Mariposa Estates Drinking Water System

2025 Annual Water Report

Drinking Water System Number: 220012322

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

Drinking Water System Category: Small Municipal Residential

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

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Annual Drinking Water Report
City of Kawartha Lakes

Kawartha Lakes
Jump In

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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: 220012322
Drinking Water System Name: Mariposa Estates Drinking Water System
Drinking Water System Owner: City of Kawartha Lakes
Drinking Water System Category: Small 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 06 03	Announced Focused Drinking Water Inspection – Final Inspection Rating was 100%
Adverse Water Quality Incidents (AWQIs)	1	2025 01 09	Sodium exceedance. Result was 34.3 mg/L
Non-Compliances	0		
Boil Water Advisories	0		
Health and Safety	0		

Drinking Water System Description

The Mariposa Estates drinking water system is a small municipal residential drinking water system serving a subdivision located near Seagrave, Ontario, within the City of Kawartha Lakes. The drinking water system is classified as a Limited Groundwater 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 and Well #2. These wells are designated as non-GUDI, meaning they are not considered groundwater under the direct influence of surface water.

Water Treatment Facility

The Mariposa Estates treatment facility includes a nitrate removal and softening system, a sodium hypochlorite disinfection system, a single-celled unbaffled underground reservoir, one in-ground wastewater holding tank, and associated online monitoring equipment.

The nitrate removal and softening system is used to address raw water quality parameters prior to disinfection. Sodium hypochlorite provides primary disinfection. The underground reservoir provides treated water storage and chlorine contact time prior to distribution. Waste streams generated during treatment are directed to the in-ground wastewater holding tank for appropriate management.

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 1.3 kilometres of PVC watermain and is not rated for fire protection. There are no additional 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 09	167186	Treated Water	Sodium	Sodium result of 34.3 mg/L exceeded to MAC of 20 mg/L.	O. Reg. 169/03	Flush and resample. Resample returned with elevated result of 35.2 mg/L.

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.

