# Sonya Drinking Water System

# 2025 Annual Water Report

Drinking Water System Number: 2600056516

Drinking Water System Operating Authority: City of Kawartha Lakes

Drinking Water System Category: Small Municipal Residential

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

Revision: 2 (May 7, 2026)

**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:** 260006516
**Drinking Water System Name:** Sonya 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 05 | Announced – Focused Drinking Water Inspection – Final Inspection Rating – 96.6% |
| **Adverse Water Quality Incidents (AWQIs)** | 1 | 2025 03 29 | Loss of pressure in distribution system due to power failure during Ice Storm. BWA issued. |
| **Non-Compliances** | 1 | 2025 06 02 | Operator did not examine continuous monitoring test results within 72 hours. |

| | Number of Events | Date (yyyy/mm/dd) | Details |
|---|---|---|---|
| **Boil Water Advisories** | 1 | 2025 03 29 | As result of loss of pressure AWQI. |

# Drinking Water System Description

The Sonya drinking water system is a small municipal residential drinking water system serving the Sonya Village subdivision in the Hamlet of Sonya, 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 (TW2/95) and Well #3 (TW5/05). These wells are designated as non-GUDI, meaning they are not considered groundwater under the direct influence of surface water.

## Water Treatment Facility

The Sonya water treatment facility consists two cartridge filtration systems, a sodium hypochlorite disinfection system providing both primary and secondary disinfection, iron sequestration system using sodium silicate, hydropneumatic tanks, a deep in-ground clearwell, and high lift pumping system. Cartridge filtration is used primarily for turbidity removal, while sodium silicate aids in the control of iron. The clearwell provides chlorine contact time and treated water storage prior to distribution.

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 one kilometre of PVC watermain and includes four blowoffs/flushing hydrants. The system is not rated for fire protection and does not included 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 | LAVO |
| Sodium Silicate | Iron Removal | Brenntag |

# Summary of Non-Compliance

## Adverse Water Quality Incidents

### Table 3. Adverse Water Quality Incidents

| Date | AWQI # | Location | Problem | Details | Legislation | Corrective Action Taken |
|---|---|---|---|---|---|---|
| 2025 03 29 | 167656 | Distribution System | Loss of Pressure | During Ice Storm system lost pressure due to power surge caused by power outage. Backup power was running but caused highlift pumps to fault. | O. Reg. 170/03 | BWA was issued, flushing and sampling. |

## 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, 6-5m (1) 1-4; | Requirement to examine continuous monitoring test results within 72 hours of the test. | Identified June 2, 2025, compliance check missed by 30 minutes. | Self reported non-compliance to MECP. Staff retrained on rounds procedure, | Completed |

| Legislation | Requirement(s) System Failed to Meet | Duration of Failure (Dates) | Corrective Action | Status |
|---|---|---|---|---|
| | | | and reminder of facility rotation to meet 72-hour compliance. Recommended the use of labels in eRIS to easily identify. | |

