Annual Report

FOR

LAKEFIELD DRINKING WATER SYSTEM
Section 11 of Ontario Regulation 170/03

PERIOD: January 1, 2025 – December 31, 2025

February 28, 2026
MECP Drinking Water System Number: 220000488

Ontario

Drinking-Water Systems Regulation O. Reg. 170/03

Drinking-Water System Number:	220000488
Drinking-Water System Name:	Lakefield Drinking Water System
Drinking-Water System Owner:	Township of Selwyn
Drinking-Water System Category:	WT Class 2 & WD Class 2
Period being reported:	January 1, 2025 to December 31, 2025

Complete if your Category is Large Municipal Residential or Small Municipal Residential	***Complete for all other Categories.***
Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [X] **Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]** **Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.** Township of Selwyn 1310 Centre Line Selwyn, ON K9J 6X5 www.selwyntownship. ca	**Number of Designated Facilities served:** Not applicable **Did you provide a copy of your annual report to all Designated Facilities you serve?** Not applicable **Number of Interested Authorities you report to:** Not applicable **Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?** Not applicable

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:
Not applicable

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?
Not applicable

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

- **[X] Public access/notice via the web**
- **[X] 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 - Social Media**

Describe your Drinking-Water System

The Lakefield Drinking Water System is operated by the Township of Selwyn Operating authority. The Lakefield drinking water system generally consists of five elements:

1) Raw Water Source

The Otonabee River is the source of raw water for Lakefield's Drinking Water Treatment Plant. 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 O°C (winter) to approximately 29°C (summer). The river water source is considered to be a surface water supply, which requires full treatment with chemically assisted filtration.

The river water quality is monitored by Operators at the Water Treatment Plant, by the Otonabee Region Conservation Authority (ORCA) and Lakelands Public Health, formerly known as Peterborough County-City Health Unit, (beaches only). The watershed is protected by planning and approvals processes through the Township of Selwyn 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.

2) Water Treatment Plant

The Lakefield Water Treatment Plant is located at 13 Water Street North in Lakefield, which consists of intake piping from the Otonabee River, a low lift pumping system located within the water treatment plant, a treatment plant employing the process of chemical coagulation, ballasted flocculation/sedimentation (Actiflo®) units, dual media filtration (anthracite and sand) and chlorine disinfection via sodium hypochlorite. The plant has a two-celled baffled clearwell with a total capacity of approximately 1,000 m^3 and a highlift pump chamber for supplying the Distribution System. Each lowlift pump is specified to be capable of 35 L/second. The filters have a capacity of 3,700 m^3/day. The Actiflo® units have a capacity of 4,500 m^3/day. There is a washwater surge tank and a process wastewater clarifier to treat all Actiflo and Filter backwash water.

3) Water Storage Tanks & Reservoirs

Water storage provides a supplemental supply during times of increased water demand and in emergencies such as firefighting. Treated water is stored at two distribution system reservoirs. The Standpipe is located at 121 Strickland Street, providing 2,700 m^3 total volume and 900 m^3 effective volume. This reservoir is currently not in service. The Elevated Tank is located at 3362 Lakefield Road, providing 2,750 m^3 total volume and 2,750 m^3 effective volume.

4) Water Pumping Stations

The distribution system is currently operating as one (1) pressure zone but has the capability to operate as two (2) individual pressure zones. Water supply is pumped directly from the high lift pumping facility at the Water Treatment Plant to serve connected properties and businesses throughout most of Lakefield. There is one water booster pumping station at the corner of Strickland Street and Rolliston Street, which can pump water from the lower pressure zone to the higher pressure zone. This pump station has not been in service since October 2019.

5) Water Distribution Piping System

The water distribution system consists of approximately 22,000 metres of underground pipes (water mains), 110 hydrants and 1,100 individual water services.

List all water treatment chemicals used over this reporting period

- Clarion A3 Alum (Aluminum Sulphate + Sulfuric acid)
- Hydrex 3613 polymer as coagulant aid
- Sodium Hypochlorite (Liquid Chlorine)
- Caustic Soda 25% (for corrosion control)
- Sodium thiosulfate (for de-chlorination of washwater)

Were any significant expenses incurred to?

[ ] Install required equipment
[X**]** Repair required equipment
[X**]** Replace required equipment

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

- Replacement of Water Treatment Plant SCADA computer and SCADA Pack- $28000.00
- Replacement of PLC at Elevated Tank-$19000.00
- Engineering for the provision of a high lift pump, engineering/design/tendering for highlift pump installation and highlift header replacement (ongoing into 2026)
- Underwater inspection and cleaning of the raw water intake structures, sampling pipes and pre-chlorination tubing for Zebra Mussell control-$9500
    - Back up Alarm Dialer that runs off cell signal as existing Dialer runs off Bell hard line

which is aging and vulnerable infrastructure-$10000.00

- Engineering and Design of George St upgrade undersized watermain between Hague St and Fraser St-$12000.00
- Engineering and Design of Burnham St watermain between Water St and Queen St. The existing cast iron watermain has had multiple breaks and has reached end of life-$27000.00
- Replace inoperable watermain control valve at Queens St and Burnham St-$10000.00
- Engineering work for Standpipe Rehabilitation Project-$30750.00
- Backwash Pump maintenance of stuffing boxes and replace packing glands for the 2 Filter Backwash Pumps-$15000.00

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
04Jan2025	AWQI #167157, Evidence of improperly disinfected water entering the Clearwell but none directed to users	Resolved	High turbidity in Filter Water	Reported to Authorities. Used improperly disinfected water by backwashing Filters. All Filters have interlocks to close filter effluent valves to prevent high turbidity water from entering Clearwell.	04Jan2025

