



2025 ANNUAL
DRINKING
WATER SYSTEM
REPORT

Port Rowan Drinking Water
System



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2025 Annual Drinking Water System Report

Port Rowan Drinking Water System

1. Introduction

The Corporation of Norfolk County has prepared this report to satisfy the requirements of Section 11 of Ontario Regulation (O. Reg.) 170/03. This Annual Report must be prepared no later than February 28th of each year.

This report covers the period from January 1st, 2025 to December 31st, 2025, and the information provided complies with the reporting requirements of Section 11 of O. Reg. 170/03.

A summary of Port Rowan's Municipal Drinking Water System is outlined below:

Drinking Water System Number: 220000898

Drinking Water System Name: Port Rowan Drinking Water System

Drinking Water System Owner: Corporation of Norfolk County

Drinking Water System Category: Large Municipal Residential

2. Reporting Requirements under O. Reg. 170/03 – Section 11

As required by Section 11 Annual reports, this report includes the following information for the reporting period noted above:

- A brief description of the drinking water system, including a list of water treatment chemicals used by the system;
- A summary of any reports made to the Ministry of Environment, Conservation and Parks (MECP) for Adverse Water Quality Incidents (AWQI's);
- A summary of the results of tests required under O. Reg. 170/03, an approval, the municipal drinking water licence (MDWL) or an order, including an Ontario Water Resources Act (OWRA) order;
- A description of any corrective actions taken;
- A description of any major expenses incurred to install, repair or replace required equipment;

- A statement of where a report prepared under Schedule 22 (Drinking Water Summary Report) will be available for inspection by any member of the public during normal business hours without charge; and
- A summary of Schedule 15.1 Lead sampling details.

3. Evidence of Compliance

Availability of the Annual Report

In accordance with O. Reg. 170/03 – Section 11, a copy of the Annual Report for each drinking water system will be posted, by the end of February each year, on the Norfolk County website at norfolkcounty.ca.

A Summary Report on regulatory compliance and system capability is also required annually under Schedule 22 of O. Reg. 170/03. This report summarizes any known failures, duration and corrective measures taken to meet the requirements of the Safe Drinking Water Act (SDWA), regulations, the system’s approval, drinking water works permit (DWWP), municipal drinking water licence (MDWL), and any order applicable. The Summary Report is presented to Norfolk County Council for acceptance before March 31st of each year. The Summary report is made available to the public in April on the Norfolk County website noted above or by request from the Environmental Services.

Copies of the Summary Report and Annual Reports for each drinking water system are available to the public, free of charge, at the following location:



Gilbertson Administration Building

12 Gilbertson Drive, Simcoe, Ontario, N3Y 4N5

Hours: Monday to Friday, 8:30 a.m. to 4:30 p.m.

Description of the Municipal Drinking Water System

The Port Rowan Drinking Water System (Port Rowan DWS) supplies drinking water to the communities of Port Rowan & St. Williams. The system also provides drinking water to a private distribution system, which is owned by Hill Top Waterworks and operated by WRC Purifying Ltd. This system services approximately 450 people, which includes a small subdivision and a Marina. The drinking water system currently serves a population of approximately 2,300.



The Port Rowan Water Treatment Plant (Port Rowan WTP) is fed from a surface water source, which is Lake Erie.

The water distribution system includes a 1,816m³ elevated tank, which acts as a reservoir when the system requires larger amounts of water than the water treatment plant can supply (such as firefighting and peak flows) and helps to maintain a constant system pressure. There are approximately 87 fire hydrants and approximately 25,732m of watermain and transmission main ranging in diameter from 150mm to 350mm. The piping material consists of cast iron, Polyvinyl Chloride (PVC), high-density polyethylene (HDPE) and ductile iron pipe. St. Williams and the Hill Top Waterworks Distribution System are connected to the Port Rowan DWS by a watermain that follows Front Road. The community of St. Williams has a booster station, which increases the system pressure and boosts the chlorine residual as required.

Water Treatment Chemicals

The following water treatment chemicals were used during the reporting period:

- Sodium Hypochlorite
- Carbon Dioxide
- Poly Aluminum Chloride

Significant Expenses Incurred

A brief summary of the major expenses incurred during the reporting period to install, repair or replace required equipment, and value of each, is included in Table 1.

Table 1 – Summary of Expenses Incurred

Activity	Cost Incurred (2025)
General Operations Maintenance and Repair in Water Treatment Plants and Distribution System	\$68,795.39
WTP Upgrades	\$4,446,936.15

4. Microbiological Sampling and Testing

E. coli and Total Coliform

As per Schedule 10 Microbiological Sampling and Testing, of O. Reg. 170/03, sampling and analysis for *E. coli* and total coliforms was conducted weekly on the raw and treated water at the water treatment plant and in the distribution system. The results from the 2025 sampling program for the Port Rowan DWS are shown in the table below.