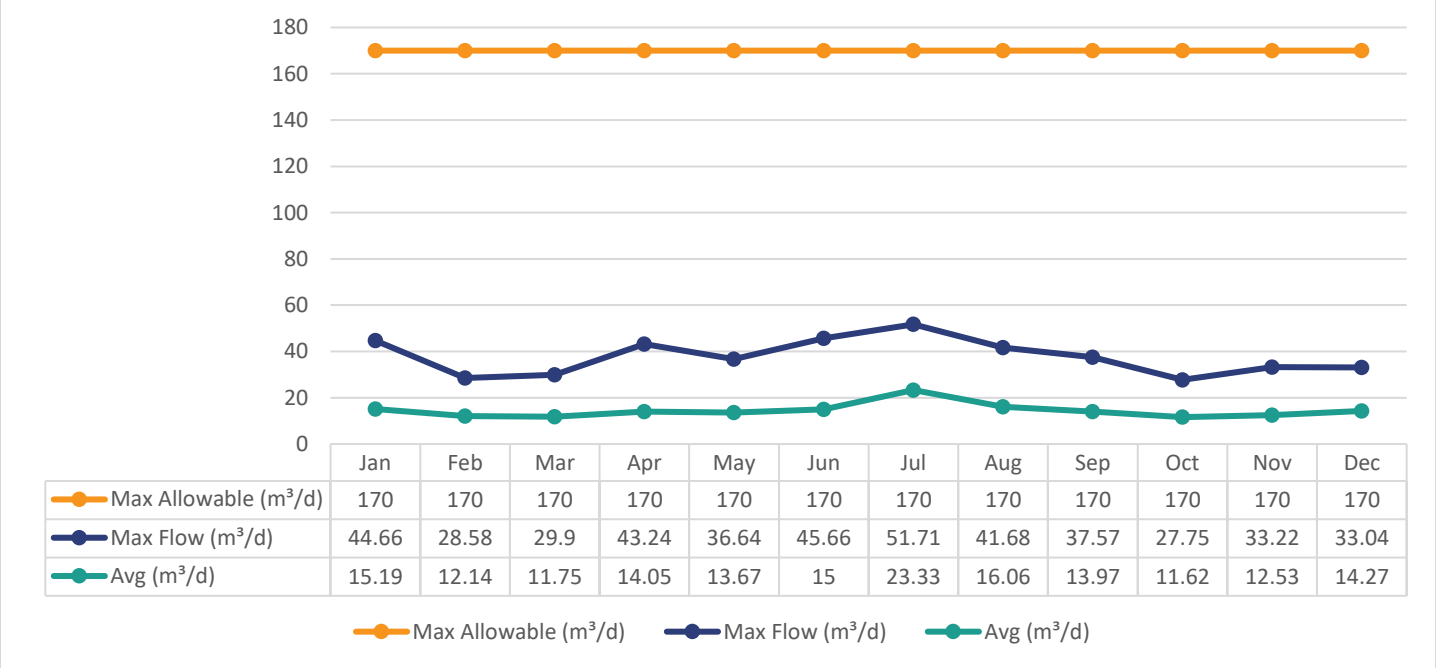
# Flows

The Sonya Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 170 m³/day.

## Raw Water Flows

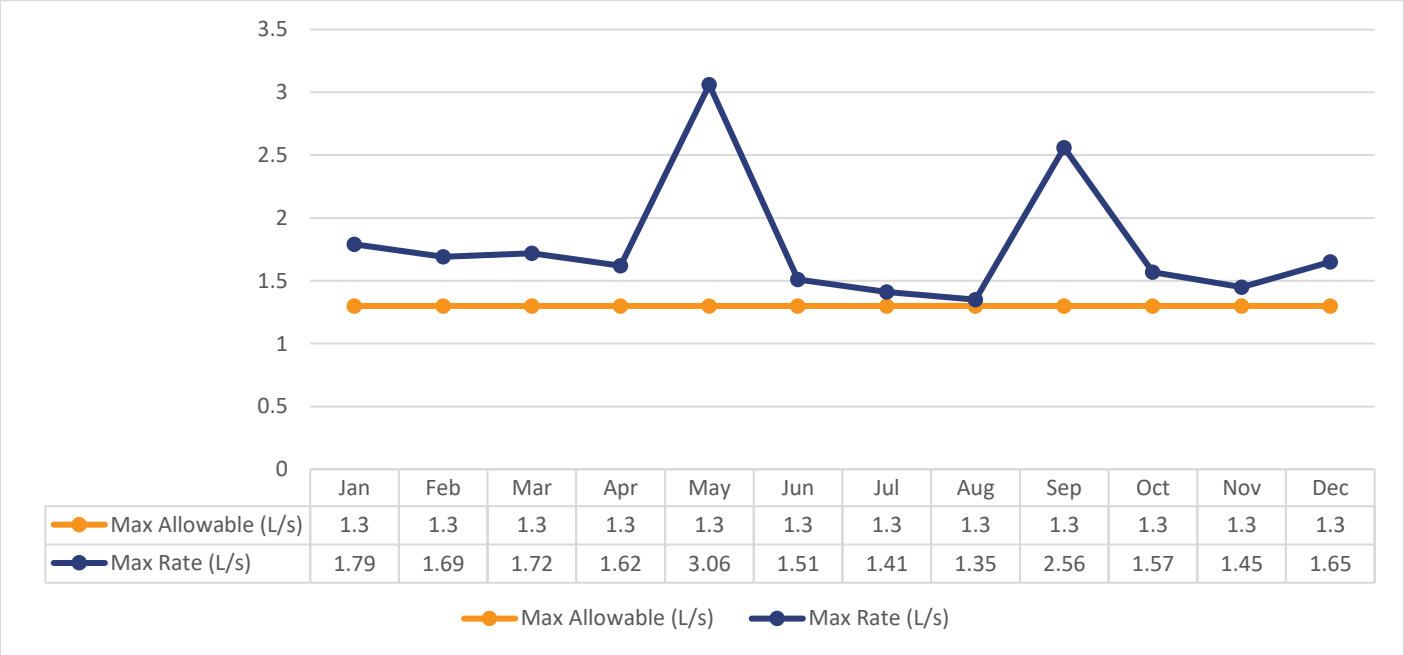
The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2025 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #1246-AWTJXZ. The confirmation of the data that was submitted is attached in Appendix A.

