

February 28, 2024

**MUNICIPALITY OF LAKESHORE**  
**STONEY POINT WATER TREATMENT PLANT AND WATER SERVICE AREA**  
**2023 ANNUAL & SUMMARY REPORT**  
**MADE UNDER O.REG. 170/03**

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The Municipality of Lakeshore is required to provide an *Annual Report* for each of its Ministry of the Environment Conservation and Parks (MECP) drinking water systems under Drinking Water Systems Regulation *O.Reg. 170/03* in accordance with the *Safe Drinking Water Act* (as amended). This *Annual Report* is due to be posted for public viewing by the end of February of the following year.

Under *Schedule 22 of Ontario Regulation 170/03*, a regulation made under the *Safe Drinking Water Act 2002*, requires that a large municipal residential drinking-water system must provide to its members of municipal council a Summary Report on various aspects of the system before March 31 of the following year. The Stoney Point Water Service Area is classed as a large municipal residential drinking-water system and is therefore subject to Schedule 22. The purpose of this letter and its attachments is to satisfy this requirement and report on dates from January 1, 2023, until December 31, 2023.

The Municipality of Lakeshore owns and operates four (4) separate drinking water systems under MECP jurisdiction. This letter focusses on the *Stoney Point Water Treatment Plant (WTP) and Water Service Area (WSA)* which is registered having *Drinking Water System #260003396* under *Municipal Drinking Water License #031-101*. This drinking water system is deemed to be *Large Municipal Residential* having a mathematically assumed population of 6,854 having 2,447 service connections at the end of 2023.

The *Stoney Point WTP*, located in Stoney Point, services the Stoney Point Water Service Area (WSA). This geographically serves the Municipality of Lakeshore from Lake St. Clair south to County Rd 8 and Rochester Townline Rd east to Big Creek. The plant process includes coagulation, flocculation, sedimentation, chlorination, filtration, taste and odour control systems. In these processes the following chemicals are utilized; Aluminum Sulphate, Activated Carbon, Chlorine Gas. The SPWSA includes approximately 208km of distribution piping ranging in sizes 25 to 300 mm in diameter. The distribution system includes secondary disinfection provided by free chlorine. The SPWSA also includes two (2) pressure boosting stations located in Haycroft and Comber. Both of these facilities include reservoirs and each have the ability to add chlorine gas to ensure free chlorine residual is safe and consistent throughout those portions of the distribution system.

The Stoney Point WTP is an automated facility that is controlled via a Supervisory Control and Data Acquisition (SCADA) system. *O.Reg. 170/03* also specifies what data that must be downloaded, stored and at what interval. The online continuous monitors allow the plant to be automated and comply with all associated regulations. The results of these online instruments as required in this report are listed below in Table I.

**TABLE I**  
**2023 OPERATIONAL TESTING**  
**REGULATION 170/03 DURING 2022**

	Number of Grab Samples	Range of Results (min #)-(max #)	Unit of Measure
<b>Turbidity Filter AVG</b>	8760	0.0 – 0.10	NTU
<b>Chlorine</b>	8760	0 – 2.21	Free CL mg/l
<b>Distribution Additional Residuals</b>	571	0.29 – 1.88	Free CL mg/l

NTU – Nephelometric Turbidity Units  
8760 – Indicates continuous monitoring equipment used  
CL – Chlorine  
mg/l – milligram per litre

Under *Schedule 10* of *O.Reg. 170/03* the Municipality of Lakeshore is required to complete microbiological testing of its raw intake water, treated water and distribution water. Treated water is sampled immediately prior to the high lift pump reservoir, any sample taken after the high lift pumps is considered distribution. All these samples are required to be tested by a certified laboratory accredited for drinking water samples. Table II outlines these analytical results.

**TABLE II**  
**2023 MICROBIOLOGICAL TESTING DONE UNDER**  
**SCHEDULE 10 OF REGULATION 170/03**

	NUMBER OF SAMPLES	RANGE OF E.COLI OR FECAL RESULTS (MIN #)-(MAX #) cfu's	RANGE OF TOTAL COLIFORM RESULTS (MIN #)-(MAX #) cfu's	NUMBER OF HPC SAMPLES	RANGE OF HPC RESULTS (MIN #)-(MAX #) cfu's
<b>Raw</b>	52	10 – 50	10 – 2000	0	NA
<b>Treated</b>	104	0 – 0	0 – 0	104	<10 – 20
<b>Distribution</b>	261	0 – 0	0 – 0	156	10 - 40

cfu – colony forming units  
HPC – heterotrophic plate count

The Municipality of Lakeshore is also required to take treated and distribution samples for various organic and inorganic parameters under *O.Reg. 170/03 Schedule 23 & 24*. In

Table III and Table IV, the treated water sample results from this regulatory sampling requirement are listed. No organic or inorganic sample exceeded any regulatory requirement as sampled for 2023.

