Western Trent Drinking Water System

2025 Annual Water Report

Drinking Water System Number: 220008131

Drinking Water System Operating Authorities: City of Kawartha Lakes and Ontario Clean Water Agency

Drinking Water System Category: Large Municipal Residential

Reporting Period: January 1st – December 31st, 2025

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Annual Drinking Water Report
City of Kawartha Lakes

Kawartha Lakes
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2025 Annual Drinking Water System Summary Report

General Information

The City of Kawartha Lakes prepares a report summarizing system operation and water quality for every municipal drinking water system annually. This report has been prepared to satisfy the annual reporting requirements in O. Reg. 170/03 Section 11 and Schedule 22. The annual reports will be available to residents at the City of Kawartha Lakes Public Works Administration Office by appointment and the City's website. Notification that the reports are available free of charge will be made on the City of Kawartha Lakes website. The City of Kawartha Lakes Public Works Administration Office is located at 322 Kent Street West in Lindsay, Ontario.

This system does not serve more than 10,000 residences.

Drinking Water System Number: 220008131
Drinking Water System Name: Western Trent Drinking Water System
Drinking Water System Owner: City of Kawartha Lakes
Drinking Water System Category: Large Municipal Residential
Reporting Period: January 1, 2025 – December 31, 2025

Compliance Summary

Table 1. Drinking Water Compliance Summary

	Number of Events	Date (yyyy/mm/dd)	Details
Ministry (MECP) Inspections	1	2025 05 22	Announced Focused Drinking Water Inspection – Final Inspection Rating was 100%
Adverse Water Quality Incidents (AWQIs)	1	2025 01 13	Loss of pressure due to backup generator fault during a routine generator test run
Non-Compliances	0		
Boil Water Advisories	1	2025 01 13	Issued for AWQI noted above
Health and Safety	0		

Drinking Water System Description

The Western Trent drinking water system is a large municipal residential drinking water system serving the Western Trent and Palmina subdivisions located in Bolsover, Ontario, within the City of Kawartha Lakes. The drinking water system is classified as a Class I Water Treatment and Class I Water Distribution subsystem in accordance with O. Reg. 128/04.

Source Water

The water supply for the system is obtained from two groundwater wells identified as Well #1 (Palmina Well) and Well #2 (Western Trent Well). These wells are designated as GUDI, meaning they are groundwater under the direct influence of surface water.

Water Treatment Facility

The Western Trent water treatment facility includes cartridge filtration and a sodium hypochlorite disinfection system that provides both primary and secondary disinfection. Treated water is directed through a contact tank followed by a dual-cell reservoir (clearwell) and high lift pumps, including two vertical turbine high lift pumps, to deliver water to the distribution system.

A diesel generator is located onsite to provide standby power to the water treatment facility in the event of a power failure.

Distribution System

The distribution system consists of approximately 4.73 kilometres of PVC watermain and is not rated for fire protection. There is no treated water storage facilities, chlorine boosting stations, secondary disinfection processes or pressure boosting capabilities within the control of the distribution system.

Table 2. Treatment Chemicals Used

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technologies

Summary of Non-Compliance

Adverse Water Quality Incidents

Table 3. Adverse Water Quality Incidents

Date (yyyy/mm/dd)	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
2025 01 13	167200	Distribution	System pressure loss	Due to backup generator fault during a routine generator test run	O. Reg. 170/03	Boil Water Order issued by MOH, BWA delivered to residents. Once power restored samples collected

Non-Compliance

There were no non-compliances reported during the reporting period.

Non-Compliance Identified in a Ministry Inspection

There were no non-compliances identified in a Ministry Inspection during this period.