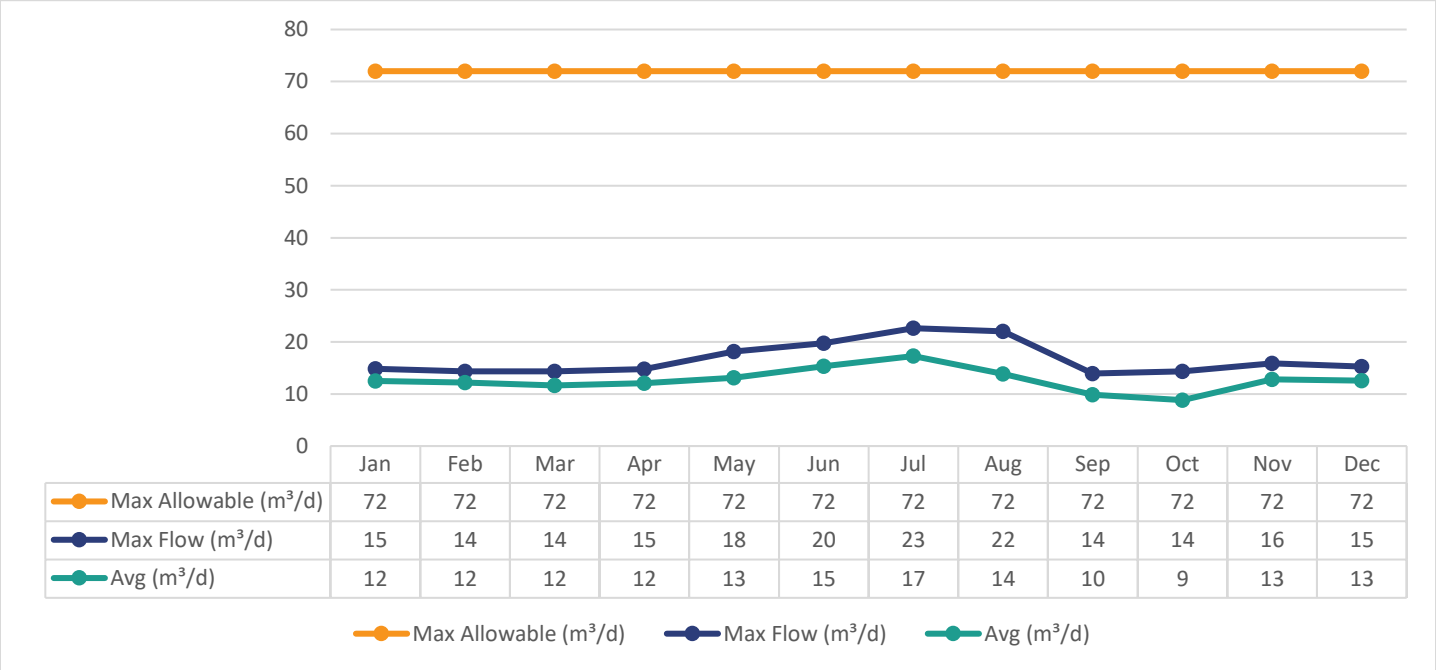
Flows

The Mariposa Estates Drinking Water System is generally operating on average around half the of the facility rated capacity, while in the warmer months, the facility is operating closer to the facility rated capacity. The rated capacity of the system (treated water flows) is 72 m^3/day.

Raw Water Flows

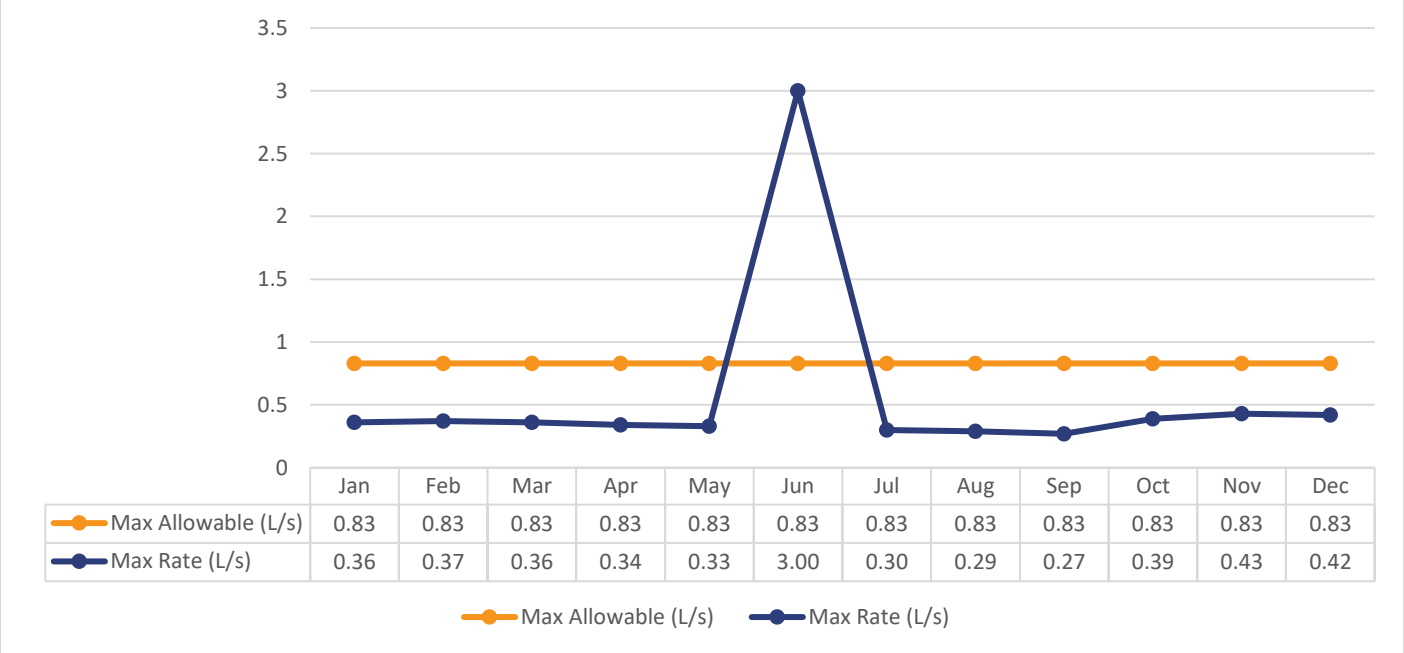
The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2025 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #8473-AZUGSX. The confirmation of the data that was submitted is attached in Appendix A. The Permit to Take 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.

