



Town of Perth Drinking Water System

DWS # 220001272

2025 Annual Report



Drinking-Water System Number:	220001272
Drinking-Water System Name:	Perth Drinking Water System
Drinking-Water System Owner:	The Corporation of the Town of Perth
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2025 to Dec 31, 2025

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [x]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>The 2025 Summary Report will be prepared and forwarded to the Town of Perth Municipal Council by March 30, 2026. Paper copies will be available at the Water Treatment Plant and electronic copies available on the municipal website.</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 5px 0;">20-25</div> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No [] Available on Website</p> <p>Number of Interested Authorities you report to:</p> <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 5px 0;">n/a</div> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No [] n/a</p>
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List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Tay Valley Township	260097682

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [x] No []



Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web**
- Public access/notice via Government Office**
- Public access/notice via a newspaper**
- Public access/notice via Public Request**
- Public access/notice via a Public Library**
- Public access/notice via other method**

Describe your Drinking-Water System

Water Treatment Subsystem

The Water Treatment Plant is a Class III facility and was constructed in 1964 replacing the old Plant on Leslie Street, which was built in 1897. The water source is the Tay River, with the intake located at the Links O' Tay Golf Course. At the plant, conventional filtration practices are followed using a multiple barrier approach, including disinfection at various points in the process.

The surface water, or raw water, flows into the plant's intake wells, pretreated as required, and then onward to the raw water wells. The raw water's quantity and quality is monitored in order for proper chemical dosages to occur. Raw water pretreatment consists of double screening for solids, and disinfection when needed with chlorine dioxide. Water is then subject to the clarification process, involving coagulation, flocculation, and sedimentation stages. Clarified water is then directed to the filtration process, where filter beds consisting of granular activated carbon and sand, further removes suspended solids. The filtered water's turbidity is continuously monitored and the filters are regenerated (backwashed) when required. Filter effluent water is directed to the clearwell for primary disinfection.

In the clearwell, the initial primary disinfection occurs as filter effluent water is exposed to the disinfecting agent, Sodium Hypochlorite. The treated water then passes to the reservoir, where further contact time is allowed to occur with the disinfectant. Prior to entering the reservoir, calcium hydroxide (lime) is added for pH adjustment, and fluoride (as recommended by the Ministry of Health). The underground reservoir at the plant has a storage capacity of approximately 750,000 gallons (3,000,000 liters). It remains there until demand requires it in the distribution system. Before pumping the water directly into the distribution system, secondary disinfection occurs (sodium hypochlorite) to bring the free chlorine residual up to a level required to maintain a residual throughout the distribution system.

A process wastewater residue management system is used to reduce solids and dechlorinate the wastewater prior to discharge back into the Tay River. Wastewater sludge is directed to a treatment system involving geo membranes. Sedimentation tank sludge goes directly to treatment, while backwash wastewater is given settling time so supernatant water can be decanted off prior to sludge treatment. Any wastewater from the geo membrane dewatering process or backwash settling process is sent back to the Tay River.

Water Distribution Subsystem

The distribution subsystem is comprised of approximately 45 km of water mains constructed primarily of cast, PVC and ductile iron pipe ranging in diameter from 100 mm to 400mm. The system serves a population of approximately 6000, supplies approximately 2400 service connections, and has approximately 270 hydrant installations. A hydrant flushing program occurs twice a year, to help maintain the system integrity and proper operations.

An elevated tank, with storage capacity of 945 m³, provides system pressure and storage. A water mixing system helps ensure adequate disinfection is maintained while water is stored in the tank. The system is checked on a weekly basis to ensure that drinking water remains safe, free of bacteria and disinfected.



