake ON P0V 2M0

Control point: Final Effluent Ignace (300)

Laboratory: Aquatic Toxicology Research Centre

Sampling method: Grab **Sampled by:** T. Leblanc

Date/time: Collected: 2021/05/25 15:04 **Received:** 2021/05/26 13:15 **Tested:** 2021/05/26 14:20

Frozen or partially frozen in shipment: No **Shipment method:** Ground

Temp. on arrival (C): 18.0 **Storage:** No Storage

Test conducted by: N. Elmehriki

Test parameters

Test animal: *Daphnia magna*

Type of bioassay: Non-renewable static, single concentration
Reference Method : EPS 1/RM/14, 2nd Ed., Dec. 2000. ATRC SOP AT101.

Differences from reference test method: No

pH adjustment: No

Pre-aeration: No **Rate:** **Duration (min):**

Test volume: 450 mL

Number of test animals: **Per concentration:** 30 **Per test vessel:** 10

Loading density: 150 mL vessel (15 mL/neonate), 3 vessels

Diluant: Reconstituted Water

Time parameters measured: All concentrations at 0 hrs.; all concentrations at 48 hrs.

Test results

48-hour LC50	95% confidence limits[1]	
	Lower	Upper
Non-lethal	0.00	0.00

Slope of mortality curve: 0.00 **LC50 calculated by:**

[1] The measurement uncertainty is 5.0%

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Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210199 Test code: 04

Mortality data

Test Conc.	ELAPSED TIME		Total Mortality
%	00:00	48:00	%
Control	0	0	0
100	0	2	7

		Vessels				
Mortality per vessel:	**Control:**	0	0	0	**Mean:**	0.0
	100% effluent:	1	0	1	**Mean:**	0.7

Quality Assurance / Quality Control

Reference toxicant: NaCl (g/L)

Most recent:	2021/05/11	**LC50:**	6.513	**95% conf. limits:**	5.640 - 7.520
Historic:	**n =** 62	**Geometric mean LC50:**	5.076	**Warning limits +/- (+/- 2 SD)**	1.336

Replications: Once Every Two Week

Test animal population estimates: **Time to first brood (days):** 9 **Mean neonates/brood (n):** 28

Test animal batch: 2021050603 **7-day Pre-test mortality (%):** 3.33

Comments

Passing Test.

There was 7% mortality and 7% immobility in the sample. No mortality or immobility was observed in the control.

L2592217

The results contained within the report only apply to the specific sample tested and the test method used in generating the results for the Daphnia magna test conforms to EPS 1/RM/11, 1996 and 1/RM/14, 2016

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Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210199 Test code: 04

Physico-chemical parameters

100% effluent prior to dilution: **Temp. (°C):** 19.1 **pH:** 6.4 **Diss. O2 (mg/L):** 7.8 **Cond. (µS/cm):** 325

Test Conc. %		ELAPSED TIME 00:00	48:00
Control	pH	7.8	7.9
	02 ppm	8.0	7.9
	temp.	21.1	19.1
	cond.	479	
	hardness	136	
100	pH	6.4	6.8
	02 ppm	7.8	7.5
	temp.	19.1	18.5
	cond.	325	
	hardness	35	

Date: 06/07/2021

Report prepared and verified by:

Tyson Bouchard, Toxicologist/Manager

The test results and information reported herein pertain only to this sample.

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210199 Test code: 03

Sample description

Company: Northern Waterworks Inc. (41)
14 Young Street
P.O. Box 1160
Red Lake ON P0V 2M0

Control point: Final Effluent Ignace (300)

Laboratory: Aquatic Toxicology Research Centre

Sampling method: Grab **Sampled by:** T. Leblanc

Date/time: Collected: 2021/05/25 15:04 **Received:** 2021/05/26 13:15 **Tested:** 2021/05/27 11:15

Frozen or partially frozen in shipment: No **Shipment method:** Ground

Temp. on arrival (C): 18.0 **Storage:** No Storage

Test conducted by: S. Bernardi

Test parameters

Test animal: *Oncorhynchus mykiss*

Type of bioassay: Non-renewable static, single concentration

Reference Method: EPS 1/RM/13, 2nd Ed., Dec. 2000. ATRC SOP AT001.

Differences from reference test method: No

pH adjustment: No

Pre-aeration: Yes **Rate:** 6.5 ± 1.0 mL/min./L **Duration (min):** 30

Test aeration rate: 6.5 ± 1.0 mL/min./L

Test volume: 25 L **Test animals/vessel:** 10

Loading density: ≤ 0.5 g/L (max. mean weight 1.25 g)

Diluant: Lake Superior Water

Time parameters measured: All concentrations at 0 hrs.; each concentration when mortality equals or exceeds 50%; remaining at 96 hrs.

Test results

	95% confidence limits[1]	
	Lower	Upper
96-hour LC50 <100		

Slope of mortality curve: **LC50 calculated by:**

[1] The measurement uncertainty is 2.4%

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Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210199 Test code: 03

Mortality data

Test Conc.	ELAPSED TIME								Total Mortality
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0	0	0
100	0	0	0	0	1	10	10	10	100

Quality Assurance / Quality Control

Reference toxicant: ZnSO4 (g/L)

Most recent:	2021/05/13	**LC50:**	0.492	**95% conf. limits:**	0.413 - 0.587
Historic:	**n =** 43	**Geometric mean LC50:**	0.602	**Warning limits +/- (+/- 2 SD):**	0.427
Replications:	Once per month				
Test animal batch:	2021041602	**7-day Pre-test mortality (%):**	0.00		

Control:

Mean weight (g):	0.866	**Std. dev.:**	0.255	**Minimum:**	0.444	**Maximum:**	1.336
Mean length (mm):	43.34	**Std. dev.:**	4.48	**Minimum:**	35.05	**Maximum:**	50.69

Comments

Failing Test.

There was 100% mortality in the test solution after 48hrs. No mortality or stressed organisms observed in the control

Loading Rate: 0.35g/L

L2592217

The results contained within the report only apply to the specific sample tested and the test method used in generating the results for Rainbow Trout test conforms to EPS 1/RM/9, 1996, and 1/RM/13, 2016.

... 3

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210199 Test code: 03

Physico-chemical parameters

100% effluent prior to dilution: **Temp. (°C):** 15.3 **pH:** 6.4 **Diss. O2 (mg/L):** 9.0 **Cond. (µS/cm):** 309

Test Conc.		ELAPSED TIME							
%		00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.1							7.6
	02 ppm	9.8							8.8
	temp.	15.1							14.8
	cond.	136							
	hardness								
100	pH	6.7					7.2		
	02 ppm	10.0					9.5		
	temp.	15.3					15.9		
	cond.	309							
	hardness								

Date: 06/07/2021

Report prepared and verified by:

Tyson Bouchard, Toxicologist/Manager

The test results and information reported herein pertain only to this sample.

Northern Waterworks - Ignace DWS
ATTN: IGNACE DWS - Northern Waterworks Inc.
Attn: Barry Mantle / Jason LeBlanc
Highway 17 East P.O Box 556
IGNACE ON P0T 1T0

Date Received: 14-SEP-21
Report Date: 19-OCT-21 15:42 (MT)
Version: FINAL

Client Phone: 807-934-2711

Certificate of Analysis

Lab Work Order #: L2638925

Project P.O. #: ORG# 5828
Job Reference: IGNACE WPCP
C of C Numbers:
Legal Site Desc:

Jillian Johns
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2638925-1				
	Description	GRAB				
	Sampled Date	13-SEP-21				
	Sampled Time	15:09				
	Client ID	FINAL EFFLUENT				
Grouping	**Analyte**					
EFFLUENT						
Bioassays	Daphnia Magna - Pass/Fail	Attachment				
	Trout Bioassay - Pass/Fail	Attachment				

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210350 Test code: 04

Sample description

Company: Northern Waterworks Inc. (41)
14 Young Street
P.O. Box 1160
Red Lake ON P0V 2M0

Control point: Final Effluent Ignace (300)

Laboratory: Aquatic Toxicology Research Centre

Sampling method: Grab **Sampled by:** B. Mantle

Date/time: Collected: 2021/09/13 15:09 **Received:** 2021/09/14 14:30 **Tested:** 2021/09/15 10:05

Frozen or partially frozen in shipment: No **Shipment method:** Ground

Temp. on arrival (C): 18.6 **Storage:** 24hrs @4 +/-2C

Test conducted by: N. Elmehriki, S. Bernardi

Test parameters

Test animal: *Daphnia magna*

Type of bioassay: Non-renewable static, single concentration
Reference Method : EPS 1/RM/14, 2nd Ed., Dec. 2000. ATRC SOP AT101.