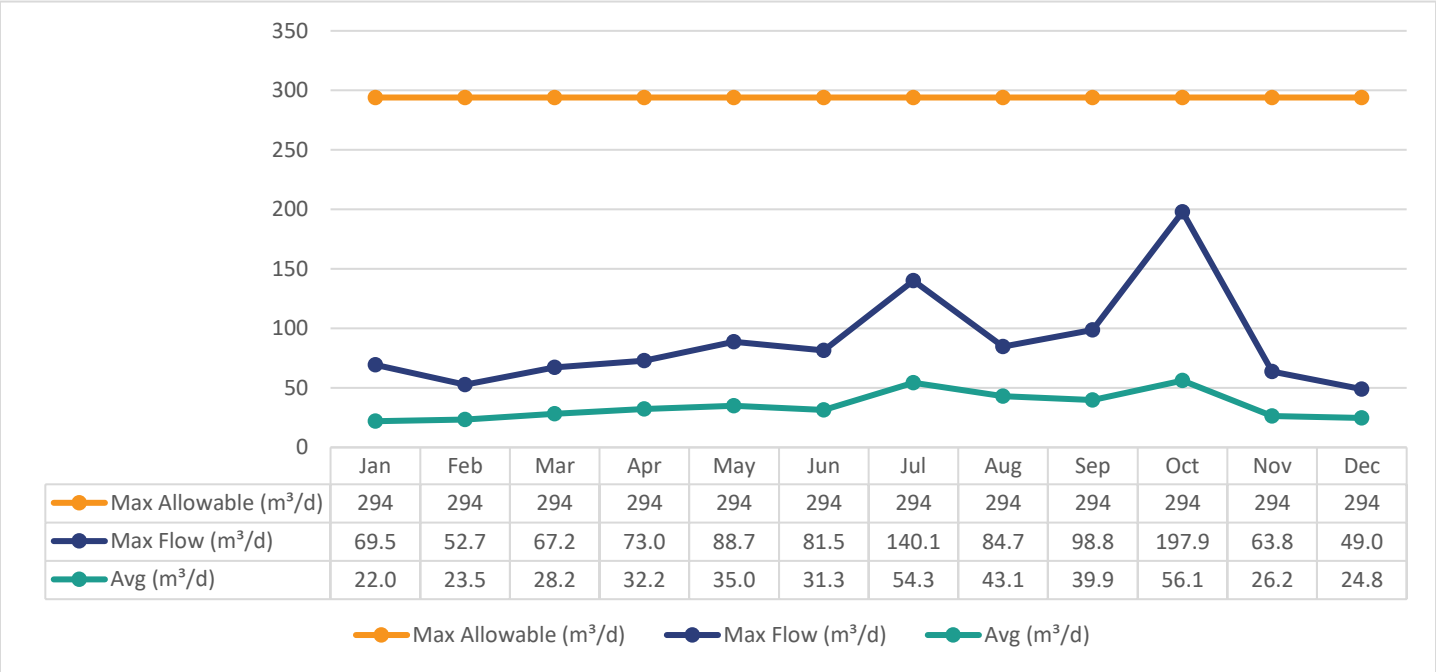
Flows

The Western Trent Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 293.8 m^3/day.