### 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) | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| Max Flow (m³/d) | 44.66 | 28.58 | 29.9 | 43.24 | 36.64 | 45.66 | 51.71 | 41.68 | 37.57 | 27.75 | 33.22 | 33.04 |
| Avg (m³/d) | 15.19 | 12.14 | 11.75 | 14.05 | 13.67 | 15 | 23.33 | 16.06 | 13.97 | 11.62 | 12.53 | 14.27 |

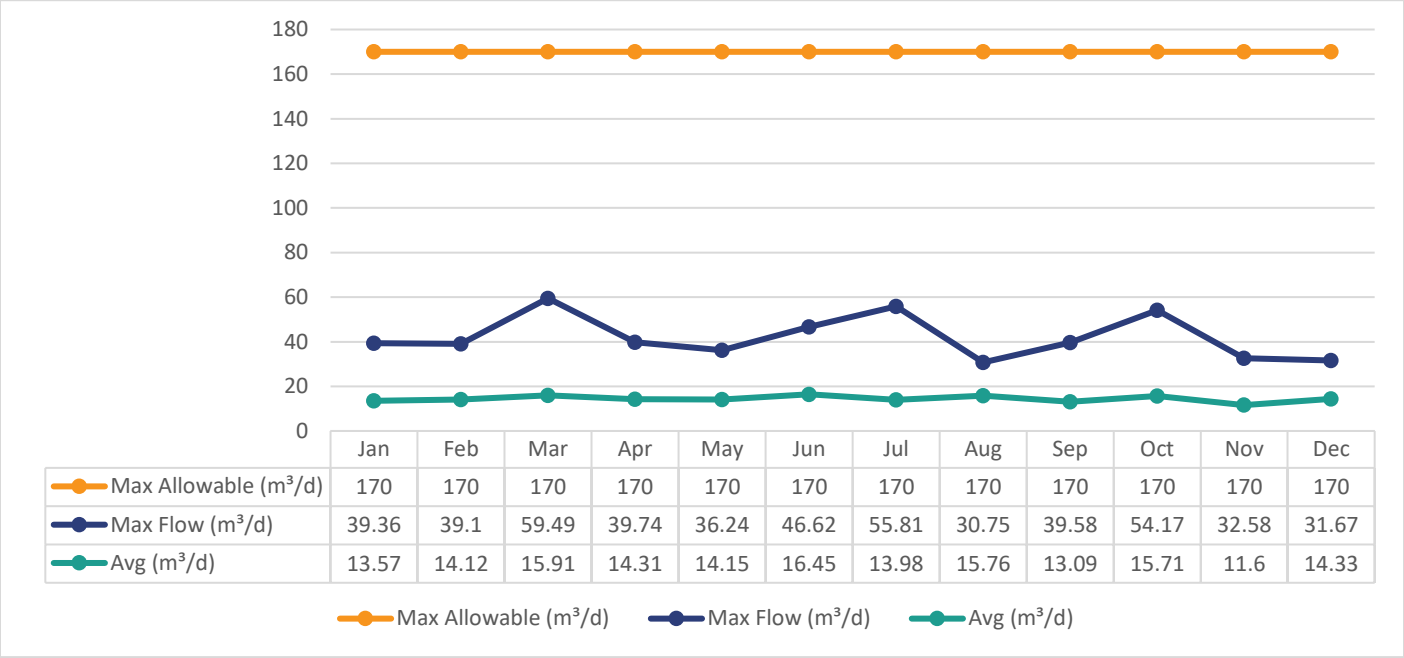
## Graph 2. Monthly Rated Flows (L/s) – Well #1 (Max Allowable Rate PTTW)




| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max Allowable (L/s) | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| Max Rate (L/s) | 1.79 | 1.69 | 1.72 | 1.62 | 3.06 | 1.51 | 1.41 | 1.35 | 2.56 | 1.57 | 1.45 | 1.65 |