Differences from reference test method: No

pH adjustment: No

Pre-aeration: No **Rate:** **Duration (min):**

Test volume: 450 mL

Number of test animals: **Per concentration:** 30 **Per test vessel:** 10

Loading density: 150 mL vessel (15 mL/neonate), 3 vessels

Diluant: Reconstituted Water

Time parameters measured: All concentrations at 0 hrs.; all concentrations at 48 hrs.

Test results

48-hour LC50	95% confidence limits[1] Lower	Upper
Non-lethal	0.00	0.00

Slope of mortality curve: 0.00 **LC50 calculated by:**

[1] The measurement uncertainty is 5.0%

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Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210350 Test code: 04

Mortality data

Test Conc.	ELAPSED TIME		Total Mortality
%	00:00	48:00	%
Control	0	0	0
100	0	0	0

		Vessels				
Mortality per vessel:	**Control:**	0	0	0	**Mean:**	0.0
	100% effluent:	0	0	0	**Mean:**	0.0

Quality Assurance / Quality Control

Reference toxicant: NaCl (g/L)

Most recent:	2021/09/14	**LC50:**	4.624	**95% conf. limits:**	4.126 - 5.181
Historic:	**n =** 81	**Geometric mean LC50:**	5.124	**Warning limits +/- (+/- 2 SD)**	1.397

Replications: Once Every Two Weeks

Test animal population estimates: **Time to first brood (days):** 9 **Mean neonates/brood (n):** 20

Test animal batch: 2021082402 **7-day Pre-test mortality (%):** 2.33

Comments

Passing Test.

There was no mortality or immobility observed in any of the test solutions or the control.

L2638925

The results contained within the report only apply to the specific sample tested and the test method used in generating the results for the Daphnia magna test conforms to EPS 1/RM/11, 1996 and 1/RM/14, 2016.

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Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210350 Test code: 04

Physico-chemical parameters

100% effluent prior to dilution: **Temp. (ºC):** 19.4 **pH:** 7.1 **Diss. O2 (mg/L):** 8.1 (88%) **Cond. (µS/cm):** 395

Test Conc.		ELAPSED TIME	
%		00:00	48:00
Control	pH	8.2	8.1
	02 ppm	7.5 (83%)	8.4 (91%)
	temp.	20.3	19.5
	cond.	488	
	hardness	139	
100	pH	7.1	7.4
	02 ppm	8.1 (88%)	8.2 (90%)
	temp.	19.4	19.9
	cond.	395	
	hardness	29	

Date: 09/24/2021

Report prepared and verified by:

Tyson Bouchard, Toxicologist/Manager

The test results and information reported herein pertain only to this sample.

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210350 Test code: 03

Sample description

Company: Northern Waterworks Inc. (41)
14 Young Street
P.O. Box 1160
Red Lake ON P0V 2M0

Control point: Final Effluent Ignace (300)

Laboratory: Aquatic Toxicology Research Centre

Sampling method: Grab **Sampled by:** B. Mantle

Date/time: Collected: 2021/09/13 15:09 **Received:** 2021/09/14 14:30 **Tested:** 2021/09/16 11:55

Frozen or partially frozen in shipment: No **Shipment method:** Ground

Temp. on arrival (C): 18.6 **Storage:** 24hrs @4 +/-2C

Test conducted by: S. Bernardi, N. Elmehriki

Test parameters

Test animal: *Oncorhynchus mykiss*

Type of bioassay: Non-renewable static, single concentration

Reference Method: EPS 1/RM/13, 2nd Ed., Dec. 2000. ATRC SOP AT001.

Differences from reference test method: No

pH adjustment: No

Pre-aeration: Yes **Rate:** 6.5 ± 1.0 mL/min./L **Duration (min):** 30

Test aeration rate: 6.5 ± 1.0 mL/min./L

Test volume: 25 L **Test animals/vessel:** 10

Loading density: ≤ 0.5 g/L (max. mean weight 1.25 g)

Diluant: Lake Superior Water

Time parameters measured: All concentrations at 0 hrs.; each concentration when mortality equals or exceeds 50%; remaining at 96 hrs.

Test results

96-hour LC50	95% confidence limits[1]	
	Lower	Upper
Non-lethal	0.00	0.00

Slope of mortality curve: 0.00 **LC50 calculated by:**

[1] The measurement uncertainty is 2.4%

... 2

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210350 Test code: 03

Mortality data

Test Conc.	ELAPSED TIME								Total Mortality
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0

Quality Assurance / Quality Control

Reference toxicant: ZnSO4 (g/L)

Most recent:	2021/09/16	**LC50:**	0.919	**95% conf. limits:**	0.752 - 1.123
Historic:	**n =** 47	**Geometric mean LC50:**	0.602	**Warning limits +/- (+/- 2 SD)**	0.421
Replications:	Once per month				
Test animal batch:	2021082502	**7-day Pre-test mortality (%):**	0.02		

Control:

Mean weight (g):	0.508	**Std. dev.:**	0.087	**Minimum:**	0.359	**Maximum:**	0.613
Mean length (mm):	40.37	**Std. dev.:**	1.69	**Minimum:**	37.54	**Maximum:**	42.68

Comments

Passing Test.

No mortality or stressed organisms observed during the test.

Loading Rate: 0.20g/L

L2638925

The results contained within the report only apply to the specific sample tested and the test method used in generating the results for Rainbow Trout test conforms to EPS 1/RM/9, 1996, and 1/RM/13, 2016.

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Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210350 Test code: 03

Physico-chemical parameters

100% effluent prior to dilution: **Temp. (ºC):** 14.8 **pH:** 7.1 **Diss. O2 (mg/L):** 9.8 (97%) **Cond. (µS/cm):** 368

Test Conc.		ELAPSED TIME							
%		00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.2							7.2
	02 ppm	9.4 (92%)							10.0 (99%)
	temp.	14.4							14.9
	cond.	124							
	hardness								
100	pH	7.2							7.4
	02 ppm	9.7 (95%)							9.6 (95%)
	temp.	14.6							15.0
	cond.	368							
	hardness								

Date: 09/24/2021

Report prepared and verified by:

Tyson Bouchard, Toxicologist/Manager

The test results and information reported herein pertain only to this sample.

Northern Waterworks - Ignace DWS
ATTN: IGNACE DWS - Northern Waterworks Inc.
Attn: Barry Mantle / Jason LeBlanc
Highway 17 East P.O Box 556
IGNACE ON P0T 1T0

Date Received: 09-NOV-21
Report Date: 09-DEC-21 07:56 (MT)
Version: FINAL

Client Phone: 807-934-2711

Certificate of Analysis

Lab Work Order #: L2660981

Project P.O. #: ORG# 5828
Job Reference: IGNACE WPCP
C of C Numbers:
Legal Site Desc:

Jillian Johns
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2660981-1				
	Description	Grab				
	Sampled Date	08-NOV-21				
	Sampled Time	15:40				
	Client ID	FINAL EFFLUENT				
Grouping	Analyte					
EFFLUENT						
Bioassays	Daphnia Magna - Pass/Fail	Attachment				
	Trout Bioassay - Pass/Fail	Attachment				

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210446 Test code: 04

Sample description

Company: Northern Waterworks Inc. (41)
14 Young Street
P.O. Box 1160
Red Lake ON P0V 2M0

Control point: Final Effluent Ignace (300)

Laboratory: Aquatic Toxicology Research Centre

Sampling method: Grab **Sampled by:** R. Cowan

Date/time: Collected: 2021/11/08 15:40 **Received:** 2021/11/10 09:15 **Tested:** 2021/11/10 11:55

Frozen or partially frozen in shipment: No **Shipment method:** Ground

Temp. on arrival (C): 7.5 **Storage:** No Storage

Test conducted by: S. Bernardi

Test parameters

Test animal: *Daphnia magna*

Type of bioassay: Non-renewable static, single concentration
Reference Method : EPS 1/RM/14, 2nd Ed., Dec. 2000. ATRC SOP AT101.

