Pinewood Drinking Water System

2024 Annual Water Report

Drinking Water System Number: 220006464

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

Drinking Water System Category: Large Municipal Residential

Reporting Period: January 1 – December 31, 2024

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Annual Drinking Water Report
City of Kawartha Lakes

Kawartha Lakes
Jump In

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2024 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: 220006464
Drinking Water System Name: Pinewood Drinking Water System
Drinking Water System Owner: City of Kawartha Lakes
Drinking Water System Category: Large Municipal Residential
Reporting Period: January 1, 2024 – December 31, 2024

Compliance Summary

Table 1. Drinking Water Compliance Summary

	Number of Events	Date	Details
Ministry (MECP) Inspections	1	September 12, 2024	Unannounced Focused Drinking Water Inspection – Final Inspection Rate of 99.09%
Adverse Water Quality Incidents (AWQIs)	1	November 24, 2024	Loss of pressure due to loss of power and generator issue
Non-Compliances	1	November 19, 2024	System registration information not current
Boil Water Advisories	1	November 24 – 27, 2024	Loss of pressure due to loss of power and generator issue.

	Number of Events	Date	Details
Health and Safety	0		

Drinking Water System Description

The Pinewood drinking water system is a large municipal residential drinking water system that serves the Pinewood subdivision located in Pontypool, in the City of Kawartha Lakes. The drinking water system is classified as a Class II Water Distribution and Supply subsystem under O. Reg. 128/04.

Source Water

The water supply for the system comes from two groundwater wells: Well #4 and Well #5. The wells are designated as non-GUDI (groundwater under the direct influence).

Water Treatment Facility

The treatment system consists of the following: disinfection system using sodium hypochlorite, a two-celled reservoir to provide chlorine contact and storage, three high lift pumps and continuous online monitoring for free chlorine and flow.

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

Distribution System

The distribution system has approximately 4.1 kilometers of watermains and is not rated for fire protection. The watermains in the Pinewood Distribution System are all PVC. There is no storage, chlorine boosting, secondary disinfection 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	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
2024 11 24	166929	Treated Water	Loss of Pressure	Issue with generator transfer during power outage resulted in loss of pressure	O. Reg. 170/03	MOH issued BWA for the system, took 2 sets of bacti samples, results all clear, BWA rescinded, generator investigated and repaired.

Non-Compliance

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

Non-Compliance Identified in a Ministry Inspection

Table 4. Non-Compliance Identified in a Ministry Inspection

Legislation	Requirement(s) System Failed to Meet	Duration of Failure (Dates)	Corrective Action	Status
SDWA, O. Reg. 170/03, 10.1 (3)	Requirement to provide MECP changes to the system registration information within ten (10) days of the change	November 7, 2024	Submitted updated system registration information paperwork to MECP	Completed

