



## 2024 Summary Report

for the

Town of Minto

**MINTO PINES SUBDIVISION  
DRINKING WATER SYSTEM**

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## 2024 Summary Report for the Town of Minto MINTO PINES DRINKING WATER SYSTEM

### 1.0 INTRODUCTION

#### 1.1 Background

In December 2002, the Safe Drinking Water Act (SDWA) was enacted. Subsequently, on June 1, 2003, under the SDWA, a new '*Drinking-Water Systems Regulation*', Ontario Regulation 170/03 (O. Reg. 170/03), was enacted. In addition, several supporting regulations and procedures were also enacted to assist with the administration of O. Reg. 170/03. The list of relevant drinking-water legislation is presented in Appendix A.

The SDWA identifies the responsibilities of owners and operating authorities of municipal drinking water systems (SDWA, Sections 11 and 19). Their duties include ensuring that:

- All water provided by the drinking-water system meets prescribed drinking-water quality standards;
- The drinking-water system is operated in accordance with the Act and regulations and is kept in a good state of repair;
- All facilities are appropriately staffed and supervised;
- All sampling, testing and monitoring requirements are complied with;
- All reporting requirements are complied with; and
- Only persons holding valid operator's certificates operate the drinking-water-system.

O. Reg. 170/03 establishes the standard for protection of drinking water. It includes sets of schedules, specific to municipal residential systems that define requirements for:

- Minimum treatment levels;
- Operational checks;
- Chemical and microbiological sampling and testing;
- Adverse results reporting;
- Corrective procedures; and
- Report documentation and retention.

The system's Municipal Drinking Water Licence (MDWL), Drinking Water Works Permit (DWWP) and Permit To Take Water (PTTW) imposes system specific rules and conditions applicable to the standards set out in O. Reg. 170/03.

## **1.2 Objective**

This Summary Report for the Minto Pines Drinking Water System is being prepared in fulfillment of Schedule 22 of O. Reg. 170/03 and will be given to members of the Municipal Council. This report covers the period from January 1, 2024 to December 31, 2024.

This Summary Report lists any requirements of the Act, the regulations, the PTTW, the MDWL, the DWWP and any order that the system failed to meet, during the period of this report. For any such failure, the measures that were taken to correct the failure are detailed. The report also includes relevant information that will assist the Town of Minto to assess the water work's capability to meet existing and future planned uses of the system.

## **1.3 Description of Drinking Water System**

Minto Pines is a subdivision located within the Town of Minto in the northwest corner of Wellington County. The subdivision consists of 34 single-family estate residence lots. It was a private subdivision until December 2003, when the Town of Minto took it over.

There is one new groundwater production well (Well 1A), that is located approximately 10 m to the north of the decommissioned Well 1 which is located within the Minto Pines pumphouse. Well 1A is the only production well to service the subdivision and is a bedrock well and is 200 mm in diameter. Production well 1A is equipped with a submersible pump. The well pump discharges to a 50 mm diameter steel pipe that connects to a magnetic flow meter. The well pump is controlled by a pressure switch on the header pipe. In the event of a power outage, the pumphouse is equipped with automatic stand-by power supply.

Treatment consists of disinfection with a 12% sodium hypochlorite (chlorine) solution. The chlorinated water is discharged into an underground chlorine contact pipe and is discharged into the distribution system after adequate contact time is achieved.

The well is controlled (start/stop) automatically based on pressures in the distribution system. The pumphouse is equipped with alarms for free chlorine low and high residuals, low-pressure level and intrusion. Corresponding lock out of well pump for high and low residuals was disabled with an onsite audible alarm installed on August 26, 2020 per MECP recommendations with Directors Notification. The pumphouse has continuous monitoring analyzers for chlorine disinfection.

A SCADA System provides continuous monitoring to the Minto Pines Drinking Water System.

The Minto Pines Drinking Water System operates under MDWL 106-104 Issue 3, DWWP 106-204 Issue 3 and PTTW #4038-CWGJEH.

## **2.0 SUMMARY OF UPGRADES**

### **2.1 Upgrades Completed in 2024**

The disinfection treatment system in the Minto Pines Drinking Water System meets all of the standards imposed by O. Reg. 170/03 and the MECP's *"Procedures for Disinfection of Drinking Water in Ontario"*.

Typically, maintaining the system includes repairs and/or replacement of individual components as necessary. In 2024 \$65,135 was spent connecting the new Well to the system.