Differences from reference test method: No

pH adjustment: No

Pre-aeration: Yes **Rate:** 25 - 50 mL/min./L **Duration (min):** 10

Test volume: 450 mL

Number of test animals: **Per concentration:** 30 **Per test vessel:** 10

Loading density: 150 mL vessel (15 mL/neonate), 3 vessels

Diluant: Reconstituted Water

Time parameters measured: All concentrations at 0 hrs.; all concentrations at 48 hrs.

Test results

48-hour LC50	95% confidence limits[1] Lower	Upper
Non-lethal	0.00	0.00

Slope of mortality curve: 0.00 **LC50 calculated by:**

[1] The measurement uncertainty is 5.0%

... 2

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210446 Test code: 04

Mortality data

Test Conc.	ELAPSED TIME		Total Mortality
%	00:00	48:00	%
Control	0	0	0
100	0	0	0

		Vessels				
Mortality per vessel:	**Control:**	0	0	0	**Mean:**	0.0
	100% effluent:	0	0	0	**Mean:**	0.0

Quality Assurance / Quality Control

Reference toxicant: NaCl (g/L)

Most recent:	2021/11/24	**LC50:**	4.622	**95% conf. limits:**	4.189 - 5.101
Historic:	**n =** 98	**Geometric mean LC50:**	5.103	**Warning limits +/- (+/- 2 SD)**	1.334

Replications: Once Every Two Weeks

Test animal population estimates: **Time to first brood (days):** 8 **Mean neonates/brood (n):** 15

Test animal batch: 2021102702 **7-day Pre-test mortality (%):** 3.33

Comments

Passing Test.

No mortality or immobility observed during the test.

L2660981

The results contained within the report only apply to the specific sample tested and the test method used in generating the results for the Daphnia magna test conforms to EPS 1/RM/11, 1996 and 1/RM/14, 2016.

... 3

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210446 Test code: 04

Physico-chemical parameters

100% effluent prior to dilution: **Temp. (ºC):** 19.6 **pH:** 7.4 **Diss. O2 (mg/L):** 10.5 (115%) **Cond. (µS/cm):** 336

Test Conc. %		ELAPSED TIME 00:00	48:00
Control	pH	7.5	8.0
	02 ppm	8.9 (97%)	8.4 (91%)
	temp.	19.7	19.2
	cond.	449	
	hardness	136	
100	pH	7.4	7.4
	02 ppm	8.7 (95%)	8.4 (91%)
	temp.	19.6	19.1
	cond.	336	
	hardness	39	

Date: 12/02/2021

Report prepared and verified by:

Tyson Bouchard, Toxicologist/Manager

The test results and information reported herein pertain only to this sample.

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210446 Test code: 03

Sample description

Company: Northern Waterworks Inc. (41)
14 Young Street
P.O. Box 1160
Red Lake ON P0V 2M0

Control point: Final Effluent Ignace (300)

Laboratory: Aquatic Toxicology Research Centre

Sampling method: Grab **Sampled by:** R. Cowan

Date/time: Collected: 2021/11/08 15:40 **Received:** 2021/11/10 09:15 **Tested:** 2021/11/11 13:00

Frozen or partially frozen in shipment: No **Shipment method:** Ground

Temp. on arrival (C): 7.5 **Storage:** No Storage

Test conducted by: S. Bernardi, T. Bouchard, N. Elmehriki

Test parameters

Test animal: *Oncorhynchus mykiss*

Type of bioassay: Non-renewable static, single concentration

Reference Method: EPS 1/RM/13, 2nd Ed., Dec. 2000. ATRC SOP AT001.

Differences from reference test method: No

pH adjustment: No

Pre-aeration: Yes **Rate:** 6.5 ± 1.0 mL/min./L **Duration (min):** 30

Test aeration rate: 6.5 ± 1.0 mL/min./L

Test volume: 25 L **Test animals/vessel:** 10

Loading density: ≤ 0.5 g/L (max. mean weight 1.25 g)

Diluant: Lake Superior Water

Time parameters measured: All concentrations at 0 hrs.; each concentration when mortality equals or exceeds 50%; remaining at 96 hrs.

Test results

96-hour LC50	95% confidence limits[1]	
	Lower	Upper
> 100		

Slope of mortality curve: **LC50 calculated by:**

[1] The measurement uncertainty is 2.4%

... 2

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210446 Test code: 03

Mortality data

Test Conc.	ELAPSED TIME								Total Mortality
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	1	1	10

Quality Assurance / Quality Control

Reference toxicant: ZnSO4 (g/L)

Most recent:	2021/11/19	**LC50:**	0.734	**95% conf. limits:**	0.582 - 0.927
Historic:	**n =** 99	**Geometric mean LC50:**	0.606	**Warning limits +/- (+/- 2 SD):**	0.414
Replications:	Once per month				
Test animal batch:	2021102702	**7-day Pre-test mortality (%):**	1.86		

Control:

Mean weight (g):	0.401	**Std. dev.:**	0.120	**Minimum:**	0.160	**Maximum:**	0.611
Mean length (mm):	37.89	**Std. dev.:**	3.64	**Minimum:**	29.52	**Maximum:**	41.90

Comments

Passing Test.

There was 10% mortality in the test solution. No mortality or stressed organisms observed in the control.

Loading Rate: 0.16g/L

L2660981

The results contained within the report only apply to the specific sample tested and the test method used in generating the results for Rainbow Trout test conforms to EPS 1/RM/9, 1996, and 1/RM/13, 2016.

... 3

Aquatic Toxicology Research Centre
Lakehead University
Thunder Bay, ONT

Toxicity test report for sample: 0420210446 Test code: 03

Physico-chemical parameters

100% effluent prior to dilution: **Temp. (ºC):** 15.0 **pH:** 6.8 **Diss. O2 (mg/L):** 8.6 (85%) **Cond. (µS/cm):** 309

Test Conc.		ELAPSED TIME							
%		00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.0							7.4
	02 ppm	8.0 (80%)							9.3 (93%)
	temp.	15.2							15.6
	cond.	126							
	hardness								
100	pH	6.8							7.3
	02 ppm	8.6 (85%)							9.4 (94%)
	temp.	15.0							15.6
	cond.	309							
	hardness								

Date: 12/02/2021

Report prepared and verified by:

Tyson Bouchard, Toxicologist/Manager

The test results and information reported herein pertain only to this sample.

Appendix E

Flow Meter Calibration Verification Certificates

On-site Calibration Certificate

SYNERGY CONTROLS

Synergy Controls Corporation
1065 Lorne Street
Sudbury,Ontario
PC3-4S6

Certificate n° **SCC20211610-9**
Calibration date **Oct 16 2021**

Customer information

Company name	**Northern Water Works**
Address	**Ignace**
Contact	**Barry Mantle**

Place of calibration

Company name	**Town Of Ignace**
Address	**Raw Water Flow**
Remarks	6 inch

Instrument information (UUT) UUT : Unit Under Test

Instrument (UUT)	**50W1F-PLGA5RC1BAAA**	Measuring range	**0.00**	to **8726.24**	**M*3/D**
Description	**Magnetic Flow Meter**	Output	**0.00**	to **8726.40**	**M83/D**
Manufacturer	**ENDRESS AND HAUSER**	Remarks			
Serial n°	**K507DF16000**	Calibrated range		to	
Tag n°	**Sewage Influent**	Max permissible error (MPE)			**5.0 % FS**

Standards used

This calibration certificate documents the traceability to national standards, which states the units of measurement according to the International System of Units (SI)

Type	Description	Serial n°	ID	Certificat	Due date
Endress And Hauser	**91WA1-RA1A20RCB4AA**	**K5005E16000**		**Factory**	**1/01/22**