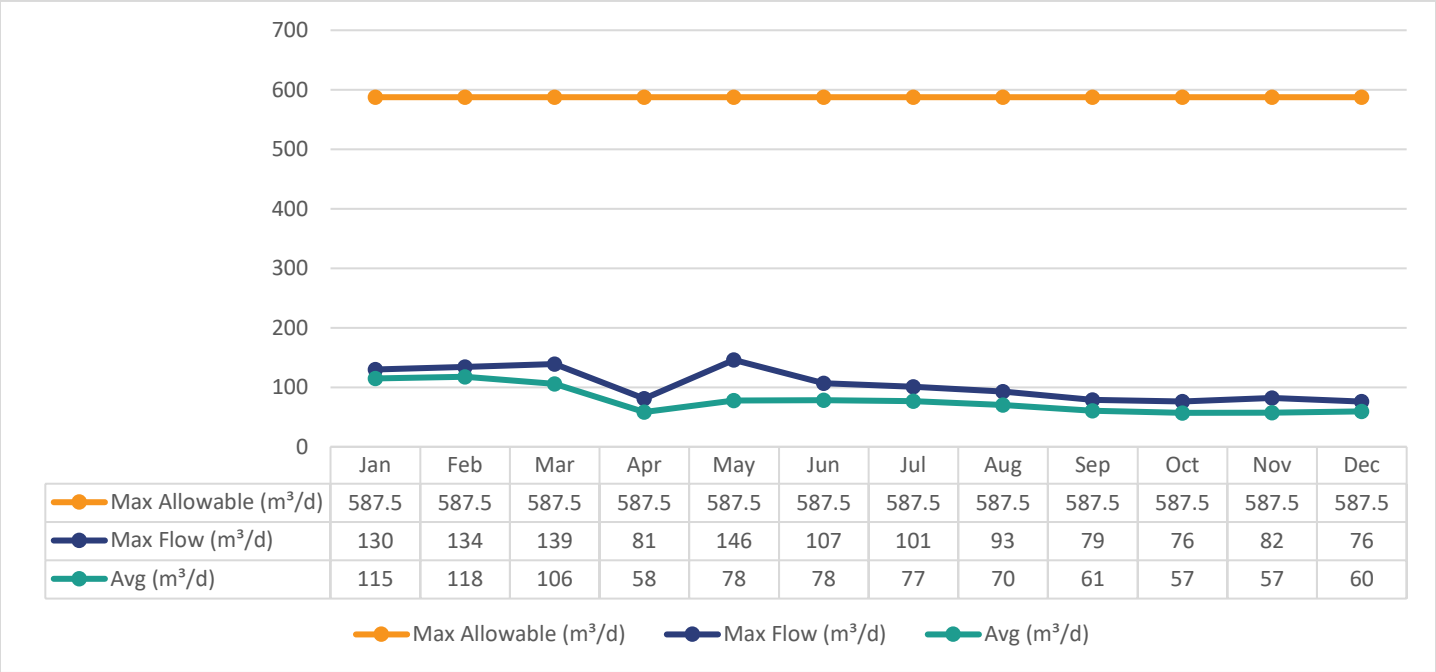
Flows

The Pinewood Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 590 m³/day.

Raw Water Flows

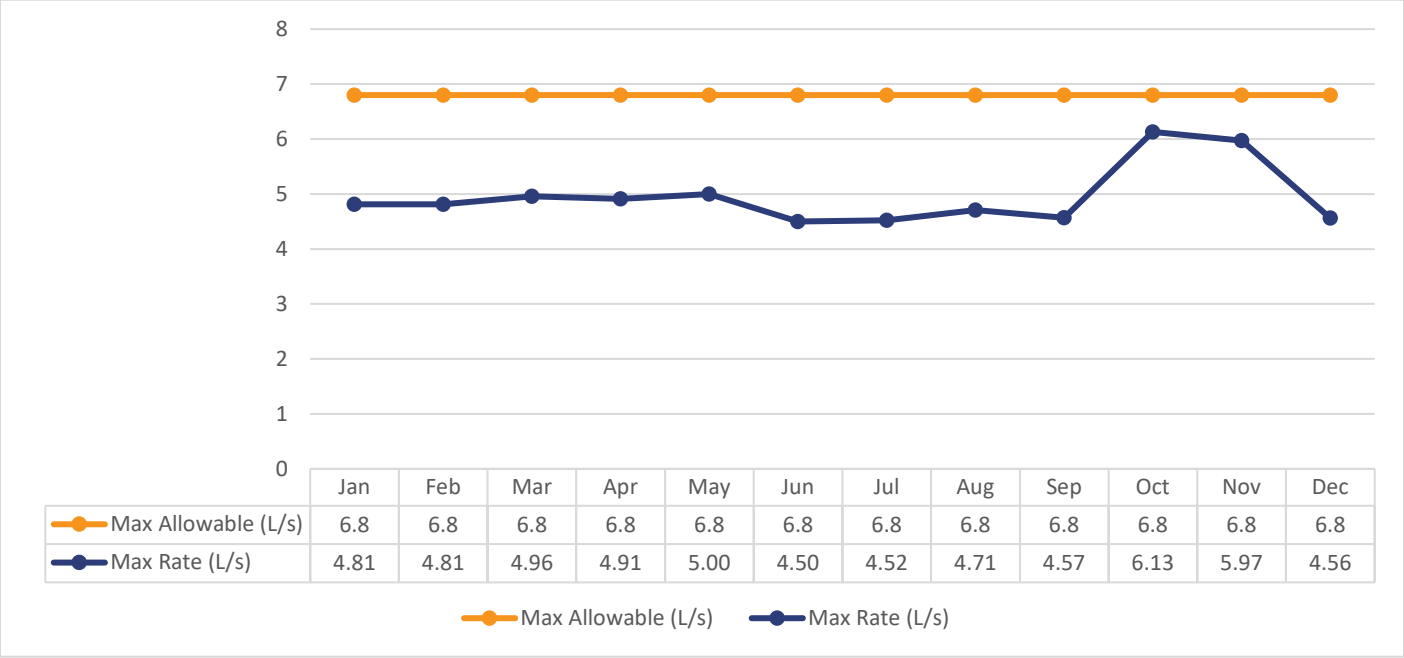
The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2024 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #7473-BBTPTY. The confirmation of the data that was submitted is attached in Appendix A. The Permit to Take 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 #4 (Max Allowable PTTW)