Raw Water Flows

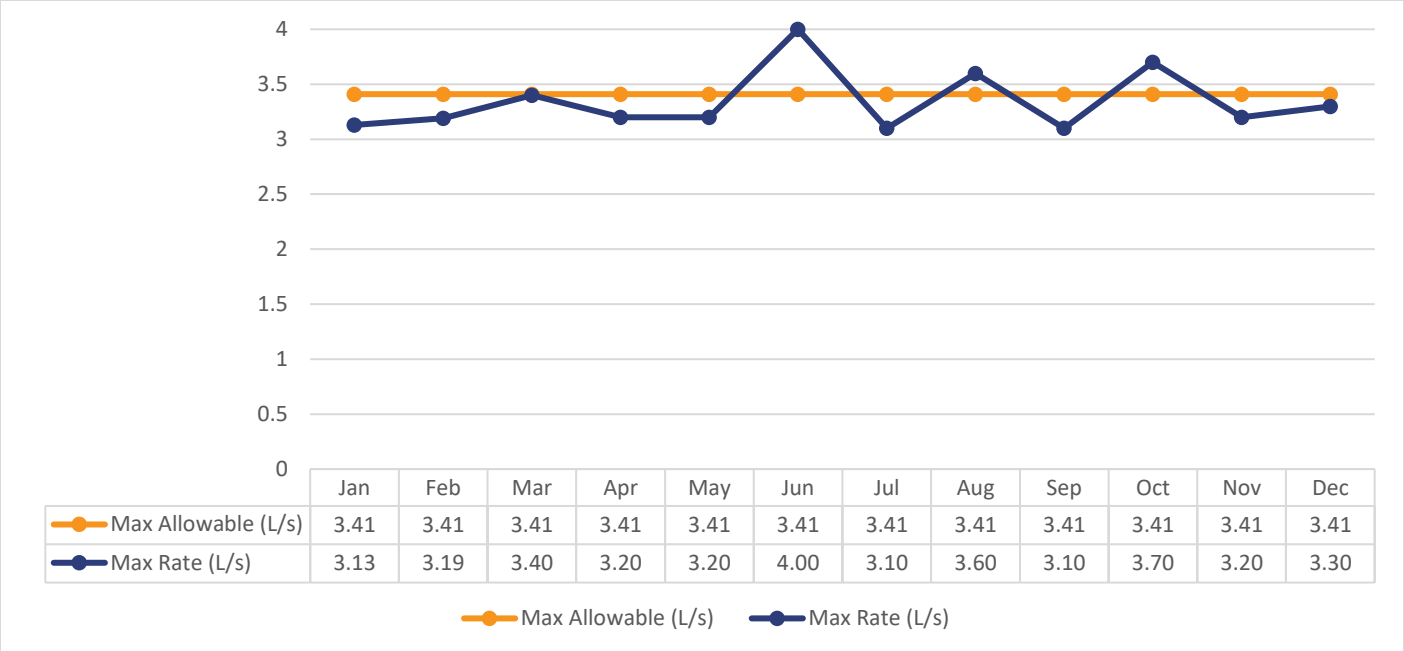
The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2025 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #2180-B4CKK3. The Permit to Take Water compliance criteria is in litres per minute (L/min) but for the purposes of this report the flow rate is reported in litres per second (L/sec) based on industry standard for flow monitoring recording. The confirmation of the data that was submitted is attached in Appendix A.

Graph 1. Total Monthly Flows (m³/d) – Well #1 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	294	294	294	294	294	294	294	294	294	294	294	294
Max Flow (m³/d)	69.5	52.7	67.2	73.0	88.7	81.5	140.1	84.7	98.8	197.9	63.8	49.0
Avg (m³/d)	22.0	23.5	28.2	32.2	35.0	31.3	54.3	43.1	39.9	56.1	26.2	24.8

Graph 2. Monthly Rated Flows (L/s) – Well #1 (Max Allowable Rate PTTW)