Calibration Method

Description	**Compare UUT with a Clamp on Flowmeter**	Typical Uncertainty *	
		Confidence level	**95.00 %**
Document(s)	**Customers SOP's**	** E+H interpretation of GUM*	

Environmental conditions

Ambient temperature	**25.0 °C**	Ambient humidity	**55 %**

Calibration value(s) ☑ **as found** ☑ **as left** Number of test points **1**

Cal. point(s)	Measurand Reference value	Measured value display UUT	Display absolute error	Reference value output calculated	Measured value output UUT	Full scale relative error output UUT	MPE +/-	% of MPE
1	**3580.000**	**3540.00**	**-40.00**	**3580.07**	**3540.00**	**-0.459**	**5.00**	**9.18**
2							**5.00**	
3							**5.00**	
Units*	**l/sec**	**l/sec**	**l/sec**	**M83/D**	**M83/D**	**% FS**	**% FS**	**%**

Conformity

☑ **UUT conforms** ☐ **UUT does not conform**

Remarks

Hard to obtain a stable reading, when we did the results were close, 9.1 inch / 0.55 inch single transverse

This calibration certificate meets the requirements of the ISO/CEI 17025 standard. It should not be published or reproduced other than in full

Service Technician **Synergy Controls / Dave Meredith** Printing date **27/10/2021**

Signature *Dave Meredith*

On-site Calibration Certificate

SYNERGY CONTROLS

Synergy Controls Corporation
1065 Lorne Street
Sudbury,Ontario
PC3-4S6

Certificate n° **SCC20211016-8**
Calibration date **October 16 2021**

Customer information
Company name **NWW**
Address **Ignace**
Contact **Barry Mantle**

Place of calibration
Company name **Town Of Ignace**
Address **WWTP**
Remarks V Notch Wier Open Chanel Flow

Instrument information (UUT) UUT : Unit Under Test
Instrument (UUT) **Siemens Miltronics**
Description **LUT 430 7ML50500BA11DA0**
Manufacturer **Siemens Miltronics**
Serial n° **PBD/F52**
Tag n° **Final Effluent NEW CLARIFIER**

Measuring range **0.00** to **2194.00** **MC/day**
Output **0.00** to **2194.00** **MC/day**
Remarks
Calibrated range to
Max permissible error (MPE) **5.0** **% FS**

Standards used

Type	Description	Serial n°	ID	Certificat	Due date
Stanley	Tape Measure	N/A			N/A
	Level				
	Metal Ruler				

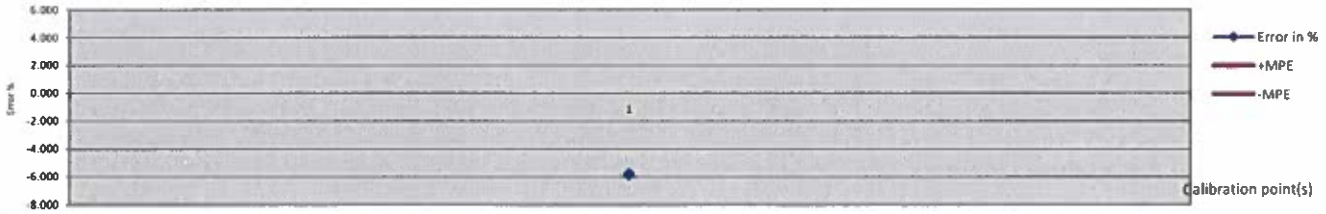
Calibration Method
Description **Compare UUT with a measured distance.**
Document(s) **Customers SOP's**

Typical Uncertainty *
Confidence level **95.00** **%**
** E+H interpretation of GUM*

Environmental conditions
Ambient temperature **25.0** **°C**
Ambient humidity **55** **%**

Calibration value(s) ☑ **as found** ☑ **as left**
Number of test points **1**

Cal. point(s)	Measurand Reference value	Measured value display UUT	Display absolute error	Reference value output calculated	Measured value output UUT	Full scale relative error output UUT	MPE +/-	% of MPE
1	335.000	207.00	-128.00	335.00	207.00	-5.834	5.00	116.68
Units*	Measurand	Reference value	Measurand	MC/day	MC/day	% FS	% FS	%



Conformity
☑ **UUT conforms** ☐ **UUT does not conform**

Remarks
Height is measured from the sensor head to the surface of the water. Consistent readings of measured distance out 2-3 cm, Will be out on high flow. Calculated resultant flows using the formulae Q=KH^2.5, H is the headabove zero flowpoint. , corresponding max flow WAS New LP (Zero) 53.5, set MAX HEAD TO 20.2225, & HP 33.275, MAX FLOW @20.225CM, 2194mc/d, Chlorine pucks in flow path cause artificaial high readings ,

This calibration certificate meets the requirements of the ISO/CEI 17025 standard. It should not be published or reproduced other than in full

Service Technician **Synergy Controls/Dave Meredith**
Signature

Printing date **27/10/2021**

Dave Meredith

On-site Calibration Certificate

SYNERGY CONTROLS

Synergy Controls Corporation
1065 Lorne Street
Sudbury,Ontario
PC3-4S6

Certificate n° **SCC20211016-13**
Calibration date **October 16 2021**

Customer information

Company name	**NWW**
Address	**Ignace**
Contact	**Barry Mantle**

Place of calibration

Company name	**Town Of Ignace**
Address	**WWTP**
Remarks	V Notch Wier Open Chanel Flow

Instrument information (UUT) UUT : Unit Under Test

Instrument (UUT)	**Siemens Miltronics**
Description	**OCMIII**
Manufacturer	**Siemens Miltronics**
Serial n°	**120604102XV**
Tag n°	**Final Effluent OLD CLARIFIER**

Measuring range	**0.00**	to	**3000.00**	**MC/day**
Output	**0.00**	to	**3000.00**	**MC/day**
Remarks				
Calibrated range		to		
Max permissible error (MPE)			**5.0**	**% FS**

Standards used

Type	Description	Serial n°	ID	Certificat	Due date
Stanley	**Tape Measure**	**N/A**			**N/A**
	Level				
	Metal Ruler				

Calibration Method

Description	**Compare UUT with a measured distance.**
Document(s)	**Customers SOP's**

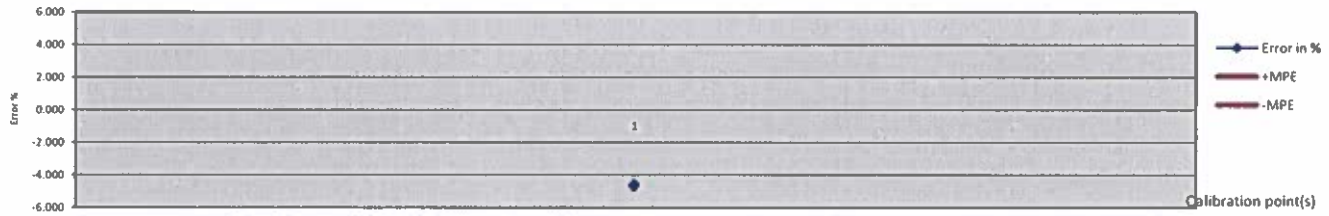
Typical Uncertainty *
Confidence level **95.00** **%**
** E+H interpretation of GUM*

Environmental conditions

Ambient temperature **25.0** **°C**
Ambient humidity **55** **%**

Calibration value(s) ☑ **as found** ☑ **as left**
Number of test points **1**

Cal. point(s)	Measurand Reference value	Measured value display UUT	Display absolute error	Reference value output calculated	Measured value output UUT	Full scale relative error output UUT	MPE +/-	% of MPE
1	451.000	454.00	3.00	1296.00	1156.00	-4.667	5.00	93.33
Units*	Measurand	Reference value	Measurand	MC/day	MC/day	% FS	% FS	%



Conformity

☑ **UUT conforms** ☐ **UUT does not conform**

Remarks

Height is measured from the sensor head to the surface of the water.Calculated resultant flows using the formulae Q=KH^2.5, H is the headabove zero flowpoint. H measured readjusted zero to 100.6445 cm, corresponding max flow to 22.92cm HD @ 3000, 10.51 cm head@ 454m3/day vs 10.7@ 451 m**3/day Artificual high readings from Dechlorinization**

Service Technician **Synergy Controls/Dave Meredith** Printing date **27/10/2021**
Signature

Dave Meredith

Ministry of Municipal Affairs and Housing

Office of the Deputy Minister

777 Bay Street, 17th Floor
Toronto ON M7A 2J3
Tel.: 416 585-7100

Ministère des Affaires Municipales et du Logement

Bureau du sous-ministre

777, rue Bay, 17e étage
Toronto ON M7A 2J3
Tél. : 416 585-7100

Ontario

March 31, 2022

Good Afternoon,

On March 30, 2022, the government released its More Homes for Everyone Plan, that proposes targeted policies and initiatives for the immediate term to address market speculation, protect homebuyers and increase housing supply.