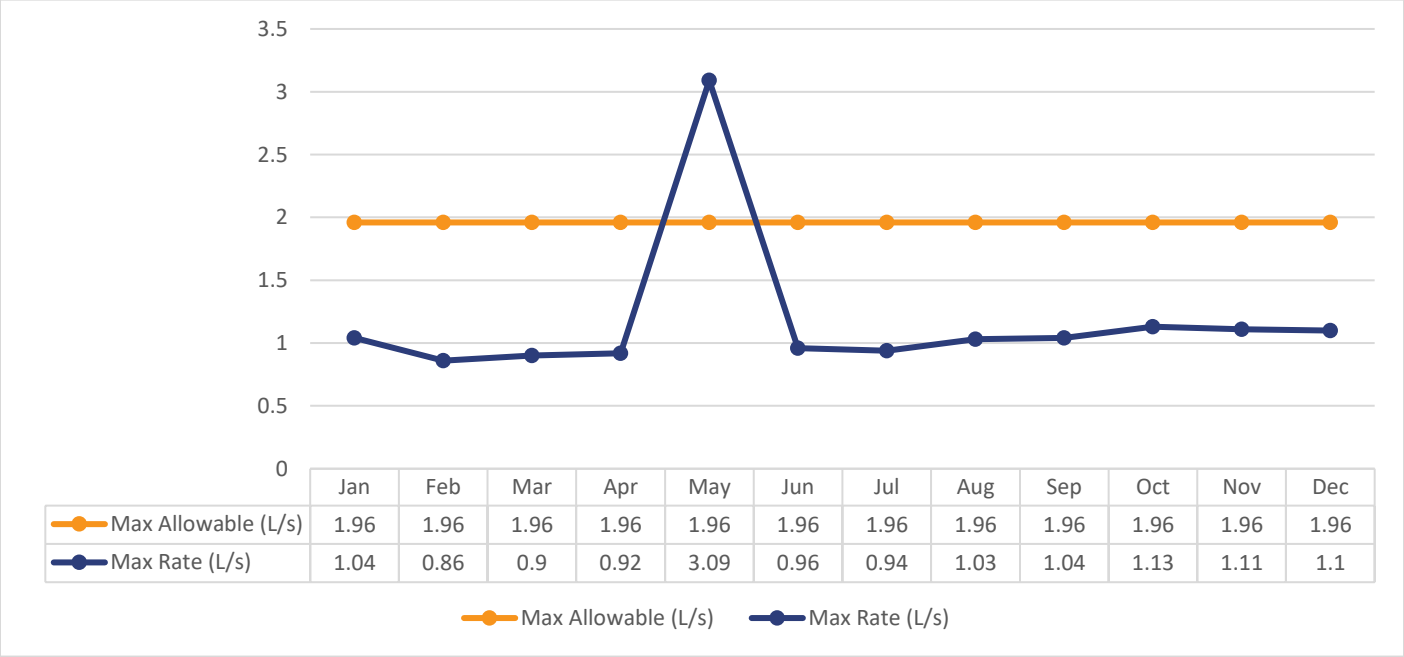
**Note:** The above table shows there were exceedances in instantaneous peak flow rate (L/s) but these exceedances were short in duration. Spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. The significant spike in May was due to scheduled flow meter calibration. All spikes are reviewed for compliance with O. Reg. 170/03.