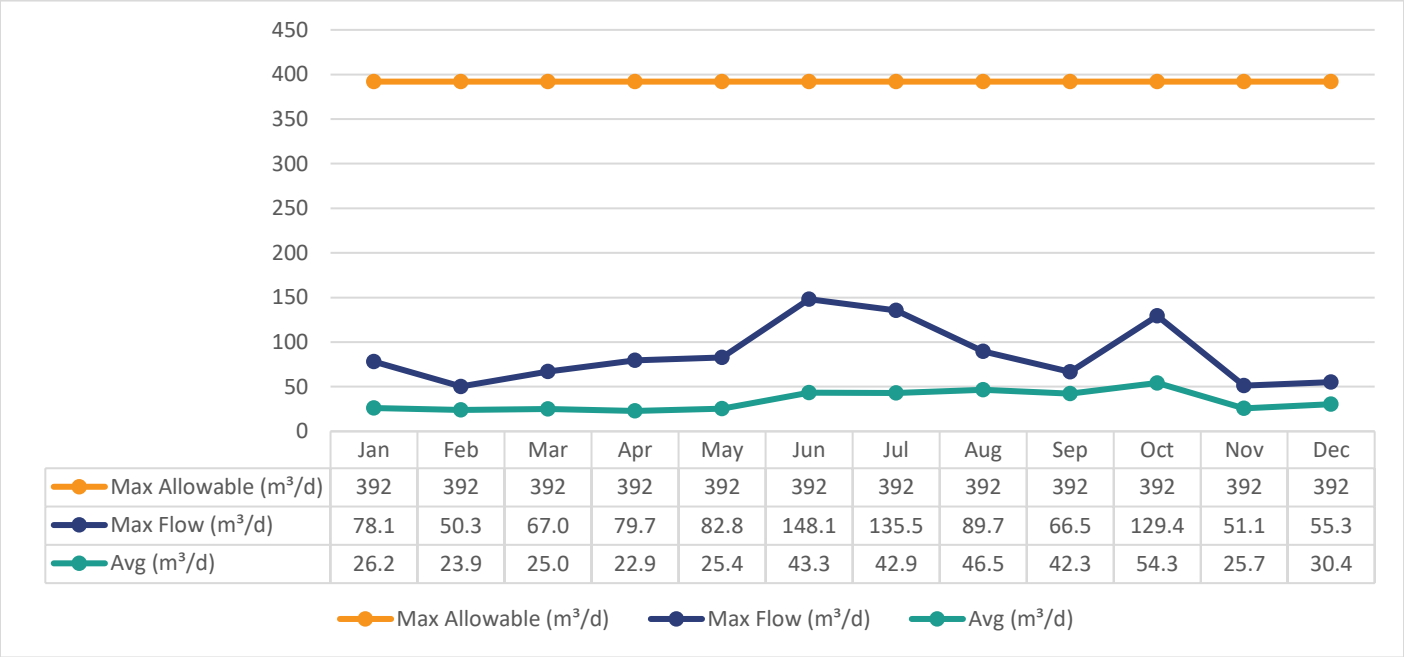


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41
Max Rate (L/s)	3.13	3.19	3.40	3.20	3.20	4.00	3.10	3.60	3.10	3.70	3.20	3.30

Note: The above table shows exceedances in instantaneous peak flow rate (L/s) in June, August and October. The actual limit in the PTTW is 205 L/min. Spikes recorded by online instrumentation were a result of filters locking out and various maintenance/calibration activities. All spikes are

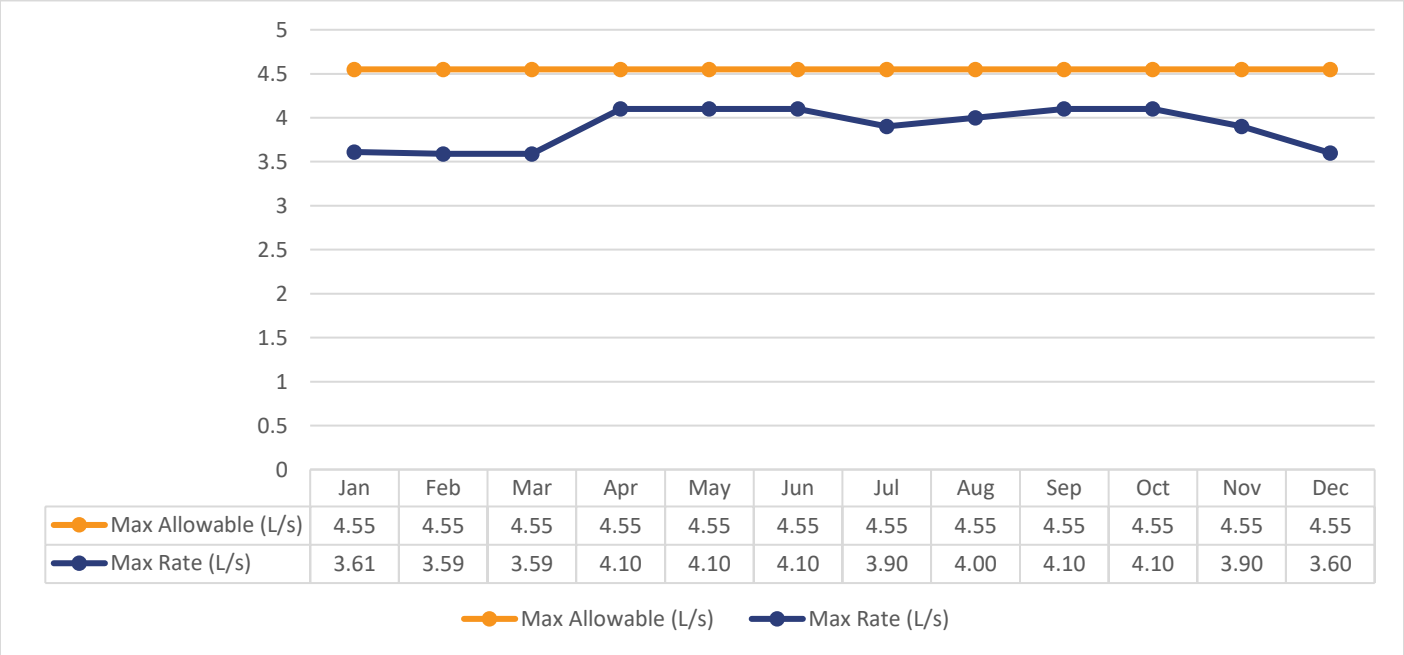
reviewed for compliance with O. Reg. 170/03, any true exceedance would be documented in this report.