Details about the range of measures in the government's plan can be found in the news release here: Ontario is Making It Easier to Buy a Home | Ontario Newsroom.

The More Homes for Everyone Plan is informed by a three-part consultation with industry, municipalities and the public. This includes the Rural Housing Roundtable and the first ever Ontario-Municipal Housing Summit, letters to all 444 municipalities asking for their feedback, and follow-up meetings with the leaders of municipal organizations. On behalf of the ministry, thank you for being part of our consultations and sharing your valuable input.

The government also introduced Bill 109 - the *More Homes for Everyone Act, 2022*, and is seeking feedback on the changes proposed under the legislation and on other initiatives, through a series of housing related public consultations. This includes seeking input on how to support gentle density for multi-generational and missing middle housing, as well as addressing housing needs in rural and northern communities. These and other related consultations can be found through the Environmental Registry of Ontario and the Ontario Regulatory Registry.

The government committed to prioritizing implementation of the Housing Affordability Task Force's recommendations over the next four years, with a housing supply action plan every year, starting in 2022-23. To facilitate this, the government plans to establish a Housing Supply Working Group, that would engage with municipal and federal governments, partner ministries, industry, and associations to monitor progress and support improvements to its annual housing supply action plans.

Ontario looks forward to continued collaboration with municipalities to address the housing crisis and hear your ideas and advice on the More Homes for Everyone Plan.

Sincerely,

K. Manson-Smith

Kate Manson-Smith

Deputy Minister

c. Joshua Paul, Assistant Deputy Minister – Housing Division
Sean Fraser, Assistant Deputy Minister – Planning and Growth Division
Caspar Hall, Assistant Deputy Minister – Local Government Division

Ministry of Municipal Affairs and Housing

Office of the Minister
777 Bay Street, 17th Floor
Toronto ON M7A 2J3
Tel.: 416 585-7000

Ministère des Affaires municipales et du Logement

Bureau du ministre
777, rue Bay, 17e étage
Toronto ON M7A 2J3
Tél. : 416 585-7000

Ontario

234-2022-1674

April 6, 2022

Dear Head of Council:

For the past two years, you, your council colleagues and municipal staff have been at the forefront of the response to COVID in Ontario. I deeply appreciate your continued collaboration with the province and your inspiring dedication.

With key public health and health system indicators continuing to remain stable or improve, Ontario is cautiously and gradually easing public health and workplace safety measures with all remaining measures, directives and orders to end by April 27, 2022.

Today I am writing to inform you of the status of the emergency orders that were led by my ministry and made in early 2020 under the *Emergency Management and Civil Protection Act*, and later continued under the *Reopening Ontario Act, 2020*, to help municipalities address some of the challenges brought on by the pandemic.

The Work Deployment Measures for Municipalities Order will end on April 27, 2022

Since April 16, 2020, O. Reg. 157/20, Work Deployment Measures for Municipalities (order) provided municipalities with the flexibility to deploy certain staff to where they were needed most in response to COVID-19 pressures.

The order was a temporary measure and, in line with the province's lifting of public health measures, it will end on April 27, 2022.

Any deployments your municipality has made using the authority in the order will need to end by April 27, 2022. If your municipality is relying on the order to deploy staff, it is important to work collaboratively and in good faith with your bargaining agents to develop staffing plans beyond April 27, 2022.

The Patios Order will end on April 27, 2022

O. Reg. 345/20, Patios, eliminated Planning Act requirements for notice and public meetings and removed the ability to appeal when municipalities passed temporary use by-laws for new or expanded restaurant and bar patios. This allowed municipalities to pass or amend these by-laws quickly to address local circumstances and needs as they evolved.

The order was a temporary measure and, in line with the province's lifting of public health measures, will end on April 27, 2022.

As the order will end on April 27, 2022, your municipality may wish to consider making any necessary changes to temporary use by-laws for restaurant and bar patios prior to this date. Changes were made as part of Bill 13, the *Supporting People and Businesses Act, 2021* in December 2021 to help streamline the planning system and provide municipal councils broader authority to allow more planning decisions to be made by committees of council or staff. Municipalities can now delegate decisions dealing with minor amendments to zoning by-laws, such as temporary use by-laws, should they choose to (and subject to having appropriate official plan policies in place).

Temporary Health or Residential Facilities

O. Reg 141/20 came into effect on April 9, 2020. It has exempted temporary shelters and health facilities, established to respond to the effects of the pandemic, from the requirement to obtain a building permit or a change of use permit under the Building Code Act, from complying with the technical requirements of the Building Code and with certain by-laws and approvals under the Planning Act, subject to certain conditions related to protecting public health and safety.

This order will also end on April 27, 2022. I understand that some of these temporary facilities are still in use to respond to the effects of the pandemic. I intend to make amendments to the Building Code that would continue to exempt these facilities from the need for a building permit and compliance with the Building Code on a temporary basis, while ensuring they continue to be regularly inspected. Your municipality may wish to consider if any new temporary use or zoning by-laws or amendments to existing temporary use or zoning by-laws may be needed before the order ends on April 27, 2022.

There may be other emergency orders that are ending and may impact your municipality. For the latest information, please visit the government's page on COVID-19 emergency information.

If your municipality has any questions about any of the changes outlined above, we encourage your staff to contact your local Municipal Services Office.

Thank you again for your continued support in protecting the health and well-being of Ontarians while delivering the services they depend upon.

Sincerely,

Steve Clark

Steve Clark
Minister of Municipal Affairs and Housing

C: Chief Administrative Officers
Municipal Clerks
Kate Manson Smith, Deputy Minister of Municipal Affairs and Housing
Brian Rosborough, Executive Director, Association of Municipalities of Ontario

Northern Ontario
School of Medicine
École de médecine
du Nord de l'Ontario

March 16, 2022

Wendy Landry, President
Northern Ontario Municipal Association
Email: president@noma.on.ca

RE: NOSM Expansion Announcement

Dear Wendy,

I write with deep humility and appreciation for your efforts and advocacy for medical education expansion for NOSM. Your voices were heard loud and clear and yesterday the Ontario government added 30 more undergraduate and 41 additional postgraduate positions to our complement to roll out over the next 5 years. The government press release and the NOSM media release are attached.

I would be so grateful if you could send this message to the Mayors, Councillors and City Councils on my behalf to say: Thank you, Merci, Marsi, Miigwetch.

Collectively you helped us take a valued and important step in transforming the health-care system in Northern Ontario. With these increases we will eliminate the gaps in health human resources and create equitable access to care in northern Ontario. Now, NOSM will be Canada's first independent medical university and with your ongoing support we will continue to be one of the greatest education and physician workforce strategy success stories of Northern Ontario.

Please accept my sincere gratitude for everything you all did and have done for NOSM. I look forward to speaking at NOMA's annual meeting in April and at the FONOM meeting in May.

With warm regards,

Sarita Verma BA, LLB, MD, CCFP, FCFP
Dean, President, and CEO
Northern Ontario School of Medicine

cc: Andrea Strawson, Executive Director

NEWS RELEASE

Ontario Training More Doctors as it Builds a More Resilient Health Care System

Province Launching Largest Expansion of Medical School Education in Over 10 Years

March 15, 2022
Office of the Premier

BRAMPTON — The Ontario government is expanding medical school education as it continues to build a stronger, more resilient health care system, especially in growing and underserved communities. Ontario is adding 160 undergraduate seats and 295 postgraduate positions over the next five years, the largest expansion of undergraduate and postgraduate education in over 10 years.

