



Town of Latchford

LATCHFORD ANNUAL WATER TREATMENT REPORT 2025

Annual Compliance & Summary Report

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January 06, 2026

INTRODUCTION

Municipalities throughout Ontario are required to comply with Ontario Regulation 170/03 made under the *Safe Drinking Water Act*, 2002. The Act was passed following recommendations made by Commissioner O'Conner after the Walkerton Inquiry. The Act's purpose is to protect human health through the control and regulation of drinking-water systems. O. Reg. 170/03 regulates drinking water testing, use of licensed laboratories, treatment requirements and reporting requirements.

O. Reg. 170/03 requires the owner to produce an Annual Report, under Section 11. This report must include the following:

1. Description of system and chemical(s) used
2. Summary of any adverse water quality reports and corrective actions
3. Summary of all required testing
4. Description of any major expenses incurred to install, repair or replace equipment

This Annual Report must be completed by February 28 of each year.

Section 22 of the regulation also requires a Summary Report which must be presented and accepted by Council by March 31 of each year for the preceding calendar year reporting period.

The report must list the requirements of the Act, its regulations, the system's Drinking Water Works Permit (DWWP), Municipal Drinking Water Licence (MDWL), Certificate of Approval (if applicable), and any Provincial Officer Order the system failed to meet during the reporting period. The report must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.

The *Safe Drinking Water Act*, 2002 and the drinking water regulations can be viewed at the following website: <http://www.e-laws.gov.on.ca>.

To enable the Owner to assess the rated capacity of their system to meet existing and future planned water uses, the following information is also required in the report.

1. A summary of the quantities and flow rates of water supplied during the reporting period, including the monthly average and the maximum daily flows.
2. A comparison of the summary to the rated capacity and flow rates approved in the systems approval, drinking water works permit or municipal drinking water licence or a written agreement if the system is receiving all its water from another system under an agreement.

The two reports have been combined and presented to council as the 2025 Annual/Summary Report.

Section 11

ANNUAL REPORT

Drinking-Water System Number	210000960
Drinking-Water System Owner	The Corporation of the Town of Latchford
Drinking-Water System Category	Large Municipal, Residential System
Reporting Period	January 1, 2025 to December 31, 2025

Does your Drinking-Water System serve more than 10,000 people? No

Is your annual report available to the public at no charge on a web site on the Internet? No

Location where Report required under O. Reg. 170/03 Schedule 22 will be available for inspection:

Town of Latchford
10 Main Street
Latchford, ON POJ 1N0

Drinking-Water Systems that receive drinking water from the Latchford Drinking Water System

The Latchford Drinking Water System provides all of its drinking water to the community of Latchford within the Town of Latchford.

The Annual Report was not provided to any other Drinking Water System owners

The WTP ORO prepared the 2025 Annual Report for the Latchford Drinking Water System and provided a copy to the system owner; the Town of Latchford. The Latchford Drinking Water System is a stand-alone system that does not receive water from or send water to another system.

Notification to system users that the Annual Report is available for viewing is accomplished through:

Public access/notice via a community bulletin

DESCRIPTION OF THE DRINKING WATER SYSTEM

The community of Latchford is currently supplied with water from Bay Lake, which is part of the Montreal River system. The source water is very soft with low alkalinity. The raw water is high in color and fairly low in turbidity.

The intake structure is located approximately 140m off shore and is made of a timber crib and sits approximately 1.15m off the bottom of Bay Lake in approximately 5.5 meters of water (depending on DAM height).

Raw water enters the intake well VIA a 210m of 250mm diameter pipe. An intake screen and a 100mm flush line from the high lift pumps. The low lift station contains a wet well and has 3 vertical turbine pumps two duty and one standby, each rated at 3.9L/s.

There are two treatment trains; each train is capable of treating water at a rate of 6.3L/second. The trains provide full conventional treatment consisting of coagulation flocculation, sedimentation and filtration.

The distribution system services an approximate population of 300 residents and 190 homes which makes this system a Large Residential drinking water system.

There is a looped line back to the water treatment plant as a return line of 100mm diameter from the distribution system that enters the clear well inside the water plant with a totalizing flow meter, this was installed as a way to prevent freezing due to historical problems. In 2024 the return line was redirected at the WTP to the drain system rather than the clear well to avoid possible THM/HAA issues being introduced into the clear well.

