2025– Annual Drinking Water Report

January 1 – December 31, 2025

peterborough
Water Services

Peterborough Water Treatment System

Drinking Water System Number	220000497
Municipal Drinking Water Licence	145-101, Issue 7
Owner & Operating Authority:	The City of Peterborough

The City of Peterborough is the Owner and Operating Authority of the Peterborough Municipal Water System. We are committed to providing safe drinking water to all our customers. This report has been prepared in accordance with Section 11 of Ontario Regulation 170/03 and as mandated by the Safe Drinking Water Act 2002. Free copies of this report are available on our website www.peterborough.ca Further information on the Drinking Water Regulations can be found on the Ministry of the Environment website at www.ene.gov.on.ca.

System Description

Raw Water

The source of raw (untreated) water for Peterborough's drinking water is the Otonabee River. The Otonabee River Water is of good quality and can be described as a moderately coloured water of low turbidity. The river water temperature ranges from 0°C (winter) to approximately 26°C (summer). The raw river water is what we call a surface water supply, which means that it is considered to be an unprotected source. Accordingly, we assume that raw water always requires full treatment at the Peterborough Water Treatment Plant to make it drinkable or potable.

The river water quality is monitored by staff at the plant as well as the Otonabee Region Conservation Authority (ORCA) and the Peterborough Health Unit (beaches only). The watershed is protected by planning and approvals processes through the City of Peterborough and ORCA. Since 1998, ORCA has monitored water quality in the Otonabee watershed under the Watershed 2000 Program and the Provincial Water Quality Monitoring Network.

Water Treatment Plant

The plant is located at 1230 Water Street North, Peterborough, adjacent the Riverview Park & Zoo. The plant was initially built in 1922 and expanded in 1952, 1965, 1995, 2000, 2003 and 2016. The conventional treatment process includes coagulation, flocculation, sedimentation, filtration and chlorine disinfection. Aluminum sulphate (alum) is used as the primary coagulant. The current rated capacity of the plant is 104 ML/day.

The following chemicals were used in the drinking water treatment process:

- Chlorine
- Alum (Aluminum Sulphate)
- Hydrofluosilicic Acid
- Sodium hydroxide

Water Storage Tanks and Reservoirs

Treated water is stored at various locations throughout the City in underground reservoirs and elevated storage tanks. Storage is used to supplement supply during times of high-water demand and in emergency situations such as firefighting. The water storage capacity in the system is 48.2 ML.

Water Pumping Stations

There are four individual pressure zones in Peterborough. Water supply is pumped from the plant or from the Water Street Pumping Station. Approximately one half of the City's water supply is pumped using water-driven turbine pumps powered by the Otonabee River flow. There are seven water booster pumping stations around the city, which

pump water from lower pressure zones to higher pressure zones. Two of the most critical stations have diesel-powered backup in case of an electrical power outage.

Water Distribution Piping Systems

The water distribution system consists of approximately 472 kilometers of pipe (water mains), 2,471 hydrants and 27,818 individual water services. Hydrants are colour-coded according to the Ontario Fire Code requirements to indicate the available flow rate at a 20-psi residual pressure.

Connected Systems

Woodland Acres Drinking Water System (# 210001503) receives drinking water from the Peterborough Drinking Water System and is a connected system.

Legislation

Since the issuance of the Walkerton Reports I and II in 2002, many legislative and regulatory changes have occurred for those supplying drinking water in Ontario. The following are the primary pieces of legislation that have directly affected the operation of the City of Peterborough's municipal water system.

Safe Drinking Water Act

As recommended by Commissioner O'Connor in the Walkerton Inquiry Report Part 2, the government passed the Safe Drinking Water Act in 2002, which expands on existing policy and practice and introduced new features to protect drinking water in Ontario. The Act's purpose is to protect human health through the control and regulation of drinking-water systems and drinking-water testing. The Act also provides legislative authority to implement the recommendations made in Commissioner O'Connor's Walkerton Part One and Two Reports. As of August 2007, all 28 recommendations were made in Part One, and all 93 in Part Two have been implemented. The Act also has the benefit of gathering in one place all legislation and regulations relating to the treatment and distribution of drinking water. Parts of the Act address:

- Accreditation of operating authorities
- Municipal drinking water systems
- Drinking water testing
- Inspections
- Compliance and Enforcement

Drinking Water Quality Management Standard (DWQMS)

On October 30, 2006, the finalized standard was issued on the Environmental Bill of Rights Registry. The purpose of this Standard is to assist owners and operating authorities in the effective management and operation of their municipal residential drinking water systems. This Standard outlines requirements for a Quality Management System (QMS) to ensure high quality drinking water. In the development of a QMS, the Operating Authority must create an Operational Plan; this document will define the QMS and will be subject to external audits for accreditation. Staff developed and implemented

a QMS specific to the Peterborough municipal water system, which received full scope accreditation in August 2025.