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




| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max Allowable (m³/d) | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| Max Flow (m³/d) | 39.36 | 39.1 | 59.49 | 39.74 | 36.24 | 46.62 | 55.81 | 30.75 | 39.58 | 54.17 | 32.58 | 31.67 |
| Avg (m³/d) | 13.57 | 14.12 | 15.91 | 14.31 | 14.15 | 16.45 | 13.98 | 15.76 | 13.09 | 15.71 | 11.6 | 14.33 |

## Graph 4. Monthly Rated Flows (L/s) – Well #3 (Max Allowable Rate PTTW)




| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max Allowable (L/s) | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 |
| Max Rate (L/s) | 1.04 | 0.86 | 0.9 | 0.92 | 3.09 | 0.96 | 0.94 | 1.03 | 1.04 | 1.13 | 1.11 | 1.1 |

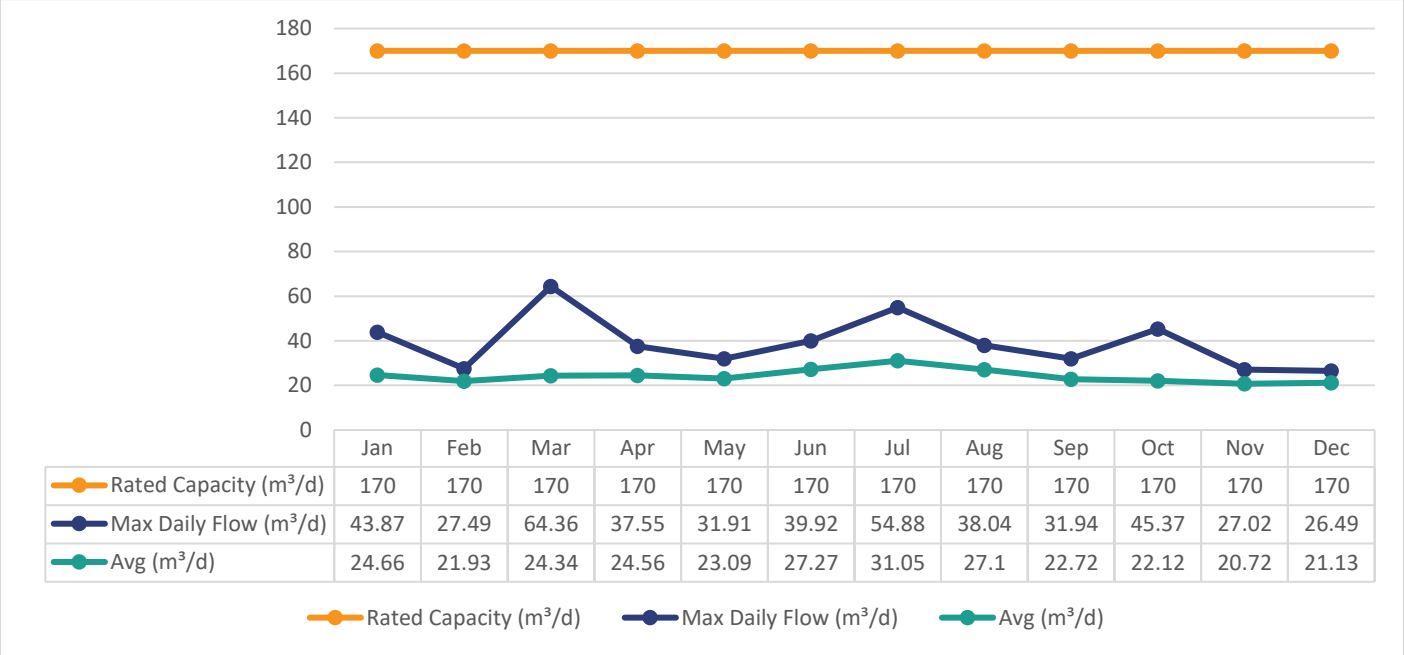
**Note:** The above table shows there were exceedances in instantaneous peak flow rate (L/s) but these exceedances were short in duration. Spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. The significant spike in May

was due to scheduled flow meter calibration. All spikes are reviewed for compliance with O. Reg. 170/03.