LIST OF WATER TREATMENT CHEMICALS USED OVER THE REPORTING PERIOD

The following chemicals were used in the Latchford Drinking Water System treatment process:

- Aluminum Sulphate (Alum) – Coagulation/Flocculation
- Sodium Hypochlorite - Disinfection
- Polyelectrolyte (Polymer) - Coagulant Aid
- Soda Ash – pH and Alkalinity Adjustment

All treatment chemicals are NSF/ANSI approved.

SIGNIFICANT EXPENSES INCURRED TO THE DRINKING WATER SYSTEM

- Jan 2 2025 – Low lift pump#3 failed to meet flow requirements. Pump was removed, rebuilt, and re-installed. Back in service
- Jan 9 2025 - Low lift pump#1 failed to meet flow requirements. Pump was removed, rebuilt, and re-installed. Back in service
- Jan 10 2025 – SCADA computer glitch. Lost time sync on computer. Claudel from STROMA Automation connected remotely and repaired.
- Jan 13 2025 – SCADA computer glitch. Daily report failed to generate. Claudel from STROMA Automation connected remotely and repaired.
- Feb 4 2025 – 600V Variable Frequency Drive#2 Failed. Defective VFD#2 was replaced with new unit. Custom Installation.
- Feb 4 2025 – High lift pump#3 failed to start. High lift Pump#3 was seized. Had to wire 600V VFD#3 to High lift pump#2 in order to maintain operation. Rebuilt and re-installed with new packing. Pump#3 – back in service.
- PLC Failure – Major controls failure caused all pumps to go off-line. Analog card failure. Trouble shoot with STROMA Automation remotely connected. Replaced defective analog card and reset PLC – Plant auto controls restored. Verified Plant operation ok.
- SCADA Computer failed – STROMA Automation connected remotely to restore operation.
- June 20 2025 – Sodium Hypo tank containment level alarm switch failed. Replaced level switch from spare stock. Verified operation ok.
- June 2025 – #1 Pre-soda ash chemical pump electronics failure. – replaced pump with new unit. Verified operation ok.
- June 24 2025 – Stroma Automation Upgraded SCADA computer from Widow 10 to Windows 11. Work was pre-approved in 2024
- June 11 2025 – Fabricated new PVC header for pre-soda ash. This allows for easier maintenance of pre soda ash chemical pumps.
- Aug 28 2025 – SCADA computer failure – lost 5 years’ worth of data. Worked with Stroma Automation to transfer trend files from old SCADA computer to the new SCADA computer in order to rebuild trend data. The computer operation was restored and all missing data was reloaded.
- UPS on main SCADA computer failed. Replaced defective UPS with new.
- Dec 2 2025 – Pre-soda ash #2 chemical pump failed. The pump is seized and requires replacement as we need to have a standby pump in service.
- Dec 2 2025 – Chlorine injection feed failure – requires new PVC ball valve and a bypass line fabricated.

DETAILS ON NOTICES OF ADVERSE TEST RESULTS AND OTHER PROBLEMS REPORTED TO & SUBMITTED TO THE SPILLS ACTION CENTER

- April 7 2025 (5 year) sodium sample exceedance. AWQI# 167865**
 An elevated Sodium level (22.4 mg/L) in the distribution resulted in an exceedance. The limit for Sodium is 20 mg/L. The Health Unit was notified, and a re-sample was conducted.

A re-sample was conducted April 16 2025. The second sample also indicated an elevated sodium level (24.3 mg/L). The Health Unit issued a Sodium Exceedance Advisory to the Temiskaming & area Health care providers of elevated sodium levels.

- Dec 16 2025 – Loss of Pressure AWQI# 171070**
 PLC Analog Card failure caused the High lift pumps to go off line which results in a loss of pressure. It also caused the CT chlorine analyzer to fail until pressure was restored. The PLC analog card was replaced with a spare from stock. A Boil Water Advisory was issued by the Health Unit. The BWA was lifted Dec 19 2025.

