



Municipality of
Meaford

MEAFORD DRINKING
WATER SYSTEM
2025 Annual Report

Prepared by the Environmental Services Division

Submitted By: Emily Howard

Drinking Water System General Information

This report has been prepared in accordance with the reporting requirements of the Safe Drinking Water Act 2002 O. Reg 170/03, s 11(1), (3), (6), (7), (8), (9.1) and 10 as well as Schedule 22.

This annual report is included in the Water Summary Report to be presented to Council and can be viewed on the Municipal website at www.meaford.ca/WaterReports

Drinking Water System Information

| | |
|--|---|
| Drinking Water System Number | 210000176 |
| Drinking Water System Name | The Municipality of Meaford Water Treatment Plant |
| Drinking Water System Owner | Municipality of Meaford |
| Drinking Water System Category | Large Municipal Residential |
| Period being reported | January 1, 2025 to December 31, 2025 |
| Municipal Drinking Water Licence | 089-101 |
| | Issue Number: 5 |
| | Expiry: 2030-05-26 |
| Drinking Works Permit | 089-201 |
| | Issue Number: 6 |
| Permit to take Water | 5585 - ALCPQM |
| | Expiry: 2027-04-30 |
| Does your Drinking Water System serve more than 10,000 people? | No |

Drinking Water System Description

The Meaford Water System is situated on Georgian Bay in Meaford, Ontario. The treatment plant was originally constructed in 1959/60. In 1975 gas chlorination was added to the treatment plant. The Meaford Water Plant was further upgraded in 1999/2000 by completing the following: increasing the clear water storage, expanding the control building, installing a SCADA system and new low lift and high lift pumping system, backwash wastewater treatment.

Another upgrade in 2002 added one more gas chlorinator, in line booster pump to feed plant and new truck fill station. The plant SCADA system and PLC panels were upgraded during 2013 and

the replacement Ultraviolet Disinfection equipment on both filter effluent lines was installed in 2025.

The system presently consists of the following:

- An approximately 760mm raw water intake extends into Georgian Bay with chlorination for zebra mussel control
- Two 150 HP low lift pumps
- Injection of poly aluminum chloride prior to inline flash mixer
- Two filter beds with multi-media and backwash troughs
- Ultraviolet disinfection on filter effluent
- Gas chlorine disinfection (3 chlorinators)
- One clearwell comprising of two cells in series Totaling 2309m³ of drinking water storage, (Cell 1 – 916m³, and Cell 2 – 1393m³)
- Three 200 HP high lift pumps and 1 VFD high lift pump 75HP
- A filter backwash waste treatment system

The filter backwash wastewater treatment system consists of 2 Backwash pumps, air scour, surge tank, a treatment clarifier, and injection of vita D-Chlor for de-chlorination. The treated backwash wastewater is discharged into the storm sewer which ends up in Georgian Bay, the sludge is pumped into the sanitary sewer. The water plant has standby power, provided by a Diesel Generator (including fuel storage tanks replaced in 2019).

The UTM co-ordinates of the plant are Zone 17 531440E, 494400N

Meaford Water Tower

An elevated storage tank is located on Nelson St. in Meaford and is referred to as the Meaford Water Tower. This Tower has a capacity of 570 cubic meters. The Tower level supplies water pressure to the lower zone as well as the pressure stations in the Municipality.

St. Vincent St. Booster Station

A booster station is located on St. Vincent St. and is known as St. Vincent St. Booster Station. The station consists of 5 pumps. The water pressure at this station is boosted for higher distribution pressures and volume to provide fire flows throughout the upper southern part of the Municipality.

Nelson St. Booster Station

In 2022 the construction of the new Nelson Street booster station was completed. The new station is located on the same property as the Water Tower. The station consists of 7 pumps: of varying horsepower. This station is used to boost the water pressure in the distribution and provide adequate fire flows throughout the upper western part of the Municipality.

Summary of Drinking Water Inspections and Audits

MECP Inspections

During 2025 there were two MECP inspections completed, one in February for 2024 to February 2025 and one in November for February 2025 to November 2025. The Municipality received 100% on the inspection report cards for both inspections.