Ontario Regulation 435/07: Financial Plans

In 2007, Ministry of Environment, Conservation & Parks (MECP) developed the Financial Plans Regulation (O. Reg. 453/07) under the SDWA that prescribes the requirements for Financial Plans. The Financial Plans Regulation requires all owners of municipal residential drinking water systems to prepare Financial Plans that detail the system's financial information projected forward for at least six years. The Financial Plans must include income statements (which set out revenues and expenses), as well as balance sheets (which include financial assets, non-financial assets, total liabilities, cash flow, etc.). The Financial Plans must then be formally approved by the owner of the municipal system through a resolution of the municipal council. The Financial Plan requires regular updates before every license renewal application (every 5 years).

Adverse Water Quality Results

There was no incidents of adverse drinking water quality test results in Peterborough for 2025.

Water Usage

From January 1 to December 31, 2025, the Peterborough Water Treatment Plant produced 10,403,821 cubic metres of water. This compares to 10,335,406 cubic metres from the previous year.

Water Quality

Microbiological Parameters Sampling Summary – Schedule 10, O Reg. 170/03

	Number of Samples	Range of E. Coli Results	Range of Total Coliform Results	Number of HPC Samples	Range of HPC Results
Raw	243	0 - 105	8 - 325	243	7 - 1540
Treated	243	0 - 0	0 - 0	243	0 - 7
Distribution	1380	0 – 0	0 – 0	1380	0 - 7

Operational Sampling Summary - Schedule 7, O Reg. 170/03

	Number of Grab Samples	Range of Results	Unit of Measure	Number of Exceedances
Turbidity	11 x 8,760	0.01 – 1.18	NTU	0
Chlorine	8,760	1.05 – 2.47	mg/L	0

Additional Sampling - Suspended Solids waste process

Instrument issued August 16, 2006

Date Sampled	Result	Unit of Measure	Number of Exceedances
Quarter 1	2	mg/L	0
Quarter 2	1	mg/L	0
Quarter 3	1	mg/L	0
Quarter 4	1	mg/L	0

Inorganic Sampling Summary – Schedule 23, O Reg. 170/03

Parameter	MAC	Result Value	MAC Exceedance (Yes or No)	Parameter Description
Antimony (µg/L)	6	<0.06	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (µg/L)	10	<0.02	No	Naturally occurring in surface waters / mine drainage
Barium (µg/L)	1000	25.7	No	Erosion of natural deposits. Discharge from metal refineries, oil drilling wastes.
Boron (/L)	5000	8	No	Erosion of natural deposits, industrial waste effluents.
Cadmium (µg/L)	5	<0.003	No	Industrial discharge
Chromium (µg/L)	50	0.12	No	Industrial residues
Mercury (µg/L)	1	<0.01	No	Erosion of natural deposits, industrial discharges.
Selenium (µg/L)	50	0.04	No	Discharge from refineries, mines, chemical manufacture
Uranium (µg/L)	20	0.024	No	Erosion of natural deposits.

Organic Sampling Summary - Schedule 24, O Reg. 170/03

Parameter	**MAC**	**Result Value**	**MAC Exceedance (Yes or No)**	**Parameter Description**
Alachlor (µg/L)	5	0.02<MDL	No	Agricultural herbicide
Atrazine + N-dealkylated metabolites (µg/L)	5	0.01<MDL	No	Agricultural herbicide
Azinphos-methyl (µg/L)	20	0.05<MDL	No	Insecticide