Table 2 – *E. coli* and Total Coliform Sampling Results

Location	Number of Samples	Range of <i>E. coli</i> Results (cfu/100mL)	Range of Total Coliform Results (cfu/100mL)
Raw	52	0 – 20	0 – 12200
Treated	52	0 – 0	0 – 0
Distribution	162	0 – 0	0 – 8

Heterotrophic Plate Count (HPC)

As per Schedule 10 Microbiological Sampling and Testing, of O. Reg. 170/03, sampling and analysis for HPC was conducted weekly on the raw and treated water at the water treatment plant and on 25% of the required distribution system samples. HPC results greater than 500cfu/1mL (colony forming units per 1 mL) may indicate a change in water quality but are not considered an indicator of unsafe drinking water. The results from the 2025 sampling program for the Port Rowan DWS are shown in the table below.

Table 3 – HPC Sampling Results

Location	Number of Samples	Number of HPC Samples	Range of HPC Results (cfu/1mL)
Treated	52	52	<10 – 180
Distribution System	162	54	<10 – 10

5. Chemical Sampling and Testing

As per Schedule 13 Chemical sampling and testing, of O. Reg. 170/03, sampling and testing for chemical parameters listed in Schedule 13, Schedule 23 and Schedule 24, is required at varying frequencies. The 2025 results for chemical sampling and testing are provided in Appendix A - Summary of Chemical Results.

If the result obtained for a parameter listed Schedule 23 or Schedule 24 exceeds half the Maximum Allowable Concentration (MAC) found in O. Reg. 169/03 Ontario Drinking Water Quality Standards (ODWQS), sampling and testing frequency shall be increased to once every three (3) months.

Additional sampling and testing for Microcystin is required for the Port Rowan DWS, as per the MDWL – Schedule C: 7.0 Harmful Algal Blooms.

6. Operational Monitoring

As per Schedule 7 Operational checks, of O. Reg. 170/03, operational checks were conducted including raw and treated water turbidity, and treated and distribution water free chlorine residuals.

Turbidity

Turbidity is measured in Nephelometric Turbidity Units (NTU). The raw water turbidity is sampled weekly, and the treated water turbidity is monitored continuously. The results from the 2025 raw water turbidity monitoring program for the Port Rowan DWS are shown in the table below.

Table 4 – Water Turbidity Monitoring Results

Location	Number of Grab Samples	Range of Turbidity Results (NTU)
Turbidity Filter 1A	8760*	0.000 – 1.899
Turbidity Filter 1B	8760*	0.003 – 1.422
Turbidity Filter 2A	8760*	0.001 – 1.686
Turbidity Filter 2B	8760*	0.001 – 0.841
Raw	365	2.24 – 153.18

*Continuous Monitoring

Chlorine Residual

As per Schedule 7 of O. Reg. 170/03, free chlorine residuals in the treated water are monitored continuously at the point of entry to the distribution system at all water treatment plants. The minimum required free chlorine residual in the distribution system is 0.05 mg/L, any samples below this must be reported as an AWQI and addressed via corrective actions. The results from the 2025 free chlorine residual monitoring program for the Port Rowan DWS are shown in the table below.

Table 5 – Chlorine Residual Monitoring Results

Location	Number of Grab Samples	Range of Free Chlorine Residual Results (mg/L)
WTP	8760*	0.024 – 3.000
Distribution System	527	0.21 – 1.92

*Continuous Monitoring

7. Adverse Test Results

As per Schedule 16 Reporting adverse test results and other problems, of O. Reg. 170/03, there was one (1) AWQI issued for the Port Rowan DWS. The table below describes the date the adverse occurred, the parameter, the result, the corrective action taken and the date resolved.

Table 6 – AWQI Summary

Incident Date (dd/mm/yyyy)	Parameter	Result	Corrective Action	Date Resolved (dd/mm/yyyy)
09/07/2025	Microbiological	Weekly microbiological sample positive for eight (8) total coliforms.	Chlorine increased at WTP. Hydrants flushed upstream and downstream. Additional samples collected at adverse location.	14/07/2025

8. Appendix A: Summary of Chemical Results

Understanding Chemical Sampling and Testing Results

The following tables summarize the laboratory results of the chemical testing Norfolk County is required to complete. Different parameters are required to be tested for at different frequencies as noted below.

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in municipal drinking water and can be found in O. Reg. 169/03 Ontario Drinking Water Quality Standards (ODWQS). The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure.