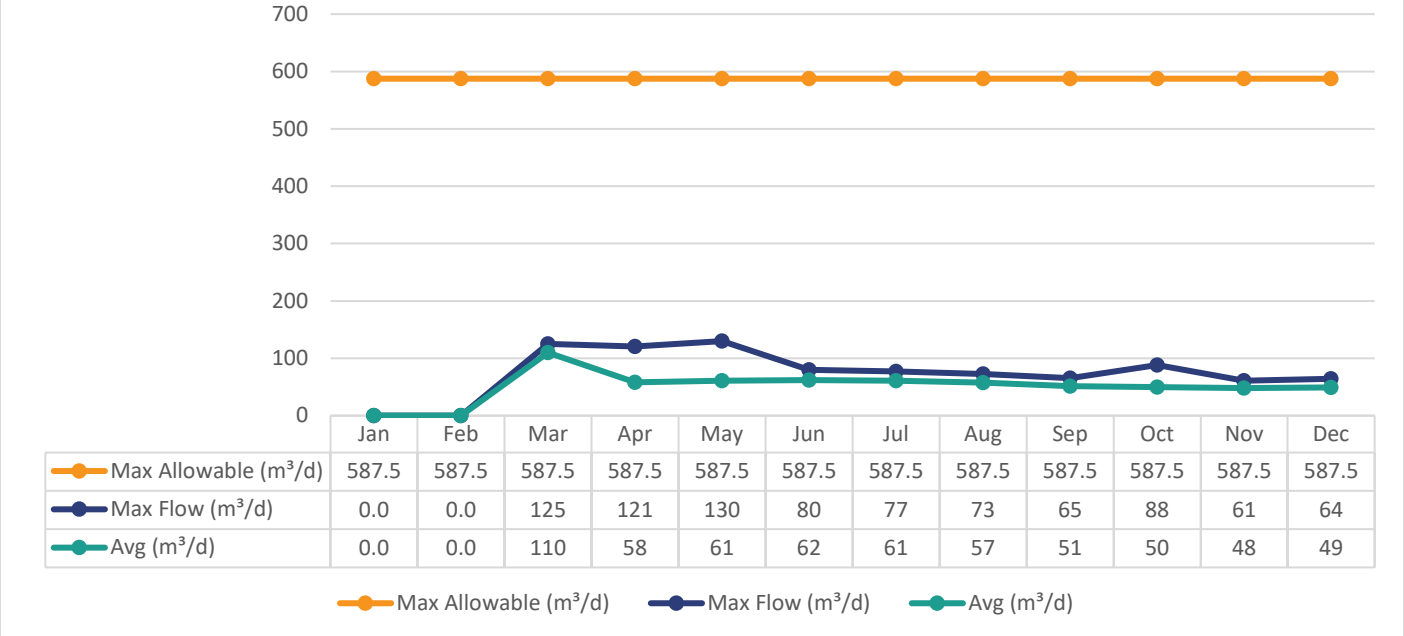
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5
Max Flow (m³/d)	130	134	139	81	146	107	101	93	79	76	82	76
Avg (m³/d)	115	118	106	58	78	78	77	70	61	57	57	60