Internal Audit

The internal audit conducted by Municipality of Meaford Environmental Services Coordinator evaluated the DWQMS during 2025. Internal audit was concluded with no minor non-conformity and three opportunities for improvement.

External Audit

The external audit was conducted by Intertek – SAI Global there were no non-conformities and three opportunities for improvement.

Summary of Water Treatment Chemicals Used Over this Reporting Period

Chlorine Gas (68 kg cylinders) – used in zebra mussel chlorination (during warmer months >10 degrees), used in chlorination during filtration and post chlorination (treatment after filtration).

PAX XL-1900 – is a coagulant used prior to filtration. A coagulants primary objective is to adhere to suspended particulates, make them bigger in size, so there is a higher removal rate of particulates in the filtration process.

Sodium Hypochlorite (6%) – is a liquid form of chlorine used for disinfection purposes to rechlorinate the water at the Nelson Pump Station.

Vita D-Chlor – is a chemical for dechlorinating previously treated water before it is sent to sewer or Georgian Bay after waste processes.

Summary of Monetary Expenses Incurred in 2025

| | |
|--|-------------|
| Online Chlorine Analyzer Replacement (2) | \$18,867.36 |
| Chlorinator Replacement (3) | \$40,944.14 |

Summary of Adverse Drinking Water Quality Results

There were no incidents of adverse drinking water quality during 2025.

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

| Parameter | Number of Samples | Range of E. Coli or Fecal Results Min-Max | Range of Total Coliform Results Min-Max | Number of HPC Samples | Results of HPC Results Min # to Max # |
|--------------|-------------------|---|---|-----------------------|---------------------------------------|
| Raw | 52 | 0-NDOGT* | 0-NDOGT* | N/A | N/A |
| Treated | 52 | 0 | 0 | 52 | 0-1 |
| Distribution | 170 | 0 | 0 | 53 | 0-6 |

*NDOGT = No Data: Overgrown with Target Bacteria

Summary of Operational Testing completed under Schedule 7, 8, or 9 of Ontario Regulation 170/03 during this reporting period

| Treated Water | Number of Grab Samples | Range of Results Min # to Max # | Unit of Measure |
|---------------|------------------------|---------------------------------|-----------------|
| Turbidity | 8760 | 0.015-0.90 | NTU |
| Chlorine | 8760 | 1.03-1-2.00 | mg/L |

Section 7 of Schedule C of the Municipality's Drinking Water License requires that a Harmful Algal Bloom monitoring plan be developed and implemented. As part of this plan municipal drinking water operators inspect the intake location weekly and other areas of the shoreline directly affecting the municipal intake monthly during June 1 and October 31. Samples are required if blue green algal blooms are detected. During the 2025 reporting period no algal blooms were detected.

Summary of additional Testing and Sampling

Please see attached additional sampling results for Haloacetic Acids, Trihalomethanes, Process Wastewater Suspended Solids, Nitrate, Nitrite, pH and Alkalinity.

Haloacetic Acid

| Quarter | HAA Sample Result ug/L | Sampling Location |
|------------|------------------------|-------------------|
| A | 5.3 | 223 Nelson St W. |
| B | 11.6 | 323 Sykes St N. |
| C | 18.8 | 91 Edwin St. |
| D | 16.5 | 223 Nelson St W. |
| RAA | 13.05 | |

Trihalomethanes

| Quarter | THM Sample Result ug/L | Sampling Location |
|------------|------------------------|----------------------------|
| A | 22 | 325 St Vincent St. |
| B | 31 | Memorial Park Site 93 |
| C | 47 | Golf Course Sample Station |
| D | 37 | Golf Course Sample Station |
| RAA | 34.25 | |

Process Wastewater Total Suspended Solids

| Sample Date | Result Value | Unit of Measure |
|-------------------|--------------|-----------------|
| January 15, 2025 | 26 | mg/L |
| February 19, 2025 | 28 | mg/L |
| March 28, 2025 | 2 | mg/L |
| April 28, 2025 | 5 | mg/L |
| May 26, 2025 | 4 | mg/L |
| June 25, 2025 | 40 | mg/L |

| Sample Date | Result Value | Unit of Measure |
|-----------------------|---------------------|------------------------|
| July 23, 2025 | 12 | mg/L |
| August 21, 2025 | 30 | mg/L |
| September 18, 2025 | 22 | mg/L |
| October 17, 2025 | 21 | mg/L |
| November 18, 2025 | 8 | mg/L |
| December 12, 2025 | 5 | mg/L |
| Annual Average | 17 | mg/L |