The following purchases were made to be shared between all of Minto's water systems. \$12,735 on water meters, \$1,050 on shared equipment and \$3,005 on computer replacements.

Preventative maintenance measures are being followed to ensure proper operation of the Drinking Water System.

All routine maintenance throughout the year and planned maintenance during the monthly scheduled maintenance programs was completed by Minto Operations Staff.

### **2.2 Upgrades Scheduled to be Completed in 2025**

In 2025 there are no capital projects planned for Minto Pines.

The following will also be purchased to be shared within the water department. \$20,000 for the Water Rate Study and Financial Plan. \$10,000 on the SCADA monitoring system, \$20,000 for water meters and \$15,000 on pumps and or valves.

## **3.0 OPERATION OF THE DRINKING WATER SYSTEM**

### **3.1 Summary of the Quantities and Flow Rates of Water Supplied**

O. Reg. 170/03 stipulates that a summary of the quantities and flow rates of the water supplied from the Minto Pines Well must be included in the Summary Report. Table 3.1 provides a summary of quantities and flow rates supplied during 2024, on a monthly basis.

**Table 3.1**  
**Minto Pines Drinking Water System**  
**Treated Water Flow, Turbidity, and Disinfectant Residual**  
**January 1, 2024 – December 31, 2024**

	Raw Water Flow (Max Flow Rate = 3.8 L/s)			Chlorine	Monthly Averages				Distribution System Disinfectant
					Treated Water Turbidity		Treated Water Disinfectant Point of Entry		
Month	Operator Observed Peak Flow (L/s)	Maximum Day Flow (m³/day)	Monthly Total (m³)	Monthly Total (L)	No. of Samples Collected	Monthly Average Turbidity (NTU)	No. of Treated Samples Collected	Monthly Average Residual (mg/L)	No. of Samples Collected
January	3.2	20.78	511	6	8	0.45	31	1.37	22
February	3.2	20.70	494	15.875	6	0.30	29	1.33	20
March	3.3	24.76	547	0	5	0.29	31	1.29	20
April	3.2	34.40	551	6.25	3	0.39	30	1.30	21
May	3.2	33.59	146	9	4	0.49	31	1.26	22
June	3.3	33.46	660	9.25	5	0.53	30	1.26	20
July	3.2	35.46	641	13.25	5	0.37	31	1.29	22
August	3.2	24.14	599	7.75	10	0.54	31	1.22	21
September	3.2	35.39	598	10	5	0.38	30	1.26	20
October	3.2	26.83	567	5.25	4	0.39	31	1.24	22
November	3.2	21.60	513	5	5	0.38	29	1.27	19
December	3.2	23.71	550	7	3	0.36	31	1.29	20
Total			6,376	94.63	63		365		249
Average	3.2		531			0.41		1.28	
Maximum		35.46							

**Well  
#1**

**Well  
#1A**

\* monitored continuously

Disinfectant Compound Used: **12% Sodium Hypochlorite**

Form of Residual Displayed: **Free**

Quantity of Disinfectant Used During 2024: **94.63 L**

Distribution System Minimum Target Residual: **0.2 mg/L**

### 3.2 Comparison of Actual Rates and Maximum Allowable Rates

O. Reg. 170/03 stipulates that a summary of the quantities and flow rates of the water supplied from the Minto Pines wells (#1 & #1A) be included in the Summary Report and compared against the rated capacity and flow rate for the system.