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



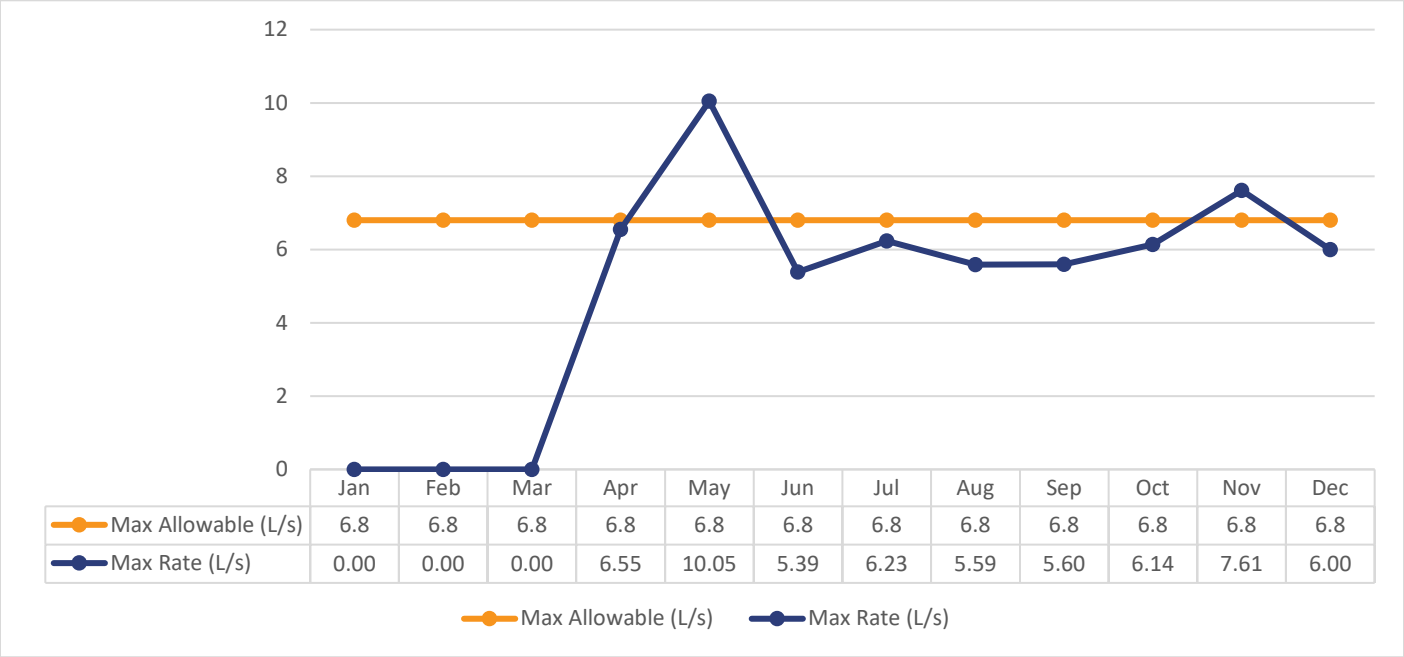
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Max Rate (L/s)	4.81	4.81	4.96	4.91	5.00	4.50	4.52	4.71	4.57	6.13	5.97	4.56

Graph 3. Total Monthly Flows (m³/d) – Well #5 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5
Max Flow (m³/d)	0.0	0.0	125	121	130	80	77	73	65	88	61	64
Avg (m³/d)	0.0	0.0	110	58	61	62	61	57	51	50	48	49

Graph 4. Monthly Rated Flows (L/s) – Well #5 (Max Allowable Rate PTTW)