"As our province grows, our government has a plan to build a stronger, more resilient health care system," said Premier Doug Ford. "We've already shored up domestic production of critical supplies like PPE and have added thousands more hospital beds. Now, building on our work to recruit and retain nurses and personal support workers, we're launching the largest expansion of medical education in ten years."

This expansion will support all six medical schools across Ontario, including the University of Toronto's new Scarborough Academy of Medicine and Integrated Health, the Queen's-Lakeridge Health Campus, the Northern Ontario School of Medicine, Western University, McMaster University and the University of Ottawa. Medical seats will also be allotted to the new Ryerson School of Medicine in Brampton when it becomes operational.

"Ontario's health care professionals are some of the finest practitioners in the world and that is a testament to the education they receive through Ontario's universities and colleges," said Jill Dunlop, Minister of Colleges and Universities. "This expansion will increase access to family and specialty physicians and other health care professionals in every corner of the province to ensure that Ontarians can access the health care they need, when they need it, wherever they may live."

Expanded undergraduate and postgraduate medical school positions will be allocated as follows:

- Ryerson University will receive 80 undergraduate seats and 95 postgraduate positions
- University of Toronto will receive 30 undergraduate seats and 45 postgraduate positions
- Northern Ontario School of Medicine will receive 30 undergraduate seats, and 41 postgraduate positions
- Queen's University will receive 20 undergraduate seats and 30 postgraduate positions
- Western University, McMaster University and University of Ottawa will each receive 28 postgraduate positions.

"Ontario's doctors are key partners of a strong and sustainable health care system," said Christine Elliott, Deputy Premier and Minister of Health. "Supporting more students to become physicians is a key part of our plan to build up our health care workforce and ensure patients can access the care they need no matter where they live."

Quick Facts

- The University of Toronto's new Scarborough Academy of Medicine and Integrated Health will also receive funding for enrolment in life sciences and physical therapy programs.
- To strengthen the health and long-term care workforce, Ontario is investing $342 million, beginning in 2021-22, to add over 5,000 new and upskilled registered nurses and registered practical nurses as well as 8,000 personal support workers. In addition, Ontario is investing $57.6 million, beginning in 2022–23, to hire 225 nurse practitioners in the long-term care sector.

Quotes

"As a growing city with pressing healthcare needs, I'm proud of the fact that the first new medical school in Ontario in over 30 years is being built right here in Brampton. After years of chronic staffing shortages, budget cuts, and neglect from previous governments, our community is finally getting our fair share. Brampton's new medical school will give the eager students of today the opportunity to become the skilled doctors serving our community tomorrow — improving access and quality of care for all Bramptonians."

- Hon. Prabmeet Singh Sarkaria
MPP for Brampton South

"Ryerson University will offer a new approach to medical education in Ontario — one that draws on the university's commitment to community, diversity and inclusion, and innovation to address the changing needs for healthcare delivery and practice. We are encouraged and grateful for this announcement of long-term investment by the government of Ontario and we look forward to shaping the future of healthcare with our partners in Brampton and Peel region."

- Mohamed Lachemi
President & Vice-Chancellor, Ryerson University

Additional Resources

- Ontario Training More Health Care Workers at Indigenous Institutes
- Ontario is investing $35 million to increase enrolment in nursing education programs in publicly-assisted colleges and universities across the province
- Ontario is investing over $115 million to train up to 8,200 new PSWs at publicly assisted colleges
- Ontario is providing $86 million to help train up to 8,000 PSWs through private career colleges and district school boards
- Ontario Enhancing Personal Support Worker Training
- Ontario Establishes New Independent Universities in Northern Ontario

Related Topics

Government
Learn about the government services available to you and how government works. Learn more

Health and Wellness
Get help navigating Ontario's health care system and connecting with the programs or services you're looking for. Learn more

Media Contacts

Ivana Yelich
Premier's Office
Ivana.Yelich@ontario.ca

Bethany Osborne
Minister Dunlop's Office
Bethany.Osborne2@ontario.ca

NOSM University expansion to aid with Northern Ontario physician shortage

Posted on March 15, 2022

Additional spots for MD and residency will contribute to long-term sustainability of physician workforce

On March 15, 2022 the Government of Ontario announced medical school expansion across the province. With this announcement, NOSM University will see an added 30 medical degree and 41 residency spots over the next five years.

"Thank you to Premier Doug Ford, Minister of Health Christine Elliott and Minister of Colleges and Universities Jill Dunlop for making changes that will impact the health of our Northern communities," says Dr. Sarita Verma, Dean, President and CEO of NOSM. "They have supported the creation of Canada's first independent medical university effective April 1 and now, with this expansion, are providing new physician spots for the North. It is an exciting time for NOSM University."

According to NOSM's estimates, more than 300 physicians are needed in the North and that number does not factor retirements that may take place over the next five years.

"As part of our promise to deliver high quality health care to all parts of Ontario, we are ensuring that the doctors of tomorrow have access to the world-class training that Ontario's medical schools provide," says Premier Doug Ford. "This is the largest expansion of medical education in 10 years and is a key element to building a stronger and more resilient province for generations to come."

NOSM's latest strategic plan, ***The NOSM Challenge 2025***, will move forward with addressing the urgent physician workforce shortage, innovate health professions education and strengthen research capacity while embedding social accountability throughout.

"This is another important step in transforming the health-care system in Northern Ontario to eliminate the gaps in health human resources and create equitable access to care," says Dr. Verma. "We cannot underestimate the impact that Northern Ontarians make when they pull together and advocate for change. I want to particularly acknowledge the Ontario Medical Association, the Federation of Northern Ontario Municipalities and the Northwestern Ontario Municipal Association and their members. Municipalities, big, small and all, have had loud voices heard at Queen's Park."

NOSM currently enrolls 64 MD students and 60 first-year residents per year.

- 30 -

NOSM University *is Canada's first independent medical university and one of the greatest education and physician workforce strategy success stories of Northern Ontario. More than just a medical university, it was purpose built to address the health needs of the region. While advocating for equitable access to care, the University contributes to the economic development of Northern Ontario. NOSM University relies on the commitment and expertise of the peoples of Northern Ontario to educate health-care professionals to practise in Indigenous, Francophone, rural, remote and underserved communities. With a focus on diversity, inclusion and advocacy, NOSM University is an award-winning, socially accountable organization renowned for its innovative model of distributed, community-engaged education and research.*

Through evidence-based strategies and health-care service models, NOSM University advocates for sustainable solutions for health human resources in Northern Ontario. By preparing, attracting and retaining health-care professionals, the University will improve access to equitable, high-quality health care in the North with an aim to eliminate the gaps.

For further information about NOSM, please contact:

Kimberley Larkin
Manager, Communications
Northern Ontario School of Medicine
Phone: 705-669-7943
Email: **klarkin@nosm.ca**

March 23, 2022

Township of IGNACE
P.O. Box 248
Ignace (ON)
P0T 1T0

Subject: Canadian Pacific 2022 Vegetation Control Program

Dear Madam:
Dear Sir:

Please be advised that Canadian Pacific Railway (CP) will be carrying out its 2022 annual vegetation control program within your city limits. This program will be confined to CP's right-of-way, part of this program will consist of grass and weed control using herbicides on the ballast (gravelled section) and the second part (if needed) will take care of the brush on selected rail lines. The rail ballast portion of the program will take place within your municipality between May 9th and August 31st, as for the brush control, if needed, will be between May 9th and August 31st. Some manual brush control involving stump treatment may occur from May 9th until December 15.

This program is necessary to eliminate brush and weeds which constitute a hazard to the public and to CP's employees as well. If left uncontrolled, vegetation contributes to trackside fires, impairs visibility of train signals, impairs sight lines at railway crossings, impairs proper inspection of track infrastructure, etc. This is all in accordance with Ontario *Regulation 63/09*, which grants public works the right to use herbicides when it comes to the safety of their infrastructure. All applications will be carried out by qualified operators in conformity with current federal and provincial regulations. This program will also be subject to all habitation and aquatic setbacks listed on the products' label. All herbicides are registered under the PMRA and they are all biodegradable.