## Treated Water Flows

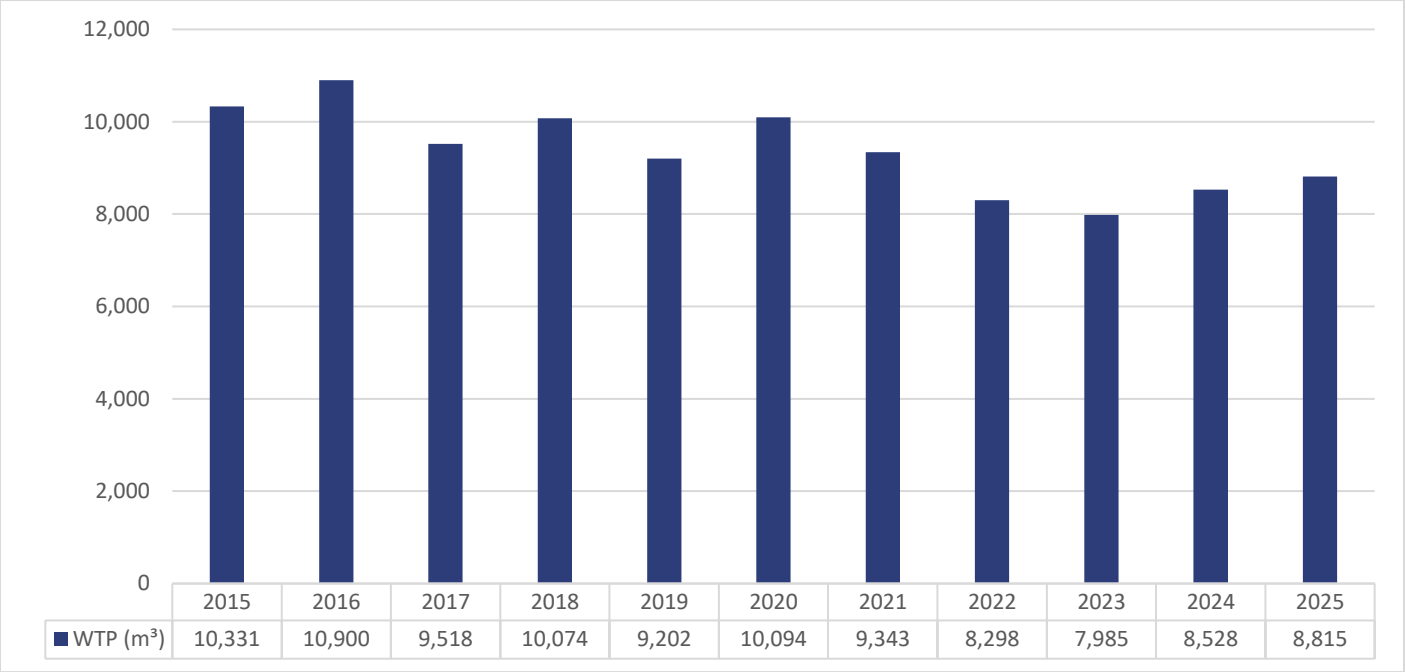
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-107.

### 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) | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| Max Daily Flow (m³/d) | 43.87 | 27.49 | 64.36 | 37.55 | 31.91 | 39.92 | 54.88 | 38.04 | 31.94 | 45.37 | 27.02 | 26.49 |
| Avg (m³/d) | 24.66 | 21.93 | 24.34 | 24.56 | 23.09 | 27.27 | 31.05 | 27.1 | 22.72 | 22.12 | 20.72 | 21.13 |

## Graph 6. Annual Total Flow Comparison (m³)




# 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 1** | 52 | 0 | 0 | 0 | 2 | N/A | N/A |
| **Raw Well 3** | 52 | 0 | 0 | 0 | 0 | N/A | N/A |
| **Treated** | 52 | 0 | 0 | 0 | 0 | 0 | 7 |
| **Distribution** | 52 | 0 | 0 | 0 | 0 | 0 | 12 |