MICROBIOLOGICAL TESTING PERFORMED DURING THE REPORTING PERIOD

Sample Type	Number of Samples	<i>E.coli</i> (min to max)	Total Coliform (min to max)	# of HPC Samples	HPC (min to max)
Raw	52	0 to 10	0 to 202	-	-
Treated	52	0 to 0	0 to 0	53	<10 to 30
Distribution	104	0 to 0	0 to 0	53	<10 to 30

Maximum Acceptable Concentration (MAC) for *E. coli* = 0 Counts/100 mL

MAC for Total Coliforms = 0 Counts/100 mL

NDOGT = No Data Overgrown with Target

OPERATIONAL TESTING PERFORMED DURING THE REPORTING PERIOD

Continuous Flow Analyzers in Treatment Process

Parameter	Number of Samples	Range of Results (min to max)	Unit of Measure
Turbidity (Filter 1)	8760	0.009 to 0.630	NTU
Turbidity (Filter 2)	8760	0.047 to 0.312	NTU
Free Chlorine	8760	0.64 to 2.00	mg/L

Notes: For continuous monitors use 8760 as the number of samples for one year.

Chlorine Residual in the Distribution System

Number of Samples	Chlorine (min to max)	Unit of Measure	Standard
354	0.33 to 1.61	mg/L	≥ 0.05

Nitrate & Nitrite at the Water Treatment Plant

Date of Sample	Nitrate Result	Nitrite Result	Unit of Measure	Exceedance
January 13, 2025	0.10	< 0.01	mg/L	No
April 7, 2025	0.30	< 0.01		
July 07, 2025	0.20	< 0.01		
October 6, 2025	<0.10	<0.01		

MAC for Nitrate = 10 mg/L

MAC for Nitrite = 1.0 mg/L

Total Trihalomethanes in the Distribution System

Date of Sample	THM Result	Running Average	Unit of Measure	Exceedance
January 13, 2025	45.6	59.73	ug/L	No
April 7, 2025	48.9	62.25	ug/L	
July 07, 2025	70.0	57.58	ug/L	
October 6, 2025	85.0	62.38	ug/L	

MAC for Trihalomethanes = 100 ug/L (Four Quarter Running Ave)

Total Haloacetic Acids in the Distribution System

Date of Sample	HAA Result	Running Average	Unit of Measure	Exceedance
January 13, 2025	40	49.75	ug/L	NO
April 7, 2025	43	49.25	ug/L	
July 07, 2025	61	52.0	ug/L	
October 6, 2025	84	57.0	ug/L	

MAC for HAAs = 80 ug/L (Four Quarter Running Average) effective January 2020

Lead Data

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

The Latchford Drinking Water System qualified for the ‘Exemption from Plumbing Sampling’ as described in section 15.1-5 (9-10) of Ontario Regulation 170/03. The exemption applies to a drinking water system if; in two consecutive periods at reduced sampling, not more than 10 % of all samples from plumbing exceed the maximum allowable concentration of 10 ug/L for lead. As such, the system was required to test for total alkalinity and pH in one distribution sample collected during the periods of December 15 to April 15 and June 15 to October 15. This testing is required in every 12-month period with lead testing in every third 12-month period.

pH & Alkalinity in the Distribution System

Sample Periods	#of Samples	Lead Results	pH Results	Alkalinity Results
April 7 2025	1	<0.1	6.94	43
Oct 6 2025	1	0.1	7.01	41

Schedule 23 Inorganic at the Water Treatment Plant

Parameter	Result Value	Unit of Measure	MAC	Exceedance
Antimony	<0.5	ug/L	6	No
Arsenic	< 1.0	ug/L	25	No
Barium	15.0	ug/L	1000	No
Boron	8.0	ug/L	5000	No
Cadmium	< 0.1	ug/L	5	No
Chromium	< 1.0	ug/L	50	No
Mercury	< 0.1	ug/L	1	No
Selenium	< 0.20	ug/L	10	No
Uranium	< 0.50	ug/L	20	No

Sample Date: April 7, 2025

Note: Sample required every 12 months.