Nitrate Results

| Sample Date | Location | Results (mg/L) |
|--------------------|-------------------------|-----------------------|
| February 18, 2025 | Meaford WTP-Treated Tap | 0.285 |
| May 20, 2025 | Meaford WTP-Treated Tap | 0.254 |
| August 18, 2025 | Meaford WTP-Treated Tap | 0.231 |
| November 17, 2025 | Meaford WTP-Treated Tap | 0.214 |

Nitrite Results

| Sample Date | Location | Results (mg/L) |
|--------------------|---------------------------|-----------------------|
| February 18, 2025 | Meaford WTP – Treated Tap | 0.003<MDL |
| May 20, 2025 | Meaford WTP-Treated Tap | 0.003<MDL |
| August 18, 2025 | Meaford WTP-Treated Tap | 0.003<MDL |
| November 17, 2025 | Meaford WTP-Treated Tap | 0.003<MDL |

Summary of Lead, pH & Alkalinity Results

| Sample Date | Location | Lead | pH | Alkalinity mg/L as CaCo3 |
|--------------------|----------------------------|------|------|--------------------------|
| March 21, 2025 | St Andrews Yard Hydrant | 1.61 | 7.17 | 78 |
| | 325 St Vincent St. Station | 2.60 | 7.10 | 79 |
| | 323 Sykes St N | 4.56 | 6.91 | 77 |
| September 22, 2025 | 223 Nelson St W | 1.56 | 7.47 | 75 |
| | Golf Course Sample Station | 4.10 | 7.08 | 74 |
| | Memorial Park Auto Flusher | 1.32 | 7.75 | 75 |

Summary of Inorganic Parameters

| Parameter | Sample Date | Result Value | Unit of Measure | Exceedance |
|-----------|---------------|--------------|-----------------|------------|
| Antimony | Sept 15, 2025 | 0.6<MDL | ug/L | No |
| Arsenic | Sept 15, 2025 | 0.3 | ug/L | No |
| Barium | Sept 15, 2025 | 13.1 | ug/L | No |
| Boron | Sept 15, 2025 | 10 | ug/L | No |
| Cadmium | Sept 15, 2025 | 0.003<MDL | ug/L | No |
| Chromium | Sept 15, 2025 | 0.21 | ug/L | No |
| Mercury | Sept 15, 2025 | 0.01<MDL | ug/L | No |
| Sodium | Sept 20, 2022 | 4.40 | mg/L | No |
| Uranium | Sept 15, 2025 | 0.080 | ug/L | No |
| Fluoride | Sept 20, 2022 | 0.06<MDL | mg/L | No |
| Nitrite | Feb 18, 2025 | 0.003<MDL | mg/L | No |
| | May 20, 2025 | 0.003<MDL | | |
| | Aug 18, 2025 | 0.003<MDL | | |
| | Nov 17, 2025 | 0.003<MDL | | |
| Nitrate | Feb 18, 2025 | 0.285 | mg/L | No |
| | May 20, 2025 | 0.254 | | |
| | Aug 18, 2025 | 0.231 | | |
| | Nov 17, 2025 | 0.214 | | |