Graph 3. Total Monthly Flows (m³/d) – Well #2 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	392	392	392	392	392	392	392	392	392	392	392	392
Max Flow (m³/d)	78.1	50.3	67.0	79.7	82.8	148.1	135.5	89.7	66.5	129.4	51.1	55.3
Avg (m³/d)	26.2	23.9	25.0	22.9	25.4	43.3	42.9	46.5	42.3	54.3	25.7	30.4

Graph 4. Monthly Rated Flows (L/s) – Well #2 (Max Allowable Rate

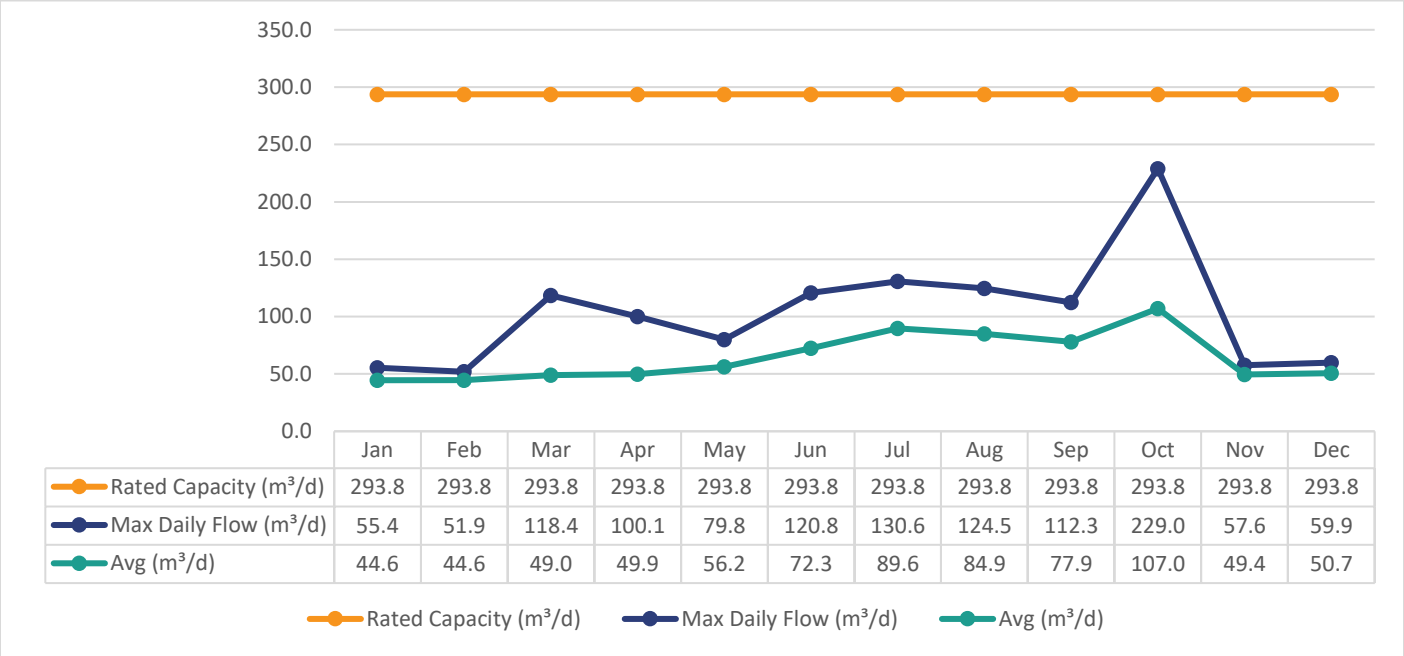


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55
Max Rate (L/s)	3.61	3.59	3.59	4.10	4.10	4.10	3.90	4.00	4.10	4.10	3.90	3.60