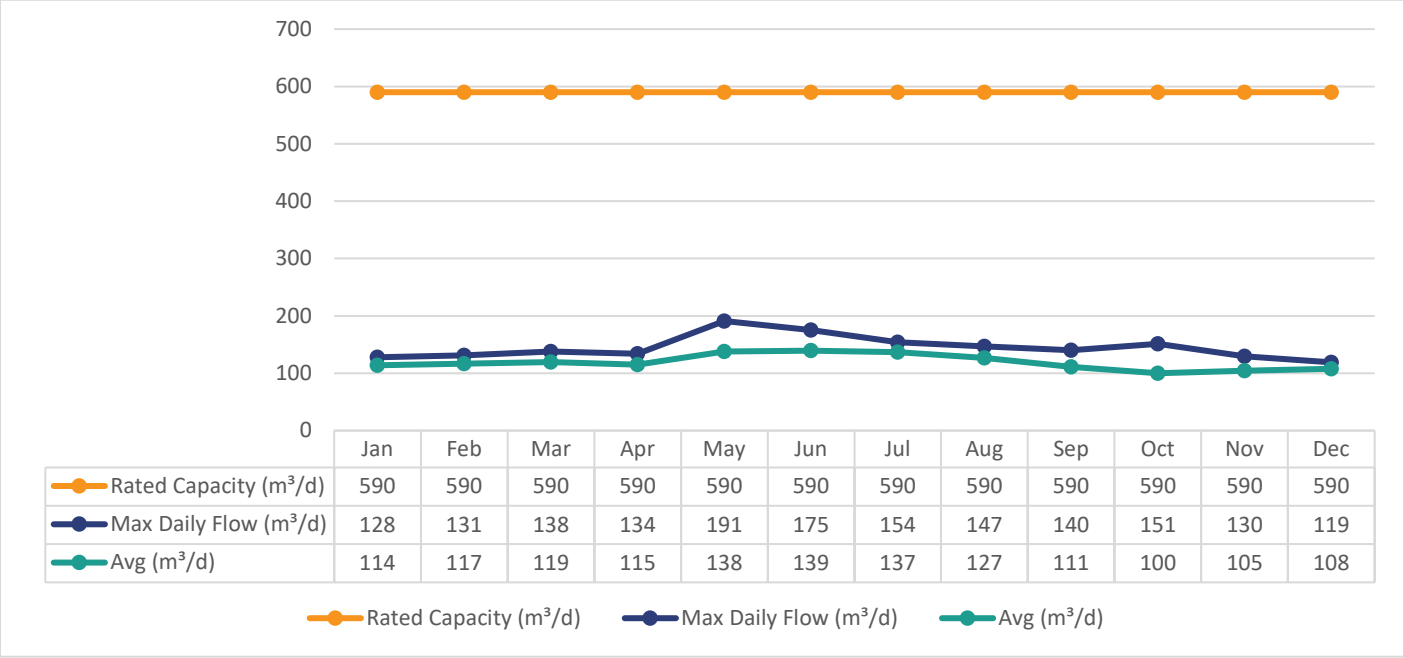
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Max Rate (L/s)	0.00	0.00	0.00	6.55	10.05	5.39	6.23	5.59	5.60	6.14	7.61	6.00

Note: Well #5 went into production on March 26, 2024. For January, February and March, up to March 25, 2024, Well #5 was not in production.
Note: Certain operational circumstances could cause results to be temporarily outside of the allowable rates. In May 2024, the allowable rate was momentarily surpassed as a result of annual calibration of the flow meter and did not indicate a true exceedance. A true exceedance would be documented within this report. In November 2024, the allowable rate was momentarily surpassed as a result of power outage and pump restart and did not indicate a true exceedance.