Summary of Organic Parameters

| Parameter | Sample Date | Result Value | Unit of Measure | Exceedance (Yes or No) |
|--|---------------|--------------|-----------------|------------------------|
| Alachlor | Sept 15, 2025 | 0.02<MDL | ug/L | No |
| Atrazine + N-dealkylated metabolites | Sept 15, 2025 | 0.01<MDL | ug/L | No |
| Atrazine | Sept 15, 2025 | 0.01<MDL | ug/L | No |
| Desethyl atrazine | Sept 15, 2025 | 0.01<MDL | ug/L | No |
| Azinphos-methyl | Sept 15, 2025 | 0.05<MDL | ug/L | No |
| Benzene | Sept 15, 2025 | 0.32<MDL | ug/L | No |
| Benzo(a)pyrene | Sept 15, 2025 | 0.004<MDL | ug/L | No |
| Bromoxynil | Sept 15, 2025 | 0.33<MDL | ug/L | No |
| Carbaryl | Sept 15, 2025 | 0.05<MDL | ug/L | No |
| Carbofuran | Sept 15, 2025 | 0.01<MDL | ug/L | No |
| Carbon Tetrachloride | Sept 15, 2025 | 0.17<MDL | ug/L | No |
| Chlorpyrifos | Sept 15, 2025 | 0.02<MDL | ug/L | No |
| Diazinon | Sept 15, 2025 | 0.02<MDL | ug/L | No |
| Dicamba | Sept 15, 2025 | 0.20<MDL | ug/L | No |
| 1,2-Dichlorobenzene | Sept 15, 2025 | 0.41<MDL | ug/L | No |
| 1,4-Dichlorobenzene | Sept 15, 2025 | 0.36<MDL | ug/L | No |
| 1,2-Dichloroethane | Sept 15, 2025 | 0.35<MDL | ug/L | No |
| 1,1-Dichloroethylene | Sept 15, 2025 | 0.33<MDL | ug/L | No |
| Dichloromethane | Sept 15, 2025 | 0.35<MDL | ug/L | No |
| 2,4 Dichlorophenol | Sept 15, 2025 | 0.15<MDL | ug/L | No |
| 2,4 Dichlorophenoxyacetic acid (2,4-D) | Sept 15, 2025 | 0.19<MDL | ug/L | No |
| Diclofop-methyl | Sept 15, 2025 | 0.40<MDL | ug/L | No |
| Dimethoate | Sept 15, 2025 | 0.06<MDL | ug/L | No |
| Diquat | Sept 15, 2025 | 1<MDL | ug/L | No |
| Diuron | Sept 15, 2025 | 0.03<MDL | ug/L | No |
| Glyphosate | Sept 15, 2025 | 1<MDL | ug/L | No |
| Malathion | Sept 15, 2025 | 0.02<MDL | ug/L | No |
| Metolachlor | Sept 15, 2025 | 0.01<MDL | ug/L | No |
| Metribuzin | Sept 15, 2025 | 0.02<MDL | ug/L | No |
| Monochlorobenzene | Sept 15, 2025 | 0.3<MDL | ug/L | No |
| Paraquat | Sept 15, 2025 | 1<MDL | ug/L | No |
| Picloram | Sept 15, 2025 | 1<MDL | ug/L | No |
| Pentachlorophenol | Sept 15, 2025 | 0.15<MDL | ug/L | No |
| Phorate | Sept 15, 2025 | 0.01<MDL | ug/L | No |
| Polychlorinated Biphenyls (PCBs) | Sept 15, 2025 | 0.04<MDL | ug/L | No |
| Prometryne | Sept 15, 2025 | 0.03<MDL | ug/L | No |
| Simazine | Sept 15, 2025 | 0.01<MDL | ug/L | No |
| THM (Note: Latest RAA) | Nov 17, 2025 | 34.25 | ug/L | No |

| Parameter | Sample Date | Result Value | Unit of Measure | Exceedance (Yes or No) |
|--|--------------------|---------------------|------------------------|-------------------------------|
| HAA (Note: Latest RAA) | Nov 17, 2025 | 13.05 | ug/L | No |
| Terbufos | Sept 15, 2025 | 0.01<MDL | ug/L | No |
| Tetrachloroethylene | Sept 15, 2025 | 0.35<MDL | ug/L | No |
| 2,3,4,6-Tetrachlorophenol | Sept 15, 2025 | 0.20<MDL | ug/L | No |
| 2 methyl-4 chlorophenozyacetic acid (MCPA) | Sept 15, 2025 | 0.00012<MDL | mg/L | No |
| Triallate | Sept 15, 2025 | 0.01<MDL | ug/L | No |
| Trichloroethylene | Sept 15, 2025 | 0.44<MDL | ug/L | No |
| 2,4,6-Trichlorophenol | Sept 15, 2025 | 0.25<MDL | ug/L | No |
| Trifluralin | Sept 15, 2025 | 0.02<MDL | ug/L | No |
| Vinyl Chloride | Sept 15, 2025 | 0.17<MDL | ug/L | No |