The following tables summarize the sampling and testing results for the parameters listed in Schedule 13 (fluoride, nitrate/nitrite, sodium), during the reporting period or the most recent sample results for the Port Rowan DWS.

Table 7 – Port Rowan WTP Fluoride, Nitrate/Nitrite, Sodium (Schedule 13)

Parameter	Sample Date (dd/mm/yyyy)	Result Value	Unit of Measure	Exceedance
Fluoride	28/04/2025	0.06<MDL	mg/L	

Parameter	Sample Date (dd/mm/yyyy)	Result Value	Unit of Measure	Exceedance
Nitrate	10/02/2025	1.18	mg/L	No
	28/04/2025	1.02	mg/L	No
	11/08/2025	0.044	mg/L	No
	03/11/2025	0.084	mg/L	No
Nitrite	10/02/2025	0.003<MDL	mg/L	No
	28/04/2025	0.003<MDL	mg/L	No
	11/08/2025	0.003<MDL	mg/L	No
	03/11/2025	0.003<MDL	mg/L	No
Sodium	28/04/2025	12.6	mg/L	No

The following tables summarize the sampling and testing results for the Inorganic Parameters listed in Schedule 23, during the reporting period or the most recent sample results for the Port Rowan DWS.

Table 8 – Port Rowan WTP Inorganic Parameters (Schedule 23)

Parameter	Sample Date (dd/mm/yyyy)	Result Value	Unit of Measure	Exceedance
Antimony	28/04/2025	0.6 <MDL	ug/L	No
Arsenic	28/04/2025	0.3	ug/L	No
Barium	28/04/2025	31	ug/L	No
Boron	28/04/2025	21	ug/L	No
Cadmium	28/04/2025	0.005	ug/L	No
Chromium	28/05/2025	0.20	ug/L	No
Lead	Exempt			
Mercury	28/04/2025	0.01<MDL	ug/L	No
Selenium	28/04/2025	0.08	ug/L	No
Uranium	28/04/2025	0.059	ug/L	No

The following tables summarize the sampling and testing results for the Organic Parameters listed in Schedule 24, during the reporting period or the most recent sample results for the Port Rowan DWS.

Table 9 – Port Rowan WTP Organic Parameters (Schedule 24)

Parameter	Sample Date (dd/mm/yyyy)	Result Value	Unit of Measure	Exceedance
Alachlor	28/04/2025	0.02<MDL	ug/L	No
Atrazine + N-dealkylated metabolites	28/04/2025	0.01 <MDL	ug/L	No
Azinphos-methyl	28/04/2025	0.05<MDL	ug/L	No
Benzene	28/04/2025	0.32<MDL	ug/L	No
Benzo(a)pyrene	28/04/2025	0.004<MDL	ug/L	No

Parameter	Sample Date (dd/mm/yyyy)	Result Value	Unit of Measure	Exceedance
Bromoxynil	28/04/2025	0.33<MDL	ug/L	No
Carbaryl	28/04/2025	0.05	ug/L	No
Carbofuran	28/04/2025	0.05<MDL	ug/L	No
Carbon Tetrachloride	28/04/2025	0.17<MDL	ug/L	No
Chlorpyrifos	28/04/2025	0.02<MDL	ug/L	No
Diazinon	28/04/2025	0.02<MDL	ug/L	No
Dicamba	28/04/2025	0.20<MDL	ug/L	No
1,2-Dichlorobenzene	28/04/2025	0.41<MDL	ug/L	No
1,4-Dichlorobenzene	28/04/2025	0.36<MDL	ug/L	No
1,2-Dichloroethane	28/04/2025	0.35<MDL	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	28/04/2025	0.33<MDL		
Dichloromethane	28/04/2025	0.35<MDL	ug/L	No
2-4 Dichlorophenol	28/04/2025	0.15<MDL	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	28/04/2025	0.19<MDL	ug/L	No
Diclofop-methyl	28/04/2025	0.40<MDL	ug/L	No
Dimethoate	28/04/2025	0.06<MDL	ug/L	No
Diquat	28/04/2025	1<MDL	ug/L	No
Diuron	28/04/2025	0.03<MDL	ug/L	No
Glyphosate	28/04/2025	1<MDL	ug/L	No
Malathion	28/04/2025	0.02<MDL	ug/L	No
MCPA	28/04/2025	0.00012<MDL	mg/L	No
Metolachlor	28/04/2025	0.01	ug/L	No
Metribuzin	28/04/2025	0.02<MDL	ug/L	No
Monochlorobenzene	28/04/2025	0.3<MDL	ug/L	No
Paraquat	28/04/2025	1<MDL	ug/L	No
Pentachlorophenol	28/04/2025	0.15<MDL	ug/L	No
Phorate	28/04/2025	0.01<MDL	ug/L	No
Picloram	28/04/2025	1<MDL	ug/L	No
Polychlorinated Biphenyls(PCB)	28/04/2025	0.04<MDL	ug/L	No
Prometryne	28/04/2025	0.03<MDL	ug/L	No
Simazine	28/04/2025	0.01<MDL	ug/L	No
Terbufos	28/04/2025	0.01<MDL	ug/L	No
Tetrachloroethylene	28/04/2025	0.35<MDL	ug/L	No