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)	72	72	72	72	72	72	72	72	72	72	72	72
Max Flow (m³/d)	15	14	14	15	18	20	23	22	14	14	16	15
Avg (m³/d)	12	12	12	12	13	15	17	14	10	9	13	13

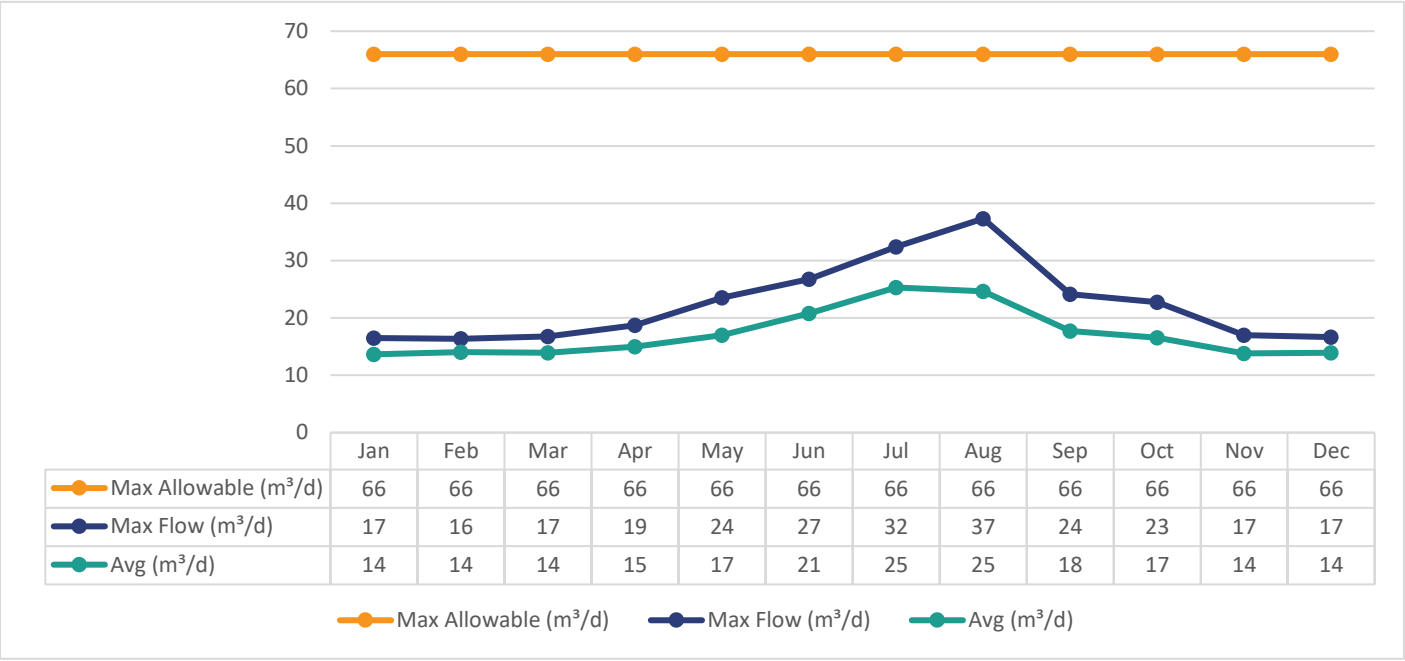
Graph 2. Monthly Rated Flows (L/s) – Well #1 (Max Allowable Rate PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Max Rate (L/s)	0.36	0.37	0.36	0.34	0.33	3.00	0.30	0.29	0.27	0.39	0.43	0.42