Schedule 24 Organic at the Water Treatment Plant

Parameter	Result Value	Unit of Measure	MAC	Exceedance
Alachlor	< 0.275	ug/L	5	No
Atrazine + N-dealkylated metobolites	< 0.275	ug/L	5	No
Azinphos-methyl	< 0.206	ug/L	20	No
Benzene	< 0.1	ug/L	5	No
Benzo(a)pyrene	< 0.009	ug/L	0.01	No
Bromoxynil	< 0.0719	ug/L	5	No
Carbaryl	< 2.0	ug/L	90	No
Carbofuran	< 4.0	ug/L	90	No
Carbon Tetrachloride	< 0.2	ug/L	5	No
Chlorpyrifos	< 0.206	ug/L	90	No
Diazinon	< 0.206	ug/L	20	No
Dicamba	< 0.0629	ug/L	120	No
1,2-Dichlorobenzene	< 0.2	ug/L	200	No
1,4-Dichlorobenzene	< 0.3	ug/L	5	No
1,2-Dichloroethane	< 0.2	ug/L	5	No
1,1-Dichloroethylene (vinylidene chloride)	< 0.3	ug/L	14	No
Dichloromethane	< 1.0	ug/L	50	No
2-4 Dichlorophenol	< 0.2	ug/L	900	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	< 0.269	ug/L	100	No
Diclofop-methyl	< 0.0898	ug/L	9	No
Dimethoate	< 0.206	ug/L	20	No
Diquat	< 0.2	ug/L	70	No
Diuron	< 7.0	ug/L	150	No
Glyphosate	< 20.0	ug/L	280	No
MCPA	< 4.49	ug/L	N/A	No
Malathion	< 0.206	ug/L	190	No
Metolachlor	< 0.138	ug/L	50	No
Metribuzin	< 0.138	ug/L	80	No
Monochlorobenzene	< 0.5	ug/L	80	No
Paraquat	< 0.2	ug/L	10	No
Pentachlorophenol	< 0.2	ug/L	60	No
Phorate	< 0.138	ug/L	2	No
Picloram	< 0.0629	ug/L	190	No
Polychlorinated Biphenyls (PCB)	< 0.05	ug/L	3	No
Prometryne	< 0.0688	ug/L	1	No
Simazine	< 0.206	ug/L	10	No
Terbufos	< 0.138	ug/L	1	No
Tetrachloroethylene	< 0.3	ug/L	30	No
2,3,4,6-Tetrachlorophenol	< 0.2	ug/L	100	No
Triallate	< 0.138	ug/L	230	No
Trichloroethylene	< 0.2	ug/L	50	No
2,4,6-Trichlorophenol	< 0.2	ug/L	5	No
Trifluralin	< 0.138	ug/L	45	No
Vinyl Chloride	< 0.1	ug/L	2	No
Desethyl atrazine	< 0.344	ug/L	2	No
Atrazine + N dealkylated metabolites	< 0.5	ug/L		

Parameter	Result Value	Unit of Measure	MAC	Exceedance
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Sample Date: April 7, 2025

Note: Sample required every 12 months.

Inorganic or Organic Parameter(s) that Exceeded Half the Standard Prescribed in Schedule 2 of Ontario Drinking Water Quality Standards

No inorganic or organic parameter(s) listed in Schedule 23 and 24 of Ontario Regulation 170/03 exceeded half the standard found in Schedule 2 of the Ontario Drinking Water Standard (O. Reg.169/03) during the reporting period.

Most Recent Sodium at the Water Treatment Plant

Date of Sample	Number of Samples	Result Value	Unit of Measure	MAC	Exceedance
April 6,2020	1	16.4	mg/L	20	No
April 7, 2025	1	22.4	mg/L	20	Yes

Note: Sample required every 60 months.

Most Recent Fluoride at the Water Treatment Plant

Date of Sample	Number of Samples	Result Value	Unit of Measure	MAC	Exceedance
April 6, 2020	1	<0.05	mg/L	1.5	No
April 7, 2025	1	<0.05	mg/L	1.5	No

Note: Sample required every 60 months.