Parameter	Sample Date (dd/mm/yyyy)	Result Value	Unit of Measure	Exceedance
2,3,4,6-Tetrachlorophenol	28/04/2025	0.20<MDL	ug/L	No
Triallate	28/04/2025	0.01<MDL	ug/L	No
Trichloroethylene	28/04/2025	0.44<MDL	ug/L	No
2,4,6-Trichlorophenol	28/04/2025	0.25<MDL	ug/L	No
Trifluralin	28/04/2025	0.02<MDL	ug/L	No
Vinyl Chloride	28/04/2025	0.17<MDL	ug/L	No

The following table summarizes the sampling and testing results for Trihalomethane (THM) and Haloacetic Acids (HAA) in the distribution system, during the reporting period or the most recent sample results for the Port Rowan DWS. The regulatory limit is based on the running annual average (RAA) of quarterly results and is 100ug/L for THM and 80ug/L for HAA.

Table 10 – Distribution System THM & HAA Results (Schedule 13)

Parameter	Sample Date (dd/mm/yyyy)	Result Value	Unit of Measure	Exceedance
Trihalomethane (THM) RAA = 67ug/L	10/02/2025	41	ug/L	No
	28/04/2025	67	ug/L	
	11/08/2025	128	ug/L	
	03/11/2025	89	ug/L	
Haloacetic Acids (HAA) RAA = 26.5ug/L	10/02/2025	13.4	ug/L	No
	28/04/2025	33.0	ug/L	
	11/08/2025	29.0	ug/L	
	03/11/2025	24.7	ug/L	

The following table summarizes the Microcystin sampling results, as required under the MDWL – Schedule C: 7.0 Harmful Algal Blooms, during the reporting period or the most recent sample results for the Port Rowan DWS.

Table 11 – Microcystin Sampling Results

Sample Date (dd/mm/yyyy)	Raw Water Results	Treated Water Results	Unit of Measure	Exceedance
03/06/2025	0.1<MDL	0.1<MDL	ug/L	No
10/06/2025	0.1<MDL	0.1<MDL		
17/06/2025	0.8	0.1<MDL		
24/06/2025	0.2	0.1<MDL		
02/07/2025	0.6	0.1<MDL		
08/07/2025	0.4	0.1<MDL		
15/07/2025	0.1	0.1<MDL		
22/07/2025	0.7	0.1<MDL		

Sample Date (dd/mm/yyyy)	Raw Water Results	Treated Water Results	Unit of Measure	Exceedance
29/07/2025	0.2	0.1<MDL		
05/08/2025	0.1	0.1<MDL		
12/08/2025	0.1	0.1<MDL		
19/08/2025	0.2	0.1<MDL		
26/08/2025	0.1<MDL	0.1<MDL		
02/09/2025	0.1<MDL	0.1<MDL		
09/09/2025	0.1<MDL	0.1<MDL		
16/09/2025	0.1<MDL	0.1<MDL		
23/09/2025	0.1	0.1<MDL		
01/10/2025	0.1<MDL	0.1<MDL		
07/10/2025	0.1<MDL	0.1<MDL		
14/10/2025	0.1<MDL	0.1<MDL		
21/10/2025	0.3	0.1<MDL		
28/10/2025	0.1<MDL	0.1<MDL		

The following table summarizes the Lead sampling and testing results, as set out in Schedule 15.1 Lead, during the reporting period or the most recent sample results for the Port Rowan DWS. Norfolk County follows the Reduced sampling schedule which requires pH and alkalinity samples be collected twice a year and lead samples collected every third year from the distribution system.

Table 12 – Lead Sampling & Testing (Schedule 15.1)

Parameter	Sample Date (dd/mm/yyyy)	Number of Samples	Range of Results	Number of Exceedances
Lead (ug/L)	04/03/2024	2	0.15 – 0.35	0
	23/09/2024	2	0.29 – 0.49	0
pH	03/03/2025	2	7.65 – 7.87	0
	22/09/2025	2	7.28 – 7.38	0
Alkalinity (mg/L)	03/03/2025	2	183 – 239	0
	22/09/2025	2	68 – 73	0