Treated Water Flows

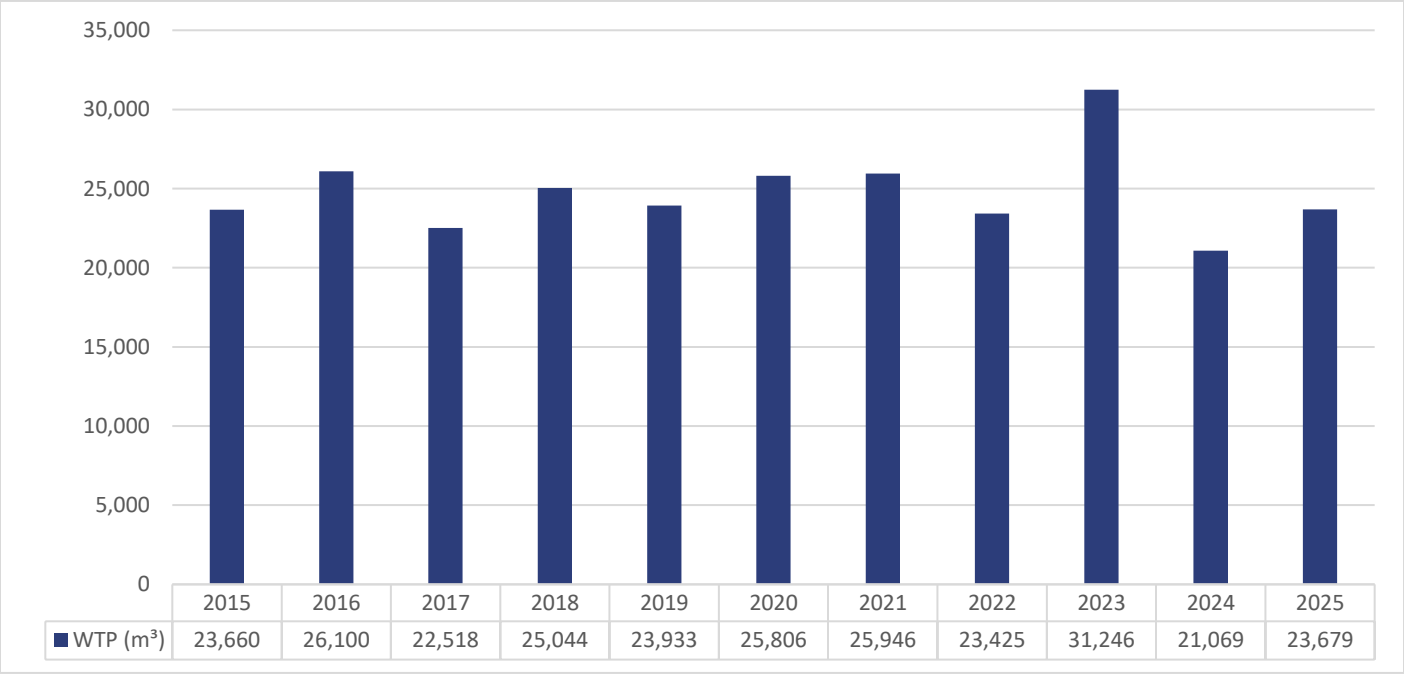
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-102.

Graph 5. Monthly Rated Flows (m³/d) – Rated Capacity - MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m³/d)	293.8	293.8	293.8	293.8	293.8	293.8	293.8	293.8	293.8	293.8	293.8	293.8
Max Daily Flow (m³/d)	55.4	51.9	118.4	100.1	79.8	120.8	130.6	124.5	112.3	229.0	57.6	59.9
Avg (m³/d)	44.6	44.6	49.0	49.9	56.2	72.3	89.6	84.9	77.9	107.0	49.4	50.7

Graph 6. Annual Total Flow Comparison (m³)



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
WTP (m³)	23,660	26,100	22,518	25,044	23,933	25,806	25,946	23,425	31,246	21,069	23,679