OG = Overgrowth

HPC = Heterotrophic Plate Count

## Operational Testing

### Table 6. Operational Test Results

| Parameter | Number of Samples Collected | Range of Results Minimum | Range of Results Maximum |
|---|---|---|---|
| **Turbidity Well 1 (NTU)** | 12 | 0.35 | 6.91 |
| **Turbidity Well 3 (NTU)** | 12 | 0.15 | 10.8 |
| **Chlorine** | 8760 | 0 | 2.63 |
| **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 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 7. Inorganic Parameters Test Results

| | Sample Date (yyyy/mm/dd) | Sample Result | Unit of Measure | MAC | Exceedance |
|---|---|---|---|---|---|
| **Treated Water** | | | | | |
| Antimony | 2025 08 05 | <MDL 0.6 | µg/L | 6.0 | No |
| Arsenic | 2025 08 05 | 0.3 | µg/L | 10.0 | No |
| Barium | 2025 08 05 | 124.0 | µg/L | 1000.0 | No |
| Boron | 2025 08 05 | 14.0 | µg/L | 5000.0 | No |
| Cadmium | 2025 08 05 | <MDL 0.003 | µg/L | 5.0 | No |
| Chromium | 2025 08 05 | 0.18 | µg/L | 50.0 | No |
| Mercury | 2025 08 05 | <MDL 0.01 | µg/L | 1.0 | No |
| Selenium | 2025 08 05 | <MDL 0.04 | µg/L | 50.0 | No |
| Uranium | 2025 08 05 | 0.696 | µg/L | 20.0 | No |
| **Additional Organics** | | | | | |
| Fluoride | 2023 01 04 | 0.08 | mg/L | 1.5 | No |
| Nitrite | 2025 01 20 | <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 |

| | Sample Date (yyyy/mm/dd) | Sample Result | Unit of Measure | MAC | Exceedance |
|---|---|---|---|---|---|
| Nitrate | 2025 01 20 | 0.122 | mg/L | 10.0 | No |
| Nitrate | 2025 04 07 | 0.118 | mg/L | 10.0 | No |
| Nitrate | 2025 07 07 | 0.111 | mg/L | 10.0 | No |
| Nitrate | 2025 10 06 | 0.096 | mg/L | 10.0 | No |
| Sodium | 2023 12 11 | 12.6 | 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 | 277 | 288 | N/A | N/A |
| **pH** | 1 | 2 | 7.65 | 7.67 | N/A | N/A |
| **Lead (µg/L)** | 0 | 0 | N/A | N/A | N/A | 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 9. Organic Parameters Test Results

| | Sample Date (yyyy/mm/dd) | Sample Result | Unit of Measure | MAC | Exceedance |
|---|---|---|---|---|---|
| **Treated Water** | | | | | |
| Alachlor | 2025 08 05 | <MDL 0.02 | µg/L | 5.0 | No |
| Atrazine + N-dealkylated metabolites | 2025 08 05 | <MDL 0.01 | µg/L | 5.0 | No |
| Azinphos-methyl | 2025 08 05 | <MDL 0.05 | µg/L | 20.0 | No |
| Benzene | 2025 08 05 | <MDL 0.32 | µg/L | 1.0 | No |
| Benzo(a)pyrene | 2025 08 05 | <MDL 0.004 | µg/L | 0.01 | No |
| Bromoxynil | 2025 08 05 | <MDL 0.33 | µg/L | 5.0 | No |
| Carbaryl | 2025 08 05 | <MDL 0.05 | µg/L | 90.0 | No |
| Carbofuran | 2025 08 05 | <MDL 0.01 | µg/L | 90.0 | No |
| Carbon Tetrachloride | 2025 08 05 | <MDL 0.17 | µg/L | 2.0 | No |
| Chlorpyrifos | 2025 08 05 | <MDL 0.02 | µg/L | 90.0 | No |
| Diazinon | 2025 08 05 | <MDL 0.02 | µg/L | 20.0 | No |
| Dicamba | 2025 08 05 | <MDL 0.2 | µg/L | 120.0 | No |
| 1,2-Dichlorobenzene | 2025 08 05 | <MDL 0.41 | µg/L | 200.0 | No |
| 1,4-Dichlorobenzene | 2025 08 05 | <MDL 0.36 | µg/L | 5.0 | No |
| 1,2-Dichloroethane | 2025 08 05 | <MDL 0.35 | µg/L | 5.0 | No |
| 1,1-Dichloroethylene | 2025 08 05 | <MDL 0.33 | µg/L | 14.0 | No |
| Dichloromethane (Methylene Chloride) | 2025 08 05 | <MDL 0.35 | µg/L | 50.0 | No |
| 2,4-Dichlorophenol | 2025 08 05 | <MDL 0.15 | µg/L | 900.0 | No |
| 2,4-Dichlorophenoxy acetic acid (2,4-D) | 2025 08 05 | <MDL 0.19 | µg/L | 100.0 | No |
| Diclofop-methyl | 2025 08 05 | <MDL 0.40 | µg/L | 9.0 | No |
| Dimethoate | 2025 08 05 | <MDL 0.06 | µg/L | 20.0 | No |
| Diquat | 2025 08 05 | <MDL 1.0 | µg/L | 70.0 | No |
| Diuron | 2025 08 05 | <MDL 0.03 | µg/L | 150.0 | No |
| Glyphosate | 2025 08 05 | <MDL 1.0 | µg/L | 280.0 | No |
| Malathion | 2025 08 05 | <MDL 0.02 | µg/L | 190.0 | No |
| 2-Methyl-4chlorophenoxyacetic Acid (MCPA) | 2025 08 05 | <MDL 0.00012 | mg/L | 0.1 | No |
| Metolachlor | 2025 08 05 | <MDL 0.01 | µg/L | 50.0 | No |
| Metribuzin | 2025 08 05 | <MDL 0.02 | µg/L | 80.0 | No |
| Monochlorobenzene (Chlorobenzene) | 2025 08 05 | <MDL 0.3 | µg/L | 80.0 | No |
| Paraquat | 2025 08 05 | <MDL 1.0 | µg/L | 10.0 | No |
| PCB | 2025 08 05 | <MDL 0.04 | µg/L | 3.0 | No |
| Pentachlorophenol | 2025 08 05 | <MDL 0.15 | µg/L | 60.0 | No |
| Phorate | 2025 08 05 | <MDL 0.01 | µg/L | 2.0 | No |
| Picloram | 2025 08 05 | <MDL 1.0 | µg/L | 190.0 | No |
| Prometryne | 2025 08 05 | <MDL 0.03 | µg/L | 1.0 | No |