**TABLE III**  
**2023 INORGANIC PARAMETERS TESTED**  
**TREATED WATER**  
**REGULATION 170/03**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	October 17, 2023	0.0001	mg/l	NO
Arsenic	October 17, 2023	0.0003	mg/l	NO
Barium	October 17, 2023	0.019	mg/l	NO
Boron	October 17, 2023	0.021	mg/l	NO
Cadmium	October 17, 2023	<0.000015	mg/l	NO
Chromium	October 17, 2023	<0.0010	mg/l	NO
Sodium	October 17, 2023	6.5	mg/l	NO
Mercury	October 17, 2023	<0.00002	mg/l	NO
Selenium	October 17, 2023	<0.001	mg/l	NO
Uranium	October 17, 2023	<0.00005	mg/l	NO
Fluoride	October 17, 2023	<0.1	mg/l	NO
Nitrite	October 17, 2023	<0.05	mg/l	NO
Nitrate	October 17, 2023	0.16	mg/l	NO

mg/l – milligram per litre

**TABLE IV**  
**2023 ORGANIC PARAMETERS**  
**ANNUAL TREATED WATER REQUIREMENT**  
**REGULATION 170/03**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	October 17, 2023	<0.3	ug/l	NO
Atrazine	October 17, 2023	<0.5	ug/l	NO
Atrazine (Desethyl)	October 17, 2023	<0.5	ug/l	NO
Atrazine + N-dealkylated metabolites	October 17, 2023	<0.5	ug/l	NO
Azinphos-methyl	October 17, 2023	<1.0	ug/l	NO
Benzene	October 17, 2023	<0.5	ug/l	NO
Benzo(a)pyrene	October 17, 2023	<0.006	ug/l	NO
Bromoxynil	October 17, 2023	<0.5	ug/l	NO
Carbaryl	October 17, 2023	<3.0	ug/l	NO
Carbofuran	October 17, 2023	<1.0	ug/l	NO
Carbon Tetrachloride	October 17, 2023	<0.2	ug/l	NO
Chlorpyrifos	October 17, 2023	<0.5	ug/l	NO
Diazinon	October 17, 2023	<1.0	ug/l	NO
1,2-Dichlorobenzene	October 17, 2023	<0.5	ug/l	NO

Table IV – Cont'd

1,4-Dichlorobenzene	October 17, 2023	<0.5	ug/l	NO
1,2-Dichloroethane	October 17, 2023	<0.5	ug/l	NO
1,1-Dichloroethylene (vinylidene chloride)	October 17, 2023	<0.5	ug/l	NO
2-4 Dichlorophenol	October 17, 2023	<0.2	ug/l	NO
Diclofop-methyl	October 17, 2023	<0.9	ug/l	NO
Dimethoate	October 17, 2023	<1.0	ug/l	NO
Diquat	October 17, 2023	<5.0	ug/l	NO
Diuron	October 17, 2023	<5.0	ug/l	NO
Glyphosate	October 17, 2023	<25	ug/l	NO
Malathion	October 17, 2023	<5.0	mg/l	NO
Metolachlor	October 17, 2023	<3.0	ug/l	NO
Metribuzin	October 17, 2023	<3.0	ug/l	NO
Paraquat	October 17, 2023	<1.0	ug/l	NO
Pentachlorophenol	October 17, 2023	<0.2	ug/l	NO
Phorate	October 17, 2023	<0.3	ug/l	NO
Polychlorinated Biphenyls(PCB)	October 17, 2023	<0.05	ug/l	NO
Prometryne	October 17, 2023	<0.1	ug/l	NO
Simazine	October 17, 2023	<0.5	ug/l	NO
Terbufos	October 17, 2023	<0.5	ug/l	NO
Tetrachloroethylene	October 17, 2023	<0.5	mg/l	NO
2,3,4,6-Tetrachlorophenol	October 17, 2023	<0.2	mg/l	NO
Triallate	October 17, 2023	<10	ug/l	NO
Trichloroethylene	October 17, 2023	<0.5	ug/l	NO
2,4,6-Trichlorophenol	October 17, 2023	<0.2	ug/l	NO
Trifluralin	October 17, 2023	<0.5	ug/l	NO
Vinyl Chloride	October 17, 2023	<0.2	ug/l	NO
MCPA	October 17, 2023	<10	ug/l	NO
2,4-(2,4-D) Dichlorophenoxy acetic acid,	October 17, 2023	<1.0	ug/l	NO
Dicamba	October 17, 2023	<1.0	ug/l	NO
Picloram	October 17, 2023	<5.0	ug/l	NO

ug/l – microgram per litre

Treated and Distribution water samples are taken for selected organic and inorganic parameter; Trihalomethanes, Haloacetic Acids, Nitrite and Nitrate are sampled quarterly. Lead and alkalinity samples are taken in the distribution system bi-annually. The requirement to take and the amount of samples taken for these parameters falls under O.Reg. 170/03 and is based on population served. In Tables V, VI and VII shows the results satisfying the regulation.