We invite you to visit CP's web site at **www.cpr.ca**, where a detailed schedule of our vegetation control operations is posted. To find the schedule move your cursor over "Community" (just above the main banner), a drop-down menu will open and then select the item "Living Near the Railway". Once on that page, scroll down until you see "Vegetation Management" and then click on the "Learn More" button. Then, among the items listed on the far left of the screen, click on "Ontario vegetation control" to see the link to the actual schedule (a pdf document). You can also use the following address with your browser: http://www.cpr.ca/en/community/living-near-the-railway/ontario-spray-schedules.

.../2

We also have a 24/7 service called Community Connect dedicated in providing answers to any question related to CP's railway operations. You can send them an online form by visiting https://www.cpr.ca/en/contact-us/community-connect. You can find the form by simply scrolling down the Community Connect webpage and under "Send Us a Note" click on "Fill out this form".

We invite you to communicate this information to your citizens as well. We would like also to take this opportunity to remind you that, as per Transport Canada "*Railway Safety Act*", it is illegal to be on any railway property without lawful authorization.

Yours truly,

Geoff Gordon
Vegetation Management Specialist
Canadian Pacific

c.c.: Ministry of the Environment and Climate Change of Ontario

Subject: Federal Government Sanctions imposed on Russia

Good morning.

Please find below a motion passed by Council of the Town of Georgina imposing limitations upon the purchase of goods that can easily be traced to have originated from Russia, and requesting support of this position by other Ontario municipalities;

RESOLUTION NO. C-2022-0081
Moved By Councillor Waddington
Seconded By Councillor Neeson

WHEREAS the country of Ukraine has experienced a premeditated and unprovoked invasion by Russia;

AND WHEREAS silence is complicity;

AND WHEREAS Canada imports hundreds of millions of dollars' worth of goods from Russia each year;

AND WHEREAS negative financial impacts upon a country can be used as a means to deter further conflict;

BE IT THEREFORE RESOLVED THAT the Town of Georgina unequivocally denounces Russia's unjustifiable war against Ukraine;

AND THAT the Town of Georgina supports the sanctions which the Federal government of Canada has thus far imposed on Russia;

AND THAT effective immediately and until a time when the sovereignty of Ukraine is once again unchallenged, the Town of Georgina will:

1) Not purchase any products (ie plywood, fertilizer, steel, furniture or machinery) which can be easily traced to have originated from Russia; and,

2) Insist that any future contracts for services for the Town of Georgina abide by these same limitations within our municipality;

AND THAT upon confirmation that the Belarusian military is engaged within Ukraine that the Town of Georgina apply these limitations upon goods from that country as well;

AND THAT this decision of Georgina Council be forwarded to all other municipalities within Ontario requesting they enact similar measures so that as a united front we can make a noticeable difference.

Carried Unanimously

GEORGINA

Carolyn Lance
Council Services Coordinator
Clerk's Division | Town of Georgina
26557 Civic Centre Road, Keswick, ON | L4P 3G1
905-476-4301 Ext. 2219 | georgina.ca
Follow us on Twitter and Instagram, like us on Facebook

La Corporation de la Ville de Hearst
The Corporation of the Town of Hearst

S.P./P.O. Bag 5000 | 925 rue Alexandra Street | Hearst, ON P0L 1N0
T. 705-362-4341 | F. 705-362-5902 | townofhearst@hearst.ca | www.hearst.ca

March 10, 2022

RECEIVED
MAR 16 2022

Mayor Penny Lucas
The Corporation of the Township of Ignace
34 Main Street (Hwy 17), P.O. Box 248
Ignace, Ontario
P0T 1T0

Dear Mayor Lucas,

Re: Centennial Anniversary of the Town of Hearst

The Town of Hearst wishes to provide an update on the status of its 100th anniversary celebrations and more specifically Homecoming Week, originally scheduled for June 24th to July 3rd, 2022. Considering the many obstacles and uncertainties caused by COVID-19 in the planning and organization of events surrounding the 100th, Municipal Council decided to postpone the official opening of the celebrations to August 3rd, 2022, which corresponds to the anniversary date of the incorporation of the Town of Hearst, and to carry on with activities until August 2023. As a result, Homecoming Week, including the Homecoming Banquet which was scheduled for July 2nd, 2022 and to which you were cordially invited, will be postponed to a later date in 2023.

Please be assured that you will be notified of the Homecoming Week programming as soon as it becomes available. We would be greatly honored by your presence to this important event.

For more details on the centennial celebrations, we invite you to follow our Facebook page: Hearst 2022 or visit our website at: https://www.tourisme.hearst.ca/hearst2022. You may also contact Alain Blanchette, Economic Development Officer, by phone at 705-372-2841 or by email at economicdev@hearst.ca .

Sincerely,

Roger Sigouin
Mayor

The Corporation of the
Municipality of Mississippi Mills

Council Meeting

Resolution Number 079-22

Title: Information List #05-22 Township of South Glengarry Resolution re: Abandoned Cemeteries

Date: Tuesday, March 15, 2022

Moved by Councillor Holmes

Seconded by Councillor Dalgity

BE IT RESOLVED THAT the Council of the Municipality of Mississippi Mills hereby supports Prince Edward County's call for government action concerning the current legislation and regulations surrounding municipal requirements to take over and maintain abandoned operating cemeteries;

AND FURTHERMORE that a copy of this resolution be sent to the Minister of Government & Consumer Services, ROMA, the Eastern Ontario Wardens Caucus and all Ontario municipalities.

CARRIED

I, Casey Munro, Deputy Clerk for the Corporation of the Municipality of Mississippi Mills, do hereby certify that the above is a true copy of a resolution enacted by Council.

Casey Munro, Deputy Clerk

The Corporation of the
Municipality of Mississippi Mills

Council Meeting

Resolution Number 080-22

Title: Information List #05-22 Town of Bracebridge Resolution re: Joint and Several Liability Reform

Date: Tuesday, March 15, 2022

Moved by Councillor Holmes

Seconded by Councillor Dalgity

WHEREAS municipal governments provide essential services to the residents and businesses in their communities; and

WHEREAS the ability to provide those services is negatively impacted by exponentially rising insurance costs; and

WHEREAS one driver of rising insurance costs is the legal principle of "joint and several liability", which assigns disproportionate liability to municipalities for an incident relative to their responsibility for it; and

WHEREAS the Government of Ontario has the authority and responsibility for the legal framework of "joint and several liability"; and

WHEREAS the Premier of Ontario committed to review the issue in 2018 with a view to helping municipal governments manage their risks and costs; and

WHEREAS the Provincial Review was conducted in 2019 with AMO and municipalities fully participating; and

WHEREAS the results of the Provincial Review have not been released and municipalities are still awaiting news of how the Attorney General will address this important matter; and

WHEREAS the Association of Municipalities of Ontario (AMO) on behalf of municipal governments has provided recommendations in their document "Towards a Reasonable Balance – Addressing Growing Municipal Liability and Insurance Costs" to align municipal liability with the proportionate responsibility for incidents and capping awards; and

WHEREAS The Association of Municipal Managers, Clerks and Treasurers of Ontario (AMCTO) has written to the Attorney General in support of the abovementioned recommendations provided by AMO;

NOW THEREFORE BE IT RESOLVED THAT THE CORPORATION OF THE MUNICIPALITY OF MISSISSIPPI MILLS RESOLVES AS FOLLOWS:

1. That the Municipality of Mississippi Mills calls on the Attorney General of Ontario to work with municipal governments to put forward a plan of action to address "joint and several liability" before the end of the government's current term.
2. That the Municipality of Mississippi Mills supports the seven (7) recommendations contained in the AMO submission "Towards a Reasonable Balance – Addressing Growing Municipal Liability and Insurance Costs" to re-establish the priority for provincial action on this issue.
3. That a copy of this resolution be forwarded to Attorney General, the Honourable Doug Downey; the Minister of Municipal Affairs and Housing, the Honourable Steve Clark; AMO President, Jamie McGarvey, AMCTO President, Sandra MacDonald; and all Municipalities in Ontario.

CARRIED

I, Casey Munro, Deputy Clerk for the Corporation of the Municipality of Mississippi Mills, do hereby certify that the above is a true copy of a resolution enacted by Council.