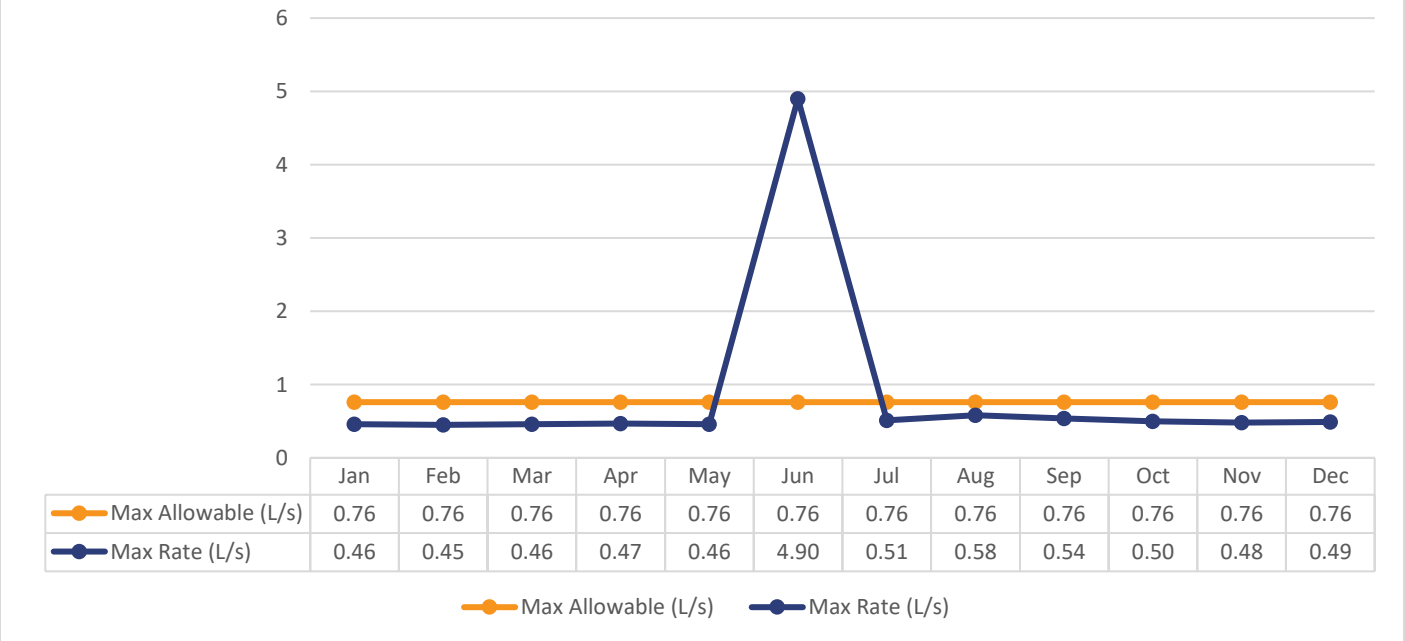
Note: Certain operational circumstances could cause results to be temporarily outside of the allowable rates. In June 2025, the allowable rate was momentarily surpassed as a result of annual calibration of the flow meter and did not indicate a true exceedance. All spikes are reviewed for compliance with O. Reg. 170/03, any true exceedance would be documented within 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)	66	66	66	66	66	66	66	66	66	66	66	66
Max Flow (m³/d)	17	16	17	19	24	27	32	37	24	23	17	17
Avg (m³/d)	14	14	14	15	17	21	25	25	18	17	14	14