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	0 – overgrown	0 – overgrown	---	---
Treated	54	0-0	0-0	53	0-4
Distribution	163	0-0	0-0	74	0-3

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
Turbidity	8760	0.03 – 0.92	NTU
Chlorine	8760	0.88 – 2.57	mg/L
Fluoride (If the DWS provides fluoridation)			

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
Tested by SGS laboratories	Suspended Solids waste process	Weekly	9.0 Annual Average	mg/L

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

0B**Parameter**	1B**Sample Date**	**Result Value**	2B**Unit of Measure**	3B**Exceedance**
Antimony	September 12	0.6 <MDL	µg/L	No
Arsenic	September 12	0.2 <MDL	µg/L	No
Barium	September 12	25.4	µg/L	No
Boron	September 12	9	µg/L	No
Cadmium	September 12	0.003 <MDL	µg/L	No
Chromium	September 12	0.23	µg/L	No
Mercury	September 12	0.01 <MDL	µg/L	No
Selenium	September 12	0.04 <MDL	µg/L	No
Sodium	February 6, 2024	16.3	mg/L	No
Uranium	September 12	0.006	µg/L	No
Fluoride	February 6, 2024	0.06 <MDL	mg/L	No

Nitrite	Feb 19 May 14 Sept 10 Dec 11	0.003<MDL 0.003<MDL 0.003<MDL 0.003<MDL	mg/L	No
Nitrate	Feb 19 May 14 Sept 10 Dec 11	0.190 0.202 0.039 0.031	mg/L	No

Summary of lead testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples Required	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Private Plumbing	exempt	n/a	µg/L	0
Plumbing Public	exempt	n/a	µg/L	0
Distribution	4	0.01<MDL - 0.06	µg/L	0

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

Parameter	4B**Sample Date**	**Result Value**	5B**Unit of Measure**	6B**Exceedance**
Alachlor	Sept 9	0.02<MDL	µg/L	No
Atrazine + N-dealkylated metobolites	Sept 9	0.01<MDL	µg/L	No
Atrazine	Sept 9	0.01	µg/L	No
Azinphos-methyl	Sept 9	0.05<MDL	µg/L	No
Benzene	Sept 9	0.32<MDL	µg/L	No
Benzo(a)pyrene	Sept 9	0.004<MDL	µg/L	No
Bromoxynil	Sept 9	0.33<MDL	µg/L	No
Carbaryl	Sept 9	0.05<MDL	µg/L	No
Carbofuran	Sept 9	0.01<MDL	µg/L	No
Carbon Tetrachloride	Sept 9	0.17<MDL	µg/L	No
Chlorpyrifos	Sept 9	0.02<MDL	µg/L	No
Diazinon	Sept 9	0.02<MDL	µg/L	No
Dicamba	Sept 9	0.20<MDL	µg/L	No
1,2-Dichlorobenzene	Sept 9	0.41<MDL	µg/L	No
1,4-Dichlorobenzene	Sept 9	0.36<MDL	µg/L	No
1,2-Dichloroethane	Sept 9	0.35<MDL	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Sept 9	0.33<MDL	µg/L	No
Dichloromethane	Sept 9	0.35<MDL	µg/L	No
2-4 Dichlorophenol	Sept 9	0.15<MDL	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Sept 9	0.19<MDL	µg/L	No

Diclofop-methyl	Sept 9	0.40<MDL	µg/L	No
Dimethoate	Sept 9	0.06<MDL	µg/L	No
Diquat	Sept 9	1<MDL	µg/L	No
Diuron	Sept 9	0.03<MDL	µg/L	No
Glyphosate	Sept 9	1<MDL	µg/L	No

Parameter	4B**Sample Date**	**Result Value**	5B**Unit of Measure**	6B**Exceedance**
HAA (NOTE**:** show latest annual average**)**	Average	57.9	µg/L	No
Malathion	Sept 9	0.02<MDL	µg/L	No
2-Methyl-4-chlorophenoxyacetic acid MCPA	Sept 9	0.00012 <MDL	µg/L	No
Metolachlor	Sept 9	0.01<MDL	µg/L	No
Metribuzin	Sept 9	0.02<MDL	µg/L	No
Monochlorobenzene	Sept 9	0.3<MDL	µg/L	No
Paraquat	Sept 9	1<MDL	µg/L	No
Pentachlorophenol	Sept 9	0.15<MDL	µg/L	No
Phorate	Sept 9	0.01<MDL		
Picloram	Sept 9	1<MDL	µg/L	No
Polychlorinated Biphenyls (PCB)	Sept 9	0.04<MDL	µg/L	No
Prometryne	Sept 9	0.03<MDL	µg/L	No
Simazine	Sept 9	0.01<MDL	µg/L	No
THM (NOTE**:** show latest annual average**)**	Average	67.5	µg/L	No
Terbufos	Sept 9	0.01<MDL	µg/L	No
Tetrachloroethylene	Sept 9	0.35<MDL	µg/L	No
2,3,4,6-Tetrachlorophenol	Sept 9	0.20<MDL	µg/L	No
Triallate	Sept 9	0.01<MDL	µg/L	No
Trichloroethylene	Sept 9	0.44<MDL	µg/L	No
2,4,6-Trichlorophenol	Sept 9	0.25<MDL	µg/L	No
Trifluralin	Sept 9	0.02<MDL	µg/L	No
Vinyl Chloride	Sept 9	0.17<MDL	µg/L	No

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**
none			