Regulatory Sample Results Summary

Microbiological Testing

Table 4. Microbiological Test Results

	Number of Samples Collected	Range of E. Coli Results	Range of E. Coli Results	Range of Total Coliform Results	Range of Total Coliform Results	Range of HPC Results	Range of HPC Results
		Min	Max	Min	Max	Min	Max
Raw Well 1	52	0	1	0	5	N/A	N/A
Raw Well 2	52	0	2	0	5	N/A	N/A
Treated	52	0	0	0	0	0	3
Distribution	158	0	0	0	0	0	6

OG = Overgrowth
HPC = Heterotrophic Plate Count

Operational Testing

Table 5. Operational Test Results

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Filter 1 (NTU)	8760	0.00	1.55
Turbidity Filter 2 (NTU)	8760	0.00	1.55
Chlorine	8760	0.94	2.52
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

Note: Record the unit of measurement if it is **not** milligrams per litre.
Note: For continuous monitors 8760 is used as the number of samples. Spikes recorded by online instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O. Reg. 170/03.

Inorganic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. Sodium and Fluoride are required to be tested every five years. Nitrate and Nitrate are tested quarterly and the metals are tested annually as required under O. Reg. 170/03. In the event any of the parameters listed in Schedule 23 or 24 of O. Reg. 170/03 exceed half of the maximum allowable concentration the

parameter is required to be samples quarterly. Based on the latest test results no additional testing is required.

Table 6. Inorganic Parameters Test Results

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Treated Water					
Antimony	2025 09 03	<MDL 0.6	µg/L	6.0	No
Arsenic	2025 09 03	<MDL 0.2	µg/L	10.0	No
Barium	2025 09 03	59.5	µg/L	1000.0	No
Boron	2025 09 03	75.0	µg/L	5000.0	No
Cadmium	2025 09 03	0.004	µg/L	5.0	No
Chromium	2025 09 03	1.12	µg/L	50.0	No
Mercury	2025 09 03	<MDL 0.01	µg/L	1.0	No
Selenium	2025 09 03	0.07	µg/L	50.0	No
Uranium	2025 09 03	0.245	µg/L	20.0	No
Additional Organics					
Fluoride	2023 12 04	0.13	mg/L	1.5	No
Nitrite	2025 01 07	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 04 07	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 07 08	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 10 06	<MDL 0.003	mg/L	1.0	No
Nitrate	2025 01 07	0.18	mg/L	10.0	No
Nitrate	2025 04 07	0.054	mg/L	10.0	No
Nitrate	2025 07 08	0.076	mg/L	10.0	No
Nitrate	2025 10 06	0.728	mg/L	10.0	No
Sodium	2023 12 11	21.5	mg/L	20*	Yes

MAC = Maximum Allowable Concentration as per O. Reg. 169/03
MDL = Method Detection Limit
*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. Sodium results exceeding 20 mg/L are to be reported to the Medical Officer of Health as per Schedule 16-3 (8) of O. Reg. 170/03.

Schedule 15 Sampling (Lead)

The Schedule 15 sampling is required under O. Reg. 170/03. This system is under reduced sampling. Only distribution samples were collected, and no plumbing samples were collected.

Table 7. Schedule 15 Test Results (Lead)

	Number of Sampling Points	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (µg/L)	Number of Exceedances
Alkalinity (mg/L)	1	2	215	217	N/A	N/A
pH	1	2	7.29	7.37	N/A	N/A
Lead (µg/L)	0	0	N/A	N/A	10.0	N/A

Organic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. In the event any of the parameters listed in Schedule 23 or 24 of O. Reg. 170/03 exceed half of the maximum allowable concentration the parameter is required to be samples quarterly. Based on the latest test results no additional testing is required.