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



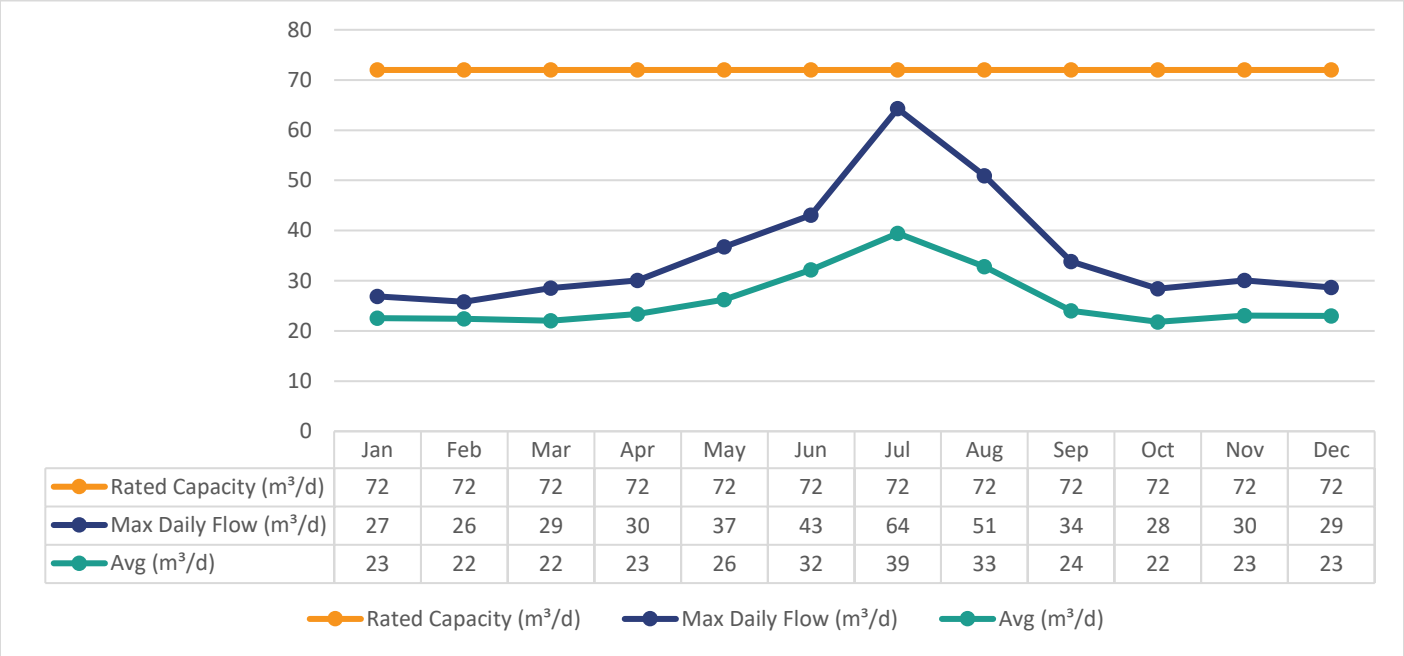
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Max Rate (L/s)	0.46	0.45	0.46	0.47	0.46	4.90	0.51	0.58	0.54	0.50	0.48	0.49

Note: Certain operational circumstances could cause results to be temporarily outside of the allowable rates. In June 2025, the allowable rate was momentarily surpassed as a result of annual calibration of the flow meter and did not indicate a true exceedance. All spikes are reviewed for compliance with O. Reg. 170/03, any true exceedance would be documented in this report.