List all water treatment chemicals used over this reporting period

Poly-Aluminum Chloride (PAX XL-6 - coagulant) Activated Carbon (GAC – filter beds) Sodium Hypochlorite (Primary disinfection) Sodium Hypochlorite (Secondary Disinfection) Calcium Hydroxide (Lime – pH adjustment) Sodium Silicofluoride (Fluoride) Polymer (Geo-tube process sludge) Hydrochloric Acid (Chlorine Dioxide) Sodium Chlorite (Chlorine Dioxide) Sodium Hypochlorite (Chlorine Dioxide) Calcium Thiosulphate (CAPTOR – dechlorination)
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Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

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| <ul style="list-style-type: none"> • Replacement of failed WTP electric heaters • Replacement of failed UPS batteries • Coagulant Day tank level sensor replacement • Purchase of GEO sludge transfer pump • Repairs to GEO “greenhouse” covering
 • Elevated tank 10” fill valve and electric actuator installed • Elevated Tank interior maintenance work done • Elevated Tank dechlorination system added to drain lines • Elevated Tank standpipe repairs done • New watermain install Craig St (Gore St to Cole Rd) • WD purchase and install of WD auto flusher unit on dead end of Craig St • WD replacement on-going efforts of aged bleeder valves • Restocking of water distribution water repair equipment inventory |
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Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	52	4 - 248	20 - 1560	n/a	n/a
Treated	52	Absent in all Samples	Absent in all Samples	52	<10 - 110
Distribution	208	Absent in all Samples	Absent in all Samples	208	<10 - 280

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)	Unit of Measure
Free Chlorine Residual (Primary Disinfection)	8760	0.65 – 1.88	mg/L
Free Chlorine Residual (Secondary Disinfection – WTP Effluent)	8760	1.18 – 2.27	mg/L
Free Chlorine Residual (Secondary Disinfection – Water Distribution)	415	0.30 – 1.88	mg/L
Turbidity (Filter #1)	8760	0.02 – 1.00	NTU
Turbidity (Filter #2)	8760	0.02 – 0.41	NTU
Fluoride (WTP Effluent)	**	0.20 – 0.94	mg/L

NOTE: For continuous monitors use 8760 as the number of samples.

*Note:** Fluorination operations off for portion of year due to operational issues*

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
MDWL 160-101 Sched C, sec 4.4	TSS (Residue Mgmt) (Phase I) (Geo-bag discharges) Annual Average Concentration limit (15 mg/L)	Annual Avg.	5.44	mg/L
		(15 Jan 2025)	(3.33)	
		(11 Feb 2025)	(3.00)	
		(13 Mar 2025)	(3.33)	
		(15 Apr 2025)	(5.67)	
		(14 May 2025)	(5.33)	
		(10 Jun 2025)	(5.00)	
		(17 Jul 2025)	(3.00)	
		(19 Aug 2025)	(6.00)	
		(16 Sep 2025)	(9.00)	
		(17 Oct 2025)	(4.67)	
		(21 Nov 2025)	(4.67)	
		(18 Dec 2025)	(12.33)	

MDWL 160-101 Sched C, sec 4.4	TSS (Residue Mgmt) (Phase II) (BET supernatant) Annual Average Concentration limit (15 mg/L)	Annual Avg. (15 Jan 2025) (12 Feb 2025) (13 Mar 2025) (15 Apr 2025) (14 May 2025) (10 Jun 2025) (16 Jul 2025) (19 Aug 2025) (15 Sep 2025) (17 Oct 2025) (21 Nov 2025) (17 Dec 2025)	4.11 (4.67) (6.00) (5.00) (3.33) (4.33) (4.00) (4.67) (3.00) (3.00) (3.00) (5.33) (3.00)	mg/L
MDWL 160-101 Sched C, sec 4.4	Total Chlorine Residual (Residue Mgmt) (Phase I)	Annual Avg. (Monthly Range)	0.003 (0.00-0.02)	mg/L
MDWL 160-101 Sched C, sec 4.4	Total Chlorine Residual (Residue Mgmt) (Phase II)	Annual Avg. (Monthly Range)	0.003 (0.00-0.01)	mg/L
MDWL 160-101 Sched C, sec 4.1	Chlorate	13 Jan 2025 14 Apr 2025 07 Jul 2025 06 Oct 2025	0.10 0.08 0.20 0.34	mg/L mg/L mg/L mg/L
MDWL 160-101 Sched C, sec 4.1	Chlorite	13 Jan 2025 14 Apr 2025 07 Jul 2025 06 Oct 2025	<0.02 <0.01 <0.01 <0.01	mg/L mg/L mg/L mg/L