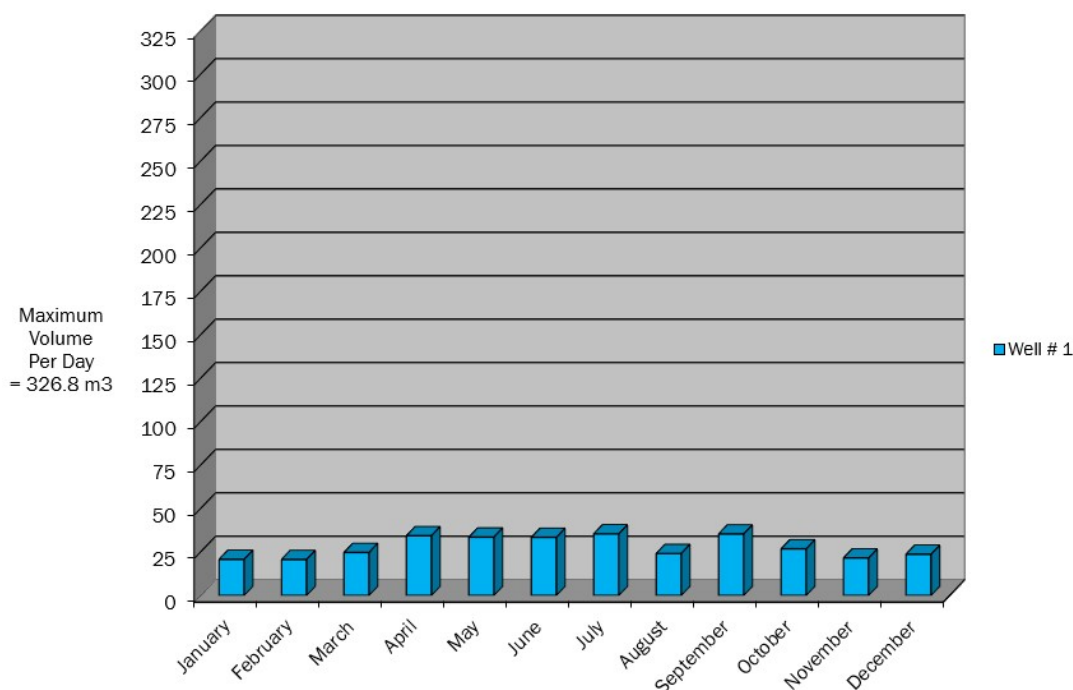
The SCADA system continuously monitors the flow rate of the water being pumped. As such, a comparison of the instantaneous peak flow to the PTTW's rated capacity is included and a comparison of the maximum daily flow to the MDWL's rated capacity is included in Table 3.2.

**Table 3.2**  
**Comparison of Flow Rates and Flow Capacities**  
**TO**  
**Rated Flow Rate (PTTW) and Rated Capacity (MDWL)**

Well Supply	PTTW Max. Flow Rate	Operator Observed Peak Flow	Percent of Maximum Allowable	MDWL Schedule C Maximum Daily Quantity	Maximum Daily Flow	Percent of Maximum Allowable
	L/s	L/s	%	m <sup>3</sup> /day	m <sup>3</sup> /day	%
Well #1	3.8	3.3	87	326.8	34.4	10.5
Well #1A	3.8	3.3	87	326.8	35.46	10.9

The MDWL stipulates, "The maximum daily volume of treated water that flows from the treatment subsystem to the distribution system shall not exceed the value identified as the rated capacity in Schedule C Table 1."

**Table 3.3**  
**Maximum Water Usage Per Day by Month**



Short-term peaks, in excess of permitted values, may occur at pump start up, while doing specific maintenance procedures or during emergency demand situations.

The time and duration of any flow exceedance is recorded for each event along with the reason for the occurrence. There were no extended exceedances or exceedances over the daily permitted rate in the Minto Pines Drinking Water System.

### 3.3 Raw Water Quality and Required Treatment

The Minto Pines Drinking Water System has no naturally occurring chemical parameters that exceed MAC (maximum acceptable concentration) or IMAC (interim maximum acceptable concentration).

The Minto Pines wellhouse utilizes continuous monitoring analyzers for free chlorine residual. The chlorine analyzer is equipped with an alarm to a call centre who contacts the Town of Minto. The average monthly turbidity and free chlorine residual measurement for treated water are presented in Table 3.1.

There were no turbidity readings exceeding 1.0 NTU in 2024. The minimum, maximum and average turbidity readings for raw water from each well (#1 & #1A) are presented in Table 3.4.

12% Sodium Hypochlorite is the disinfectant used. The free chlorine residual in the distribution system ranged between 0.96 mg/L and 1.66 mg/L.

O. Reg. 170/03, Schedule 1-2 stipulates that the free chlorine residual can never be less than 0.05 mg/L. In addition, O. Reg. 170/03, Schedule 1-4 stipulates that the water treatment equipment must be “...capable of achieving, at all locations with the distribution system, a free chlorine residual of 0.2 mg/L ...”. The Minto Pines Drinking Water System meets both of these requirements.

**Table 3.4**  
**2024 Annual Summary of**  
**Raw Water Turbidity and Free Chlorine Residual**  
**For Minto Pines Drinking Water System**

Location	Range	Raw Water Turbidity	Free Chlorine Residual at POE
		NTU	mg/L
Well #1	Minimum	0.11	0.84
	Maximum	0.64	1.50
	Average	0.29	1.23
Well #1A	Minimum	0.09	0.79
	Maximum	0.74	1.55
	Average	0.33	1.13



### 3.4 Summary of Treatment Chemicals Used

The disinfectant chemical used in the Minto Pines Drinking Water System is 12% Sodium Hypochlorite. Measurements of free chlorine residuals are recorded on a continuous basis. In 2024, a total of 94.625 L of Sodium Hypochlorite was used; the average dosage rate was 1.78 mg/L.