Treated Water Flows

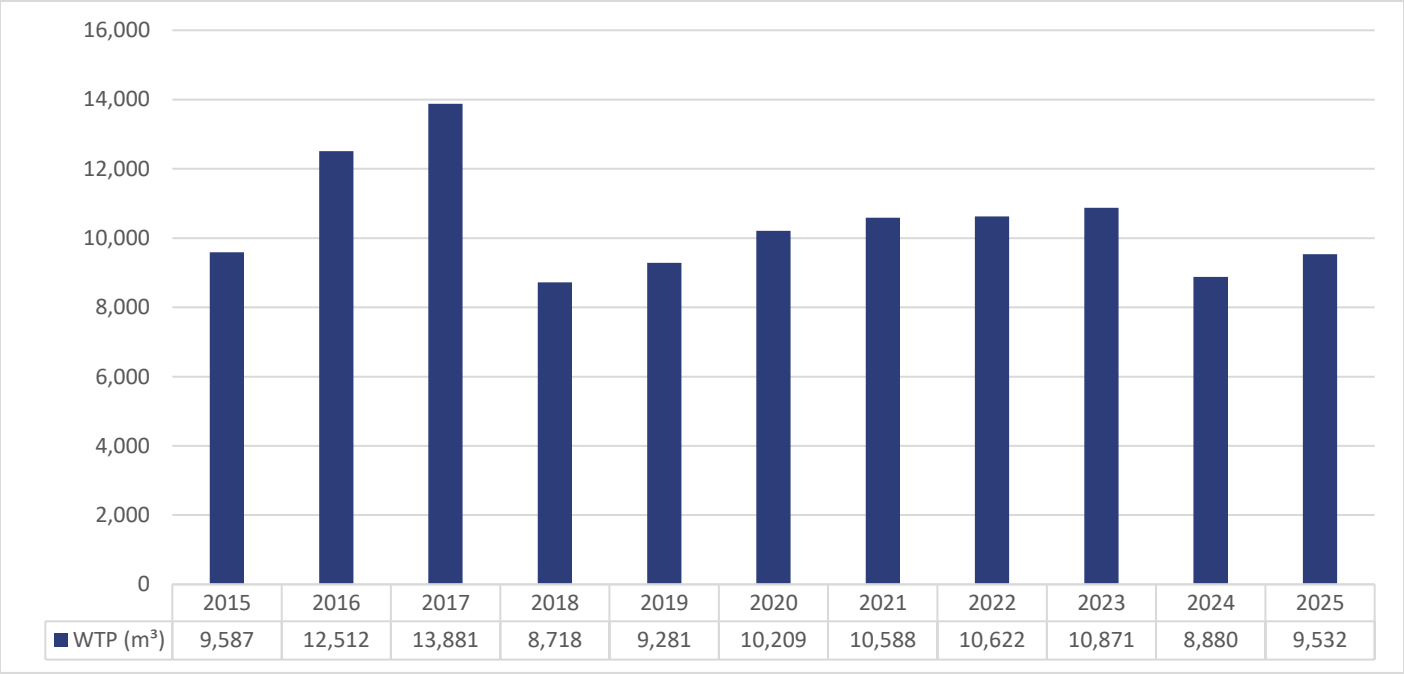
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-117.

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)	72	72	72	72	72	72	72	72	72	72	72	72
Max Daily Flow (m³/d)	27	26	29	30	37	43	64	51	34	28	30	29
Avg (m³/d)	23	22	22	23	26	32	39	33	24	22	23	23

Graph 6. Annual Total Flow Comparison (m³)



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
WTP (m³)	9,587	12,512	13,881	8,718	9,281	10,209	10,588	10,622	10,871	8,880	9,532

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	35	0	0	0	0	N/A	N/A
Raw Well 2	35	0	0	0	0	N/A	N/A
Treated	3	0	0	0	0	0	0
Distribution	52	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 Well 1 (NTU)	12	0.15	0.80
Turbidity Well 2 (NTU)	12	0.13	0.74
Turbidity – TW (NTU)	8760	0.00	2.00
Chlorine	8760	0.00	2.55
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, any true exceedance would be documented in this report.