**TABLE V**  
**2023 NITRATE AND NITRITE RESULTS**  
**QUARTERLY TREATED WATER REQUIREMENT**  
**REGULATION 170/03**

Parameter	Date	Result	Unit	Exceedance
Nitrate	March 1, 2023	1.61	mg/L	NO
	May 30, 2023	0.86	mg/L	NO
	August 15, 2023	2.26	mg/L	NO
	November 21, 2023	0.68	mg/L	NO
Nitrite	March 1, 2023	<0.05	mg/L	NO
	May 30, 2023	<0.05	mg/L	NO
	August 15, 2023	<0.05	mg/L	NO
	November 21, 2023	<0.05	mg/L	NO
THM's	March 1, 2023	14	ug/L	NO
	May 30, 2023	18	ug/L	NO
	August 15, 2023	51	ug/L	NO
	November 21, 2023	35	ug/L	NO
	RAA	29.5	ug/L	NO

ug/l – microgram per litre

RAA – Running Annual Average

**TABLE VI**  
**2023 TRIHALOMETHANES & HALOACETIC ACIDS RESULTS**  
**QUARTERLY DISTRIBUTION WATER REQUIREMENT**  
**REGULATION 170/03**

Parameter	Sample Schedule	Result	Unit of Measure	Exceedance
THM (Treated Water RAA)	Quarterly	29.5	mg/l	NO
THM (Distribution RAA)	Quarterly	54	mg/l	NO
HAA (Distribution RAA)	Quarterly	21.3	mg/l	NO

mg/l – milligram per litre

RAA – Running Annual Average

**TABLE VII**  
**2023 LEAD & ALKALINITY RESULTS**  
**DISTRIBUTION WATER**  
**REGULATION 170/03**

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Distribution (Lead)	8	0.00009 – 0.00177	mg/l	NONE
Distribution (Alkalinity)	8	70 – 101	mg/l	NA

mg/l – milligram per litre

**TABLE VIII**  
**2023 RESIDUAL MANAGEMENT**  
**TOTAL SUSPENDED SOLIDS**  
**REQUIRED UNDER MUNICIPAL DRINKING WATER LICENCE**

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
May 21, 2021 MDWL 031-101 #4	Total Suspended Solids	RAA	6.61	mg/l

RAA – Running Annual Average (monthly sample averaged)

The water treatment system and service area require extensive maintenance annually. These costs are required to install new equipment and maintain the current assets. There was one capital project completed in the Stoney Point water system which included Programmable Logic Controller (PLC) replacements which incurred \$57,902 in costs.

Under *O.Reg.170/03* the Municipality is required to report notices submitted in accordance with the *Safe Drinking Water Act*, system approvals, Drinking Waterworks Permit, Municipal Drinking Water License. There were three notices reported and filed to the *Spills Action Centre* by the Stoney Point WTP and WSA in 2023, one of which required additional confirmatory sampling. AWQI reports #161424, #163162, #163367 were assigned and Table IX below outlines the important information and dates associated with these AWQI.

**TABLE IX**  
**DETAIL OF AWQI NOTICE'S FILED 2023**

Incident Date	Parameter	Corrective Action	Corrective Action Date
March 4 <sup>th</sup> , 2023 #161424	Loss of Pressure Comber Pumping Station	Pressure Restored / Flushing Practices	March 4 <sup>th</sup> , 2023
August 26 <sup>th</sup> , 2023 #163162	Loss of Communications / Precautionary	Manual Water Treatment Plant Operation until Communications Restored	August 29 <sup>th</sup> , 2023
September 11 <sup>th</sup> , 2023 #163367	Microcystin Detected in Treated Water @ 0.20 ug/ml / Precautionary	Re-sample / Re-test	September 15 <sup>th</sup> , 2023

As shown above, there were occasions in 2023 when the Stoney Point Water Service Area was not in compliance and two occasions where precautionary reports were made under the requirements of the *Safe Drinking Water Act 2002*, associated regulations,

system approvals, Drinking Water Works Permit, Municipal Drinking Water Licence and provincial officer orders. In Table X below the specific legislation requirements and corrective measures are stated.