**Table 3.5**  
**2024 Annual Summary of**  
**Treatment Chemical Used**  
**for Minto Pines Drinking Water System**

Treatment Chemical	Well	Volume Used	Mass Used	Annual Flow	Dosage Rate
		L	kg	m <sup>3</sup>	mg/L
12 % Sodium Hypochlorite	Minto Pines	94.63	11.4	6,376	1.78

## 4.0 COMPLIANCE

### 4.1 Assessment of Compliance

The objective of the Summary Report is to list any requirements of the Act, the regulations, the PTTW, the MDWL, the DWWP and any MOECP order that the system failed to meet from January 1, 2024 to December 31, 2024, and the corresponding corrective measure(s) taken. Compliance was assessed as follows:

- MECP Completed Inspection of the Minto Pines drinking water system on September 20, 2024. Final inspection rating score 96.57%
- On April 15, 2024 there were 34 minutes of missing data. The missing data was because the UPS (uninterrupted power supply) unit failed and therefore there was no power to the SCADA Pack. The missing data was from 7:09 am to 7:44 am and during this time there was no five minute data recorded and retained. The operator attended the site at 7:40 am and restarted the UPS unit and confirmed the treatment equipment was operating and there were no alarms. The Town reported this incident to the ministry on April 16, 2024.
- There were **No MECP Orders** issued to the Minto Pines Drinking Water System in 2024.
- The MDWL imposes the specific rules and conditions governing the standards set out in O. Reg. 170/03. It is an important instrument in defining the requirements of compliance of a Drinking Water System.
- O. Reg. 170/03 establishes the standard for protection of drinking water; specifically, through 12 schedules that municipal residential drinking systems must follow to meet the requirements of the regulation.

- The SDWA clearly identifies the responsibilities of owners and operating authorities of municipal drinking water systems. It places a recommended statutory standard of care on those who have oversight of municipal drinking-water systems. In essence, the standard of care has two themes: be informed and exercise diligent oversight.
- Adverse Test Results reported under the Safe Drinking Water Act, 18(1) or O Reg.170/03, Schedule 16-4
  - a) Adverse Water Quality Incidents (AWQI) refer to any unusual test results that do not meet provincial water quality standard or situation where the disinfection of the drinking water may be compromised.

**Table 4.1**  
**Adverse Water Quality Incidents**

AWQI #	Date	Parameter	Result	Corrective Action
164921	Issued – May 6, 2024	New Production Well being Commissioned and existing well being De-commissioned.	N/A	Temporary Water supplied to residence.
	Lifted – May 10, 2024			Precautionary Boil Water Advisory Issued.

## 4.2 Summary of Compliance

The Town of Minto works diligently to maintain compliance with all the requirements of the SDWA, O. Reg. 170/03, as well as the Minto Pines Water Work's MDWL 106-104 Issue 3, DWWP 106-204 Issue 3 and PTTW #4038-CWGJEH.

Table 4.2 identifies any non-compliances related to the following: SDWA, O. Reg. 170/03, and the MDWL, the DWWP and the PTTW.

**Table 4.2**  
**Minto Pines Drinking Water System**  
**Requirements the System Failed to Meet**

Compliance With	Description of Item the System Failed to Meet	Correction of This Situation How/When
<b>MDWL # 106-104</b>	<i>Minto Pines Drinking Water System is in compliance with all of the requirements of the MDWL</i>	
<b>DWWP # 106-204</b>	<i>Minto Pines Drinking Water System is in compliance with all of the requirements of the DWWP</i>	
<b>O. Reg. 170/03</b>	<i>Minto Pines Drinking Water System is in compliance with all of the requirements of O. Reg. 170/03</i>	
<b>SDWA</b>	<i>Minto Pines Drinking Water System is in compliance with all of the requirements of the SDWA.</i>	

Compliance With	Description of Item the System Failed to Meet	Correction of This Situation How/When
PTTW #4038-CWGJEH	<i>Minto Pines Drinking Water System is in compliance with all of the requirements of the PTTW</i>	

Dated this 5<sup>th</sup> day of March 2025

A handwritten signature in black ink, appearing to read 'Todd Rogers', is written over a horizontal line.

Todd Rogers  
Water Services Manager