| | Sample Date (yyyy/mm/dd) | Sample Result | Unit of Measure | MAC | Exceedance |
|---|---|---|---|---|---|
| Simazine | 2025 08 05 | <MDL 0.01 | µg/L | 10.0 | No |
| Terbufos | 2025 08 05 | <MDL 0.01 | µg/L | 1.0 | No |
| Tetrachloroethylene | 2025 08 05 | <MDL 0.35 | µg/L | 10.0 | No |
| 2,3,4,6-Tetrachlorophenol | 2025 08 05 | <MDL 0.2 | µg/L | 100.0 | No |
| Triallate | 2025 08 05 | <MDL 0.01 | µg/L | 230.0 | No |
| Trichloroethylene | 2025 08 05 | <MDL 0.44 | µg/L | 5.0 | No |
| 2,4,6-Trichlorophenol | 2025 08 05 | <MDL 0.25 | µg/L | 5.0 | No |
| Trifluralin | 2025 08 05 | <MDL 0.02 | µg/L | 45.0 | No |
| Vinyl Chloride | 2025 08 05 | <MDL 0.17 | µg/L | 1.0 | No |
| **Distribution Water** | | | | | |
| Trihalomethane Total Annual Average Q1 | 2025 01 20 | 11 | µg/L | 100.0 | No |
| Trihalomethane Total Annual Average Q2 | 2025 04 07 | 9.8 | µg/L | 100.0 | No |
| Trihalomethane Total Annual Average Q3 | 2025 07 07 | 13 | µg/L | 100.0 | No |
| Trihalomethane Total Annual Average Q4 | 2025 10 06 | 14 | µg/L | 100.0 | No |
| HAA Total Annual Average Q1 | 2025 01 20 | 5.3 | µg/L | 80.0 | No |
| HAA Total Annual Average Q2 | 2025 04 07 | 5.3 | µg/L | 80.0 | No |
| HAA Total Annual Average Q3 | 2025 07 07 | 5.3 | µg/L | 80.0 | No |
| HAA Total Annual Average Q4 | 2025 10 06 | 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.

## 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 System Upgrades** – $63,800

- replacement and upgrades to SCADA system components that have reached end of life.

# APPENDIX A

## WTR Submission Confirmation