**Table XI**  
**Legislative Requirements & Corrective Actions**  
**ADWQI Notice's Filed**

Drinking Water Legislation	Requirement(s) the System Failed to Meet	Specify the Duration of the Failure (i.e. date(s))	Describe the Measures Taken to Correct the Failure	Status (complete or outstanding)
<b>Safe Drinking Water Act</b>	Associated Regulations	See Below	See Below	
<b>Ontario Regulations</b>	O.Reg. 170/03	26 seconds	Pressure Restored/Residue Restored/Flushing Practices	Complete
<b>System Approvals</b>	none			
<b>System Drinking Water Works Permit and Municipal Drinking Water Licence</b>	none			
<b>Provincial Officer's Order</b>	None			

A summary of the quantities and flow rates of water supplied during the period covered by the report, including monthly average flows, maximum daily flows and daily maximum flow rates taken per minute is required and reported in the Summary Report.

The Stoney Point Water Service Area operated under the following listed Permits to Take Water and did exceed its limits for Peak Flow in 2023.

(PTTW) Number 0452-BM6M4M issued on April 17, 2020 has the following flow conditions:

- Maximum Allowable Amount Taken per Minute (Litres/Min) **3,180**
- Maximum Allowable Amount Taken Per Day (Litres/Day) **4,600,000**

The maximum amounts of raw water taken during 2023 are as follows:

- Maximum Amount Taken per Minute in 2023 (Litres/Min) **6,138 (June 30, July 1, 15, 16, 17, 2023)**
- Maximum Amount Taken Per Day in 2023 (Litres/Day) **30,840 (June 4, 2023)**

The Stoney Point Water Service Area operated under Drinking Water Works Permit #301-201 and Municipal Drinking Water Licence #031-101 during 2023:

The Municipal Drinking Water Licence has the following flow conditions:

- The maximum daily volume of treated water that flows from the treatment subsystem to the distribution subsystem shall not exceed **4,545 m<sup>3</sup>/day**.
- The maximum daily volume of water pumped into the distribution system in 2023 was **2,974 m<sup>3</sup>/day (June 3, 2023)**.

The following Table XI & XII give the monthly average and maximum flows for the Stoney Point Water Service Area.

**Table XI**  
**2023**  
**Raw Water Flow Data**  
**Lake Water Used**

Month	Maximum Allowed Flow Rate (m <sup>3</sup> /Day)	Average Flow (m <sup>3</sup> /Day)	Maximum Flow (m <sup>3</sup> /Day)	Maximum Allowed Flow Rate (Litres/Minute)	Maximum Flow Rate (Litres/Minute)
January	4,600	1,736	2,092	3,180	2,142
February	4,600	1,677	2,046	3,180	1,561
March	4,600	1,621	1,746	3,180	2,406
April	4,600	1,734	2,088	3,180	1,434
May	4,600	2,088	2,902	3,180	3,168
June	4,600	2,295	3,084	3,180	6,138
July	4,600	2,001	2,486	3,180	6,138
August	4,600	2,283	2,785	3,180	2,268
September	4,600	2,477	2,942	3,180	2,268
October	4,600	2,039	2,691	3,180	2,070
November	4,600	1,635	1,778	3,180	1,434
December	4,600	1,624	1,885	3,180	1,866



**Table XII**  
**2023 Treated Water Flow Data**  
**Water Sent to Distribution System**

Month	Maximum Allowed Flow Rate (m <sup>3</sup> /Day)	Average Daily Flow (m <sup>3</sup> /Day)	Maximum Daily Flow (m <sup>3</sup> /Day)	Maximum Flow Rate (Litres/Minute)
January	4,545	1,627	2,092	4,944
February	4,545	1,578	1,867	2,220
March	4,545	1,621	1,746	3,498
April	4,545	1,734	1,965	6,390
May	4,545	1,991	2,624	3,396
June	4,545	2,187	2,974	15,720
July	4,545	1,897	2,168	3,198
August	4,545	2,176	2,838	4,614
September	4,545	2,364	2,755	4,200
October	4,545	1,935	2,463	4,212
November	4,545	1,559	1,699	3,414
December	4,545	1,555	1,766	2,184

This report is made available to the public for viewing on the Municipalities website at <https://www.lakeshore.ca/en/municipal-services/plans-publications-and-reports.aspx#Drinking-Water-Annual-Reports> . The report is printed and available for viewing at 419 Notre Dame Street (Town Hall) & 492 Lakeview Dr, Belle River, Ontario. Both versions are available after February 29<sup>th</sup> 2024.