Parameter	MAC	Result Value	MAC Exceedance (Yes or No)	Parameter Description
Benzene (µg/L)	1	0.32<MDL	No	Discharge from plastics manufacturing, leaking fuel tanks
Benzo(a)pyrene (µg/L)	0.01	0.004<MDL	No	Formed from the incomplete burning of organic matter.
Bromoxynil (µg/L)	5	0.33<MDL	No	Agricultural herbicide
Carbaryl (µg/L)	90	0.05<MDL	No	Agricultural/Forestry/ Household insecticide
Carbofuran (µg/L)	90	0.01<MDL	No	Agricultural insecticide
Carbon Tetrachloride (µg/L)	2	0.17<MDL	No	Discharge from chemical and industrial activities
Chlorpyrifos (µg/L)	90	0.02<MDL	No	Agricultural/ Household insecticide
Diazinon (µg/L)	20	0.02<MDL	No	Agricultural/ Livestock Operation/ Residential insecticide
Dicamba (µg/L)	120	0.20<MDL	No	Agricultural herbicide
1,2-Dichlorobenzene (µg/L)	200	0.41<MDL	No	Discharge from industrial chemical factories
1,4-Dichlorobenzene (µg/L)	5	0.36<MDL	No	Discharge from industrial chemical factories
1,2-Dichloroethane (µg/L)	5	0.35<MDL	No	Discharge from industrial chemical factories
1,1-Dichloroethylene (vinylidene chloride) (µg/L)	14	0.33<MDL	No	Discharge from industrial chemical factories
Dichloromethane (µg/L)	50	0.35<MDL	No	Discharge from pharmaceutical and chemical factories
2-4 Dichlorophenol (µg/L)	900	0.15<MDL	No	Industrial contamination/ reaction with chlorine
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L)	100	0.19<MDL	No	Agricultural/ Residential herbicide
Diclofop-methyl (µg/L)	9	0.40<MDL	No	Agricultural herbicide
Dimethoate (µg/L)	20	0.06<MDL	No	Agricultural/ Livestock Operation/ Forestry insecticide
Diquat (µg/L)	70	1<MDL	No	Agricultural/ Aquatic herbicide
Diuron (µg/L)	150	0.03<MDL	No	Agricultural/ Industrial/ herbicide
Glyphosate (µg/L)	280	1<MDL	No	Agricultural/Forestry/ Household herbicide
Malathion (µg/L)	190	0.02<MDL	No	Fruit & Vegetable / pest control insecticide
2-Methyl-4-chlorophenoxyacetic acid (MCPA) (mg/L)	0.1	0.00012 <MDL	No	Leaching and/or runoff from agricultural and other uses
Metolachlor (µg/L)	50	0.01<MDL	No	Agricultural herbicide

Parameter	MAC	Result Value	MAC Exceedance (Yes or No)	Parameter Description
Metribuzin (µg/L)	80	0.02<MDL	No	Agricultural herbicide
Monochlorobenzene (µg/L)	80	0.3<MDL	No	Discharge from industrial and agricultural chemical factories and dry-cleaning facilities
Paraquat (µg/L)	10	1<MDL	No	Agricultural/ Aquatic herbicide
Pentachlorophenol (µg/L)	60	0.15<MDL	No	Pesticide/ wood preservative residue
Phorate (µg/L)	2	0.01<MDL	No	Agricultural insecticide
Picloram (µg/L)	190	1<MDL	No	Industrial herbicide
Polychlorinated Biphenyls (PCB) (µg/L)	3	0.04<MDL	No	Residue from various industrial uses
Prometryne (µg/L)	1	0.03<MDL	No	Agricultural herbicide
Simazine (µg/L)	10	0.01<MDL	No	Agricultural herbicide or its residue
THM - Annual Average		75.7	No	
Terbufos (µg/L)	1	0.01<MDL	No	Agricultural insecticide
Tetrachloroethylene (µg/L)	10	0.35<MDL	No	Leaching from PVC pipes; discharge from factories, dry cleaners and auto shops (metal degreaser)
2,3,4,6-Tetrachlorophenol (µg/L)	100	0.20<MDL	No	Wood preservative
Triallate (µg/L)	230	0.01<MDL	No	Agricultural herbicide
Trichloroethylene (µg/L)	5	0.44<MDL	No	Discharge from metal degreasing sites and other factories
2,4,6-Trichlorophenol (µg/L)	5	0.25<MDL	No	Pesticide manufacturing
Trifluralin (µg/L)	45	0.02<MDL	No	Agricultural herbicide
Vinyl Chloride (µg/L)	1	0.17<MDL	No	Leaching from PVC pipes; discharge from plastics factories

Additional Regulatory Treated Water Parameter

Parameter	MAC	Number of samples	Result Value	MAC Exceedance (Yes or No)	Parameter Description
Fluoride (mg/L)	1.45	365	0.01 – 0.84 LIMS	No	Naturally occurring.
Nitrite (mg/L)	1	4	0.05 – 0.05	No	A natural component of water at this level.
Nitrate (mg/L)	10	4	0.05 – 0.44	No	Runoff from fertilizer use, erosion of natural deposits
Sodium (mg/L)	20	1	9.9	No	Occurs naturally in the earth's crust. Notification is required every 60 months if greater than 20 mg/L

Lead Sampling Summary – Schedule 15.1, O Reg. 170/03

The Peterborough Municipal Water Treatment System was granted relief from regulatory lead sampling in Schedule 15.1 of O. Reg. 170/03, as described in Schedule D of the Municipal Drinking Water Licence #145-101, Issue #7, dated March 25,2025.

Location Type	Number of Samples	Range of Lead Results	Unit of Measure	Number of Exceedances
Plumbing	0	0	mg/L	0
Distribution	17	0.0005 - 0.0005	mg/L	0

Questions or comments

Please contact us either by mail, phone or email.

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