Harmful Algae Bloom Microcystins

Date of Sample	Number of Samples	Result Value	Unit of Measure	MDL	Exceedance
July 7, 2025	1	<0.15	mg/L	0.15	No
Aug 11, 2025	1	<0.15	mg/L	0.15	No

Summary of Additional Testing Performed in Accordance with a Legal Instrument

No additional sampling required

Schedule 22

SUMMARY REPORT for MUNICIPALITIES

Municipal Drinking Water Licence (MDWL)	277-101 (issued March 3, 2021)
Drinking Water Works Permit (DWWP)	277-201 (issued March 3, 2021)
Permit to Take Water (PTTW)	1047-BHEGZD (issued Nov 14, 2019)
Reporting Period	January 1, 2025 to December 31, 2025

REQUIREMENTS THE SYSTEM FAILED TO MEET

There was a MOECP Inspection conducted on Oct 6, 2025.

(We received a 100% Compliance rating)

The system met all requirements during the 2025 operational period.

RATED CAPACITY & FLOW RATES APPROVED IN THE SYSTEMS LICENCE AND PERMIT

The following tables and graphs indicate the quantities and flow rates of water taken and produced during the reporting period, including monthly average flows, maximum daily flows and the total monthly volumes. A comparison of the water data is made to the rated capacity and flow rates specified in the system's Permit to Take Water and the Municipal Drinking Water License.

Raw Water Usage for 2025

	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
<i>Average Volume (m³/d)</i>	189	193	161	155	161	152	149	183	157	141	139	144
<i>Maximum Volume (m³/d)</i>	223	225	178	176	270	208	177	226	207	244	163	198
<i>Total Volume (m³)</i>	5864	5214	4993	4486	4984	4547	4604	5678	4723	4363	4171	4467
<i>Peak Flow Rate (L/min)</i>	618.6	618.6	618.6	618.6	618.6	618.6	400.2	618.6	586.2	618.6	618.6	618.6

Latchford DWS' Permit to Take Water (PTTW) #1047-BHEGZD (issued Nov 14, 2019) allows the Town of Latchford to withdraw water at a maximum total daily volume of 545.76 m³/day and at a maximum flow rate of 379 L/minute from Bay Lake. The maximum volume taken was 270 m³/day which is within the compliance limits. The high peak flow rates shown in the raw water table occur during the startup of the plant and last less than 2 minutes and are not an accurate representation of the peak flow rates. The total raw water produced or taken from the source was 58,094 m³ in 2025.

Daily Volume of Water in to the Distribution System in 2025

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Volume (m ³ /d)	152	151	127	122	123	120	115	140	124	110	106	107
Maximum Volume (m ³ /d)	171	178	143	137	208	151	131	179	171	206	130	120
% Rated Capacity	34.2	35.6	28.6	27.4	41.6	30.2	26.2	35.8	34.2	41.2	26.0	24.0
Total Volume (m ³)	4710	4231	3938	3653	3691	3595	3447	4343	3719	3422	3172	3302
Rated Capacity (MDWL)	500	500	500	500	500	500	500	500	500	500	500	500

Schedule C, Section 1.1 of the MDWL requires that the maximum daily volume of treated water that flows to the distribution system shall not exceed 500 m³/day. This rate was not exceeded during the reporting period. The maximum recorded volume was 208 m³/day which represents approximately 41.6 % of the rated capacity.

The Total Volume pumped to distribution was 45,223 m³ in 2025

Summary of System Performance

The following information is provided to enable the Owner to assess the capability of the system to meet existing and future water usage needs:

Rated Capacity of the Plant (MDWL)	500 m ³ /day	
Average Daily Flow for 2024	125 m ³ /day	25.0 % of the rated capacity
Maximum Daily Flow for 2023	208 m ³ /day	41.6 % of the rated capacity
Total Treated Water Produced in 2023	45,223 m ³	

PLANT EFFICIENCY – RAW VOLUME TAKEN VRS TREATED VOLUME

Treated Flow 45,223 m³ / Raw Flow 58,094 m³ = **77.8 %** Efficiency

4.0 CONCLUSION

The Latchford Drinking Water System met the regulatory requirements of the Safe Drinking Water Act and its Regulations.

The system was able to operate in accordance with the terms and conditions of the Permit to Take Water, with the exception of the flow rate exceedances on pump start up, the drinking water works permit and municipal drinking water license during the reporting period. It also operated in accordance with the rated capacity of the approval and license while meeting the community's demand for water use.