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	07 Jul 2025	<0.0001	mg/L	N
Arsenic	07 Jul 2025	0.0002	mg/L	N
Barium	07 Jul 2025	0.024	mg/L	N
Boron	07 Jul 2025	0.010	mg/L	N
Cadmium	07 Jul 2025	<0.000015	mg/L	N
Chromium	07 Jul 2025	<0.0010	mg/L	N
Mercury	07 Jul 2025	<0.00002	mg/L	N
Selenium	07 Jul 2025	<0.001	mg/L	N
Uranium	07 Jul 2025	<0.00005	mg/L	N
Nitrite	13 Jan 2025 14 Apr 2025 07 Jul 2025 06 Oct 2025	<0.05 <0.05 <0.05 <0.05	mg/L mg/L mg/L mg/L	N
Nitrate	13 Jan 2025 14 Apr 2025 07 Jul 2025 06 Oct 2025	0.05 <0.05 0.08 <0.05	mg/L mg/L mg/L mg/L	N
Sodium	07 Jul 2025	8.9	mg/L	N
*Lead <i>Done along with Sched 15.1</i>				

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems



Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Plumbing	n/a			
Distribution	4	0.00006 - 0.00086	mg/L	0

The Municipality Distribution staff did record pH and Alkalinity of two separate sampling times (winter and summer).

Period	Number of Distribution Samples	Range of pH results (min#)-(max #)	Range of Alkalinity Results (min#)-(max #)	Temperature Range (min#)-(max #)
Winter (April 15, 2025)	4	7.15 – 7.25	72-76	6.3 – 7.4
Summer (October 10, 2025)	4	7.23 – 7.50	60-62	16.5 –17.4

The Municipality also conducted non-regulatory Inorganic Parameter Testing as part of a self-initiated drinking water quality assurance program.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Copper	13 Jan 2025	<0.002	mg/L	N
	07 July 2025	0.004		
Iron	13 Jan 2025	0.005	mg/L	N
	07 July 2025	<0.005		
Manganese	13 Jan 2025	0.024	mg/L	N
	07 July 2025	0.009		
Lead (WTP discharge)	07 Jul 2025	<0.00002	mg/L	N
Lead (WD sample)	07 Jul 2025	0.00090	mg/L	N
Sulphate	13 Jan 2025	7.0	mg/L	N
	14 Apr 2025	7.0		
	07 Jul 2025	7.0		
	06 Oct 2025	7.0		
Chloride	13 Jan 2025	27.2	mg/L	N
	14 Apr 2025	21.9		
	07 Jul 2025	22.1		
	06 Oct 2025	25.0		
Aluminum	07 Jul 2025	0.032	mg/L	N
Calcium	07 Jul 2025	23.6	mg/L	N
Calcium (WD sample)	07 Jul 2025	23.4	mg/L	N
Magnesium	07 Jul 2025	5.01	mg/L	N
Magnesium (WD sample)	07 Jul 2025	4.86	mg/L	N
Hardness (as CaCO₃)	07 Jul 2025	79.6	mg/L	N
Hardness (as CaCO₃) (WD sample)	07 Jul 2025	78.5	mg/L	N
Fluoride	07 Jul 2025	0.6	mg/L	N
Fluoride (WD sample)	07 Jul 2025	0.6	mg/L	N
Conductivity (WD sample)	07 Jul 2025	0.6	uS/cm	N