Table 8. Organic Parameters Test Results

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Treated Water					
Alachlor	2025 09 03	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2025 09 03	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2025 09 03	<MDL 0.05	µg/L	20.0	No
Benzene	2025 09 03	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2025 09 03	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2025 09 03	<MDL 0.33	µg/L	5.0	No
Carbaryl	2025 09 03	<MDL 0.05	µg/L	90.0	No
Carbofuran	2025 09 03	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2025 09 03	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2025 09 03	<MDL 0.02	µg/L	90.0	No
Diazinon	2025 09 03	<MDL 0.02	µg/L	20.0	No
Dicamba	2025 09 03	<MDL 0.2	µg/L	120.0	No
1,2-Dichlorobenzene	2025 09 03	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2025 09 03	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2025 09 03	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2025 09 03	<MDL 0.33	µg/L	14.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Dichloromethane (Methylene Chloride)	2025 09 03	<MDL 0.35	µg/L	50.0	No
2,4-Dichlorophenol	2025 09 03	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2025 09 03	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2025 09 03	<MDL 0.4	µg/L	9.0	No
Dimethoate	2025 09 03	<MDL 0.06	µg/L	20.0	No
Diquat	2025 09 03	<MDL 1.0	µg/L	70.0	No
Diuron	2025 09 03	<MDL 0.03	µg/L	150.0	No
Glyphosate	2025 09 03	<MDL 1.0	µg/L	280.0	No
Malathion	2025 09 03	<MDL 0.02	µg/L	190.0	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2025 09 03	<MDL 0.12	µg/L	100.0	No
Metolachlor	2025 09 03	<MDL 0.01	µg/L	50.0	No
Metribuzin	2025 09 03	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2025 09 03	<MDL 0.3	µg/L	80.0	No
Paraquat	2025 09 03	<MDL 1.0	µg/L	10.0	No
PCB	2025 09 03	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2025 09 03	<MDL 0.15	µg/L	60.0	No
Phorate	2025 09 03	<MDL 0.01	µg/L	2.0	No
Picloram	2025 09 03	<MDL 1.0	µg/L	190.0	No
Prometryne	2025 09 03	<MDL 0.03	µg/L	1.0	No
Simazine	2025 09 03	<MDL 0.01	µg/L	10.0	No
Terbufos	2025 09 03	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2025 09 03	<MDL 0.35	µg/L	10.0	No
2,3,4,6-Tetrachlorophenol	2025 09 03	<MDL 0.2	µg/L	100.0	No
Triallate	2025 09 03	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2025 09 03	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2025 09 03	<MDL0.25	µg/L	5.0	No
Trifluralin	2025 09 03	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2025 09 03	<MDL 0.17	µg/L	1.0	No
Distribution Water					
Trihalomethane Total Annual Average Q1	2025 01 07	43.50	µg/L	100.0	No
Trihalomethane Total Annual Average Q2	2025 04 07	42.75	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2025 07 08	43.25	µg/L	100.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Trihalomethane Total Annual Average Q4	2025 10 06	45.25	µg/L	100.0	No
HAA Total Annual Average Q1	2025 01 07	8.38	µg/L	80.0	No
HAA Total Annual Average Q2	2025 04 07	9.95	µg/L	80.0	No
HAA Total Annual Average Q3	2025 07 08	9.73	µg/L	80.0	No
HAA Total Annual Average Q4	2025 10 06	9.85	µg/L	80.0	No

MAC = Maximum Allowable Concentration as O. Reg. 169/03
MDL = Method Detection Limit

Additional Legislated Samples

Under Schedule D of MDWL 141-102 Issue number 6 dated May 10, 2022, Regulatory Relief from ANSI/NSF Standard 53 certification or equivalent was granted for the 1-micron absolute cartridge filters as there are no remaining stock of certified cartridge filters for this drinking water system. Subject to this approval, bacteriological sampling twice per week for all raw sources and treated water is required when the non-certified filters are in use.

As of June 8, 2022, non-ANSI/NSF Standard 53 certified 1-micron absolute cartridge filters, as approved by MECP, were installed and twice per week bacteriological sampling for all raw sources and treated water was initiated. The results for this additional sampling are included in the Microbiological Testing table under the Regulatory Sample Results Summary section of this report.

In 2023, cartridge filter testing was completed in consultation with the MECP. The MECP accepted granting the use of Graver QCR 0.8-micron cartridge for the pathogen removal credits as stated in the Municipal Drinking Water License – Schedule E for the systems specified in the letter only. The letter is dated January 9, 2024.

Minor Maintenance

- Water Hauling
- Purchase Spare Check Valve
- Repair of Generator
- Purchase Parts for Spare Chlorine Injection Spool

Major Maintenance Expense (above $10,000)

Under Section 11 of O. Reg. 170/03, a description of any major expenses incurred during this reporting period to install, repair or replace required equipment must be included in the annual report. The details of the major expenses for this drinking water system are as follows:

- SCADA Upgrades

APPENDIX A

WTR Submission Confirmation