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 every five years 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 01 06	<MDL 0.06	µg/L	6.0	No
Arsenic	2025 01 06	<MDL 0.2	µg/L	10.0	No
Barium	2025 01 06	17.7	µg/L	1000.0	No
Boron	2025 01 06	14.0	µg/L	5000.0	No
Cadmium	2025 01 06	0.003	µg/L	5.0	No
Chromium	2025 01 06	0.21	µg/L	50.0	No
Mercury	2025 01 06	<MDL 0.01	µg/L	1.0	No
Selenium	2025 01 06	0.05	µg/L	50.0	No
Uranium	2025 01 06	0.34	µg/L	20.0	No
Additional Organics					
Fluoride	2025 01 06	<MDL 0.06	mg/L	1.5	No
Nitrite	2025 01 06	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 04 07	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 07 07	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 10 06	<MDL 0.003	mg/L	1.0	No
Nitrate	2025 01 06	2.34	mg/L	10.0	No
Nitrate	2025 04 07	4.76	mg/L	10.0	No
Nitrate	2025 07 07	4.45	mg/L	10.0	No
Nitrate	2025 10 06	3.75	mg/L	10.0	No
Sodium	2025 01 06	34.3	mg/L	20*	Yes
Sodium	2025 01 09	35.2	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	293	309	N/A	N/A
pH	1	2	7.42	7.48	N/A	N/A
Lead (µg/L)	N/A	N/A	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 01 06	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2025 01 06	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2025 01 06	<MDL 0.05	µg/L	20.0	No
Benzene	2025 01 06	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2025 01 06	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2025 01 06	<MDL 0.33	µg/L	5.0	No
Carbaryl	2025 01 06	<MDL 0.05	µg/L	90.0	No
Carbofuran	2025 01 06	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2025 01 06	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2025 01 06	<MDL 0.02	µg/L	90.0	No
Diazinon	2025 01 06	<MDL 0.02	µg/L	20.0	No
Dicamba	2025 01 06	<MDL 0.2	µg/L	120.0	No
1,2-Dichlorobenzene	2025 01 06	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2025 01 06	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2025 01 06	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2025 01 06	<MDL 0.33	µg/L	14.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Dichloromethane (Methylene Chloride)	2025 01 06	<MDL 0.35	µg/L	50.0	No
2,4-Dichlorophenol	2025 01 06	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2025 01 06	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2025 01 06	<MDL 0.4	µg/L	9.0	No
Dimethoate	2025 01 06	<MDL 0.06	µg/L	20.0	No
Diquat	2025 01 06	<MDL 1.0	µg/L	70.0	No
Diuron	2025 01 06	<MDL 0.03	µg/L	150.0	No
Glyphosate	2025 01 06	<MDL 1.0	µg/L	280.0	No
Malathion	2025 01 06	<MDL 0.02	µg/L	190.0	No
2-Methyl-4-chlorophenoxyacetic Acid (MCPA)	2025 01 06	<MDL 0.12	µg/L	100.0	No
Metolachlor	2025 01 06	<MDL 0.01	µg/L	50.0	No
Metribuzin	2025 01 06	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2025 01 06	<MDL 0.3	µg/L	80.0	No
Paraquat	2025 01 06	<MDL 1.0	µg/L	10.0	No
PCB	2025 01 06	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2025 01 06	<MDL 0.15	µg/L	60.0	No
Phorate	2025 01 06	<MDL 0.01	µg/L	2.0	No
Picloram	2025 01 06	<MDL 1.0	µg/L	190.0	No
Prometryne	2025 01 06	<MDL 0.03	µg/L	1.0	No
Simazine	2025 01 06	<MDL 0.01	µg/L	10.0	No
Terbufos	2025 01 06	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2025 01 06	<MDL 0.35	µg/L	10.0	No
2,3,4,6-Tetrachlorophenol	2025 01 06	<MDL 0.2	µg/L	100.0	No
Triallate	2025 01 06	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2025 01 06	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2025 01 06	<MDL 0.25	µg/L	5.0	No
Trifluralin	2025 01 06	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2025 01 06	<MDL 0.17	µg/L	1.0	No
Distribution Water					
Trihalomethane Total Annual Average Q1	2025 01 06	14.00	µg/L	100.0	No
Trihalomethane Total Annual Average Q2	2025 04 07	15.00	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2025 07 07	11.00	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	15.00	µg/L	100.0	No
HAA Total Annual Average Q1	2025 01 06	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q2	2025 04 07	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q3	2025 07 07	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q4	2025 10 06	<MDL 5.3	µg/L	80.0	No

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

Additional Legislated Samples

There were no additional legislated samples required to report during this reporting period.

Minor Maintenance

- Emergency lights pump room, repair
- Hydro panel upgrade
- Water softener repair
- Old electrical panel removal
- De Alk. filter service
- Pump screen cleaning
- Bell line repair
- Chlorine leak repair
- Water Softener, Train 1 and Train 2 flow meter replacement

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:

Nothing to report for the reporting period.

APPENDIX A

WTR Submission Confirmation