Casey Munro, Deputy Clerk

The Corporation of the City of Cambridge
Corporate Services Department
Clerk's Division
The City of Cambridge
50 Dickson Street, P.O. Box 669
Cambridge ON N1R 5W8
Tel: (519) 740-4680 ext. 4585
mantond@cambridge.ca

March 31, 2022

Re: Motion: Councillor Wolf re: Request to impose a moratorium on all new gravel applications, including expansions to existing licensed sites

At the Special Council Meeting of March 22, 2022, the Council of the Corporation of the City of Cambridge passed the following Motion:

WHEREAS Ontario currently has over 3600 licenses and 2500 permits held by Operators located throughout the Province that are able to meet the expected near term needs of Ontario's construction industry;

AND WHEREAS in 2020 there was approximately 5,677,296 tonnes of aggregate extracted from properties located within the Township of North Dumfries;

AND WHEREAS applications continue to be submitted without a definitive determination if there is a need for additional supply;

AND WHEREAS gravel pits and quarries can be destructive of natural environments and habitats when not properly planned and managed;

AND WHEREAS pits and quarries have negative social impacts on host and neighbouring communities like Cambridge in terms of noise, air pollution, and truck traffic;

AND WHEREAS the urgent need to reduce greenhouse gas emissions in order to combat climate change has brought awareness to the very high carbon footprint associated with the production of concrete and asphalt which are major end-users of aggregates;

NOW THEREFORE BE IT RESOLVED THAT the Province of Ontario be requested to impose an immediate temporary moratorium on all new gravel applications, including expansions to existing licensed sites, pending a broad consultation process that would

include First Nations, affected communities, independent experts and scientists, to chart a new path forward for the extraction and processing of aggregates in Southern Ontario which:

i) Proposes criteria and processes for determining the need for new aggregate licences (including the expansion to existing licenses);

ii) Recommends updated policies and restrictions for aggregate extraction below the water table to reflect current groundwater sciences; including quarterly water monitoring reports.

iii) Assesses the cumulative impacts of aggregate operations in terms of off-site impacts to environmental systems; the groundwater regime and baseflow contributions to area watercourses, wetlands, etc; area habitat including corridors; traffic along haul routes; and, dust and noise emissions;

iv) Develops new guidelines for reprocessing / recycling of concrete and asphalt products in order to ensure sustainable aggregate supplies;

v) Recommends a fair levy for aggregate extraction that includes compensation for the full environmental and infrastructure maintenance costs to the local community of extraction and distribution of aggregate;

vi) Provides greater weight to the input by local municipalities to lessen the social impacts from aggregate extraction and truck haul routes through their communities

AND FURTHER THAT a copy of this Resolution be sent to the Honourable Doug Ford, Premier of Ontario, the leaders of all Provincial Parties, the Minister of Northern Development, Mines, Natural Resources & Forestry, the MPPs of Waterloo Region, and, the Region of Waterloo.

Should you have any questions related to the approved resolution, please contact me.

Yours Truly,

D Manton

Danielle Manton
City Clerk

Cc: (via email)
Hon. Premier Ford
Association of Municipalities of Ontario
City of Cambridge Council

TOWNSHIP OF ADELAIDE METCALFE
2340 Egremont Drive, Strathroy, ON N7G 3H6
T: 519-247-3687 F: 519-247-3411
www.adelaidemetcalfe.on.ca

February 15, 2022

The Corporation of the City of Gravenhurst
Kayla Thibeault
Director of Legislative Services/Clerk
3 – 5 Pineridge Gate
Gravenhurst, ON
P1P 1Z3

RE: SUPPORT OF RESOLUTION – DISSOLUTION OF THE ONTARIO LAND TRIBUNAL

Please be advised that the Council of the Township of Adelaide Metcalfe, at the regular meeting of March 7, 2022, supported your resolution and the following was passed.

MOVED by Deputy Mayor Hendrikx
SECONDED by Councillor MacKinnon

THAT Council support the resolution by the Town of Gravenhurst regarding the Dissolution of the Ontario Land Tribunal. CARRIED.

WHEREAS Municipalities across this province collectively spend millions of dollars of taxpayer money and municipal resources developing Official Plans that meet current Provincial Planning Policy;

AND WHEREAS an Official Plan is developed through months of public consultation to ensure, "that future planning and development will meet the specific needs of (our) community";

AND WHEREAS our Official Plan includes provisions that encourage developments to meet the need for attainable housing in our community;

AND WHEREAS our Official Plan includes provisions that encourage developments to meet certain environmental standards which are voided by the Provincial Policy Statement;

AND WHEREAS our Official Plan is ultimately approved by the District of Muskoka, as delegated from the Province, in accordance with the Planning Act;

AND WHEREAS it is within the legislative purview of Municipal Council to adopt Official Plan amendments or approve Zoning By-law changes that better the community or fit within the vision of the Towns of Gravenhurst Official Plan;

AND WHEREAS it is also within the legislative purview of Municipal Council to deny Official Plan amendments or Zoning By-law changes that do not better the community or do not fit within the vision of the Town of Gravenhurst Official Plan;

AND WHEREAS municipal planning decisions may be appealed to the Ontario Land Tribunal (OLT; formerly the Ontario Municipal Board or "OMB"), an unelected, appointed body that is not accountable to the residents of the Town of Gravenhurst;

AND WHEREAS the OLT has the authority to make a final decision on planning matters based on the "best planning outcome" and not whether the proposed development is in conformity with municipal Official Plans and consistent with Provincial Planning Policy;

AND WHEREAS all decisions – save planning decisions – made by Municipal Councils are only subject to appeal by judicial review and such appeals are limited to questions of law and or process;

AND WHEREAS Ontario is the only province in Canada that empowers a separate adjudicative tribunal to review and overrule local decisions applying provincially approved plans;

AND WHEREAS municipalities across this Province are repeatedly forced to spend millions of dollars defending Official Plans that have already been approved by the province or their designate in expensive, time consuming and ultimately futile OLT hearings;

AND WHEREAS lengthy, costly OLT hearings act as a barrier to the development of attainable housing;

AND WHEREAS the existence of the OLT acts as a barrier that restricts municipalities from protecting the environment from development that is uncharacteristic of its community;

NOW THEREFORE BE IT RESOLVED:

1. The Town of Gravenhurst requests the Government of Ontario dissolve the OLT immediately thereby eliminating one of the most significant sources of red tape delaying the development of more attainable housing, and restricting a municipality's ability to enforce self-determined environmentally-friendly development policies in Ontario;

TOWNSHIP OF ADELAIDE METCALFE
2340 Egremont Drive, Strathroy, ON N7G 3H6
T: 519-247-3687 F: 519-247-3411
www.adelaidemetcalfe.on.ca

2. A copy of this Motion be sent to the Honourable Doug Ford, Premier of Ontario, the Minister of Municipal Affairs and Housing, the Leader of the Opposition, the Leaders of the Liberal and Green Party, al MPPs int eh Province of Ontario; the Large Urban Mayors' Caucus of Ontario, the Small Urban GTHA Mayors and Regional Chairs of Ontario; and,

3. A copy of this Motion be sent to the Association of Municipalities of Ontario (AMO) and all Ontario municipalities for their consideration;

4. A suitable alternative appeal process be investigated by the Province utilizing an elected board of appeal.

CARRIED.

Kind regards,

Mike Barnier
Legislative Services Manager/Clerk

cc.
Hon. Steve Clark, Minister of Municipal Affairs and Housing steve.clark@pc.ola.org
Andrea Horwath, Leader of the Official Opposition horwatha-qp@ndp.on.ca
Mike Schreiner, Leader of the Ontario Green Party Mschreiner@ola.org
Steven Del Duca, Leader of the Ontario Liberal Party info.leader@ontarioliberal.ca
Ontario Members of Provincial Parliament
Large Urban Mayor's Caucus of Ontario info@ontariobigcitymayors.ca
Small Urban GTHA Mayors of Ontario
Regional Chairs of Ontario
Association of Municipalities of Ontario (AMO) resolutions@amo.on.ca
All Ontario Municipalities