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THM (Total Trihalomethanes) (NOTE: show latest annual average)	Annual Average 13 Jan 2025 14 Apr 2025 07 Jul 2025 06 Oct 2025	52.5 (59) (37) (74) (40)	µg/L	N
HAA (Haloacetic Acids)	Annual Average 13 Jan 2025 14 Apr 2025 07 Jul 2025 06 Oct 2025	36.8 (33.3) (36.0) (43.8) (34.1)	µg/L	N
Alachlor	07 Jul 2025	<0.3	µg/L	N
Atrazine	07 Jul 2025	<0.5	µg/L	N
Atrazine (Desethyl)	07 Jul 2025	<0.5	µg/L	N
Atrazine + N-dealkylated metabolites	07 Jul 2025	<0.5	µg/L	N
Azinphos-methyl	07 Jul 2025	<1	µg/L	N
Benzene	07 Jul 2025	<0.5	µg/L	N
Benzo(a)pyrene	07 Jul 2025	<0.006	µg/L	N
Bromoxynil	07 Jul 2025	<0.5	µg/L	N
Carbaryl	07 Jul 2025	<3	µg/L	N
Carbofuran	07 Jul 2025	<1	µg/L	N
Carbon Tetrachloride	07 Jul 2025	<0.2	µg/L	N
Chlorpyrifos	07 Jul 2025	<0.5	µg/L	N
Diazinon	07 Jul 2025	<1	µg/L	N
Dicamba	07 Jul 2025	<1.0	µg/L	N
1,2-Dichlorobenzene	07 Jul 2025	<0.5	µg/L	N
1,4-Dichlorobenzene	07 Jul 2025	<0.5	µg/L	N
1,2-Dichloroethane	07 Jul 2025	<0.5	µg/L	N
1,1-Dichloroethylene (vinylidene chloride)	07 Jul 2025	<0.5	µg/L	N
Dichloromethane (methylene chloride)	07 Jul 2025	<5	µg/L	N
2,4 Dichlorophenol	07 Jul 2025	<0.2	µg/L	N
2,4-Dichlorophenoxy acetic acid (2,4-D)	07 Jul 2025	<1.0	µg/L	N
Diclofop-methyl	07 Jul 2025	<0.9	µg/L	N
Dimethoate	07 Jul 2025	<1	µg/L	N
Diquat	07 Jul 2025	<5	µg/L	N
Diuron	07 Jul 2025	<5	µg/L	N
Glyphosate	07 Jul 2025	<25	µg/L	N
Malathion	07 Jul 2025	<5	µg/L	N
MCPA (2-methyl-4-chlorophenoxyacetic acid)	07 Jul 2025	<10	µg/L	N
Metolachlor	07 Jul 2025	<3	µg/L	N
Metribuzin	07 Jul 2025	<3	µg/L	N
Monochlorobenzene (Chlorobenzene)	07 Jul 2025	<0.5	µg/L	N
Paraquat	07 Jul 2025	<1	µg/L	N
Pentachlorophenol	07 Jul 2025	<0.2	µg/L	N
Phorate	07 Jul 2025	<0.3	µg/L	N

Picloram	07 Jul 2025	<5.0	µg/L	N
Polychlorinated Biphenyls (PCB)	07 Jul 2025	<0.05	µg/L	N
Prometryne	07 Jul 2025	<0.1	µg/L	N
Simazine	07 Jul 2025	<0.5	µg/L	N
Terbufos	07 Jul 2025	<0.5	µg/L	N
Tetrachloroethylene	07 Jul 2025	<0.5	µg/L	N
2,3,4,6-Tetrachlorophenol	07 Jul 2025	<0.2	µg/L	N
Triallate	07 Jul 2025	<10	µg/L	N
Trichloroethylene	07 Jul 2025	<0.5	µg/L	N
2,4,6-Trichlorophenol	07 Jul 2025	<0.2	µg/L	N
Trifluralin	07 Jul 2025	<0.5	µg/L	N
Vinyl Chloride	07 Jul 2025	<0.2	µg/L	N

The Municipality also conducted non-regulatory Organic Parameter Testing as part of a self-initiated drinking water quality assurance program.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THM (WTP discharge)	Annual Average 13 Jan 2025 14 Apr 2025 07 Jul 2025 06 Oct 2025	38.00 (30) (32) (59) (31)	µg/L	N

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
THM (Total Trihalomethanes) (WD)	59	ug/L	Quarterly Average (Jan-Mar)
THM (Total Trihalomethanes) (WD)	74	ug/L	Quarterly Average (July-Sept)
HAA (Haloacetic Acids) (WD)	43.8	ug/L	Quarterly Average (July-Sept)
THM (Total Trihalomethanes) (WTP)	59	ug/L	Quarterly Average (July-Sept)