Treated Water Flows

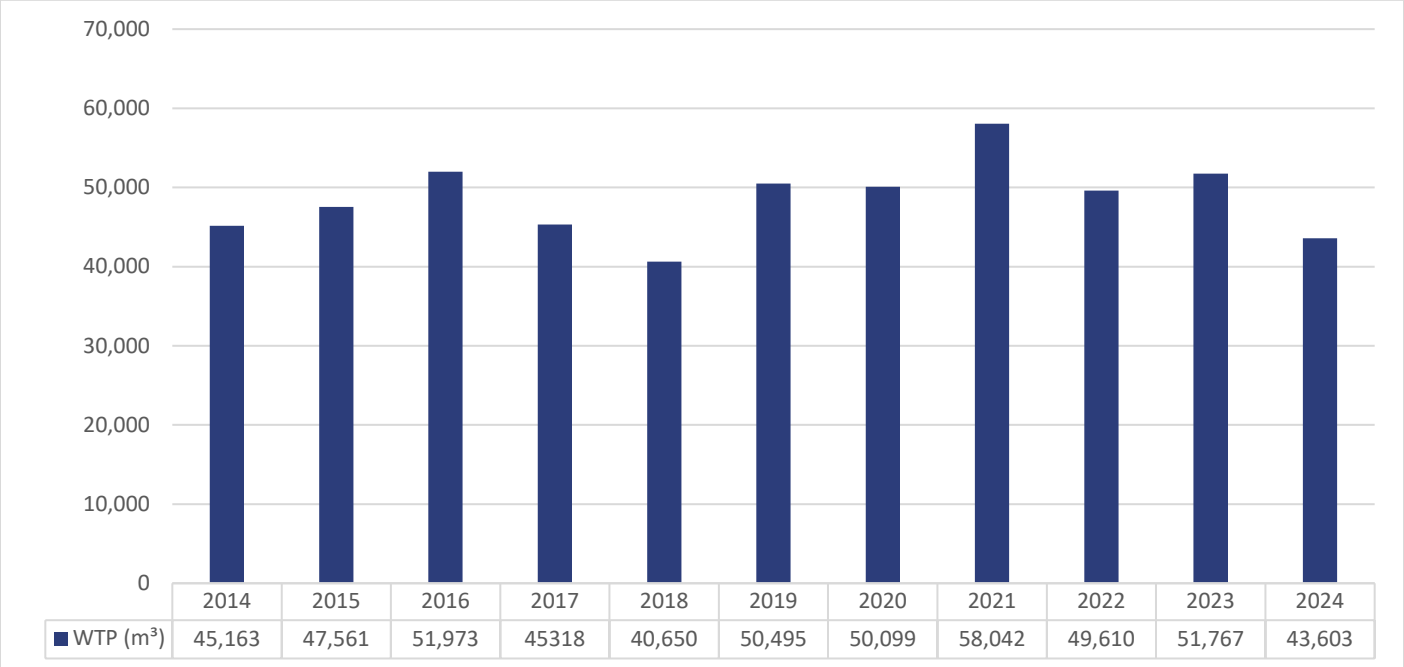
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-110.

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)	590	590	590	590	590	590	590	590	590	590	590	590
Max Daily Flow (m³/d)	128	131	138	134	191	175	154	147	140	151	130	119
Avg (m³/d)	114	117	119	115	138	139	137	127	111	100	105	108

Graph 6. Annual Total Flow Comparison (m³)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
WTP (m³)	45,163	47,561	51,973	45318	40,650	50,495	50,099	58,042	49,610	51,767	43,603

Regulatory Sample Results Summary

Microbiological Testing

Table 5. Microbiological Test Results

	No. 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 4	53	0	0	0	0	N/A	N/A
Raw Well 5	56	0	0	0	16	N/A	N/A
Treated	54	0	0	0	0	0	2
Distribution	162	0	0	0	0	0	2

OG = Overgrowth

HPC = Heterotrophic Plate Count

Note: Well #5 went into production on March 26, 2024. For January, February and March, up to March 25, 2024, Well #5 was not in production.

Operational Testing

Table 6. Operational Test Results

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 4 (NTU)	12	0.25	0.80
Turbidity Well 5 (NTU)	12	0.14	1.04
Turbidity – TW (NTU)	8760	0.00	2.00
Chlorine	8760	0.00	5.00
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

Note: Well #5 was not in production until March 26, 2024 in the reporting period.

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 three 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 7. Inorganic Parameters Test Results

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Treated Water					
Antimony	2023 01 03	<MDL 0.6	µg/L	6.0	No
Arsenic	2023 01 03	<MDL 0.2	µg/L	10.0	No
Barium	2023 01 03	159.0	µg/L	1000.0	No
Boron	2023 01 03	23.0	µg/L	5000.0	No
Cadmium	2023 01 03	0.005	µg/L	5.0	No
Chromium	2023 01 03	<MDL 0.08	µg/L	50.0	No
Mercury	2023 01 03	<MDL 0.01	µg/L	1.0	No
Selenium	2023 01 03	0.12	µg/L	50.0	No
Uranium	2023 01 03	0.009	µg/L	20.0	No
Additional Organics					
Fluoride	2023 01 03	0.13	mg/L	1.5	No
Nitrite	2024 01 02	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 04 08	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 07 02	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 10 07	<MDL 0.003	mg/L	1.0	No
Nitrate	2024 01 02	0.009	mg/L	10.0	No
Nitrate	2024 04 08	0.009	mg/L	10.0	No
Nitrate	2024 07 02	0.009	mg/L	10.0	No
Nitrate	2024 10 07	0.009	mg/L	10.0	No
Sodium	2023 01 03	10.3	mg/L	20*	No

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 8. 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	150	153	N/A	N/A
pH	1	2	7.82	7.90	N/A	N/A
Lead (µg/L)	N/A	N/A	N/A	N/A	10.0	

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 9. Organic Parameters Test Results

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Treated Water					
Alachlor	2023 01 03	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2023 01 03	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2023 01 03	<MDL 0.05	µg/L	20.0	No
Benzene	2023 01 03	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2023 01 03	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2023 01 03	<MDL 0.33	µg/L	5.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Carbaryl	2023 01 03	<MDL 0.01	µg/L	90.0	No
Carbofuran	2023 01 03	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2023 01 03	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2023 01 03	<MDL 0.02	µg/L	90.0	No
Diazinon	2023 01 03	<MDL0.02	µg/L	20.0	No
Dicamba	2023 01 03	<MDL 0.2	µg/L	120.0	No
1,2-Dichlorobenzene	2023 01 03	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2023 01 03	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2023 01 03	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2023 01 03	<MDL 0.33	µg/L	14.0	No
Dichloromethane (Methylene Chloride)	2023 01 03	<MDL0.35	µg/L	50.0	No
2,4-Dichlorophenol	2023 01 03	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2023 01 03	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2023 01 03	<MDL 0.4	µg/L	9.0	No
Dimethoate	2023 01 03	<MDL 0.06	µg/L	20.0	No
Diquat	2023 01 03	<MDL 1.0	µg/L	70.0	No
Diuron	2023 01 03	<MDL 0.03	µg/L	150.0	No
Glyphosate	2023 01 03	<MDL 1.0	µg/L	280.0	No
Malathion	2023 01 03	<MDL 0.02	µg/L	190.0	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2023 01 03	<MDL 0.12	µg/L	100.0	No
Metolachlor	2023 01 03	<MDL 0.01	µg/L	50.0	No
Metribuzin	2023 01 03	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2023 01 03	<MDL 0.3	µg/L	80.0	No
Paraquat	2023 01 03	<MDL 1.0	µg/L	10.0	No
PCB	2023 01 03	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2023 01 03	<MDL 0.15	µg/L	60.0	No
Phorate	2023 01 03	<MDL 0.01	µg/L	2.0	No
Picloram	2023 01 03	<MDL 1.0	µg/L	190.0	No
Prometryne	2023 01 03	<MDL 0.03	µg/L	1.0	No
Simazine	2023 01 03	<MDL 0.01	µg/L	10.0	No
Terbufos	2023 01 03	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2023 01 03	<MDL 0.35	µg/L	10.0	No
2,3,4,6-Tetrachlorophenol	2023 01 03	<MDL 0.2	µg/L	100.0	No
Triallate	2023 01 03	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2023 01 03	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2023 01 03	<MDL0.25	µg/L	5.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Trifluralin	2023 01 03	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2023 01 03	<MDL 0.17	µg/L	1.0	No
Distribution Water					
Trihalomethane Total Annual Average Q1	2024 01 02	13.85	µg/L	100.0	No
Trihalomethane Total Annual Average Q2	2024 04 08	13.35	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2024 07 02	14.25	µg/L	100.0	No
Trihalomethane Total Annual Average Q4	2024 10 07	12	µg/L	100.0	No
HAA Total Annual Average Q1	2024 01 02	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q2	2024 04 08	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q3	2024 07 02	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q4	2024 10 07	<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

- Surge suppressor protector replacement
- Light bulb replacements
- Well #4 valve leak repair
- Generator failure battery 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