

2023 Annual Drinking Water System Quality Report for York DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 260001929

Drinking Water System Name: York DWS

Drinking Water System Owner: The Regional Municipality of York

Drinking Water System Category: Large Municipal Residential

Drinking Water System Classification: Water Distribution IV

Reporting period: Jan 1, 2023 - Dec 31, 2023

The York DWS serves approximately 876,330 people.

(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the York DWS:

York DWS is the primary water source for: Markham Distribution System (220004162); Richmond Hill Distribution System (260001968); Vaughan Distribution System (260003097). The following systems are connected to or are sub-systems of the York DWS: York Drinking Water sub-system - Aurora (220002440); York Drinking Water sub-system - Holland Landing (220004046); King City Drinking Water System (220002299); Kleinburg Drinking Water System (220002360); York Drinking Water sub-system - Newmarket (220002413); York Drinking Water sub-system - Queensville (260001955); York Drinking Water sub-system - Stouffville (220002333); Town Of Aurora Distribution System (260003227); Town of Newmarket Distribution System (260003188)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Public Works Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the York DWS

Introduction:

The cities of Vaughan, Markham, and Richmond Hill form the southern border of York Region. These three municipalities receive all their water from Lake Ontario through the York Drinking Water System (York DWS). In these areas, initial treatment of the source water is done by Peel Region and the City of Toronto. Kleinburg, in Vaughan, is its own sub-system. Communities north of Vaughan, Richmond Hill, and Markham that receive water from the York DWS are supplemented with groundwater from wells.

Raw water source:

Lake Ontario

Profile of water in distribution system:

Lake Ontario (some sub-systems can be supplemented with local groundwater)

Water treatment description:

In Vaughan, Richmond Hill, and Markham, purchased water is pre-treated and disinfected by the City of Toronto and Peel Region. Twelve storage facilities hold water and help the eight booster stations maintain pressure. One of these facilities also provides re-chloramination to boost the chloramine residual, and another converts it to free chlorine for the Stouffville DWS. Regional Operators test the water and inspect the process. Test results from certified labs and equipment confirm good water quality. Online analyzers continuously monitor the facilities. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system:

York DWS water is purchased pre-treated from the City of Toronto and Peel Region. Re-chloramination chemicals: Chlorine gas; Ammonia solution (Ammonium Sulphate)

Brief description and breakdown of monetary expenses incurred:

\$32,943,095 for storage facility rehabilitation and upgrades, repairs and upgrades on peel feedermain, standby power and fuel storage generator upgrades, valve chamber upgrades and rehabilitation, pump maintenance, watermains installation, replacement and rehabilitation, general maintenance and repairs.

2023 York DWS - O. Reg. 170/03 Section 11 Report

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of Schedule 16 of O. Reg. 170/03 and reported to MECP Spills Action Centre

| Incident Description | Incident Date | Adverse Test Result | Corrective Action | Corrective Action Date |
|--|----------------------|----------------------------|--|-------------------------------|
| Failure to meet monitoring requirement | Mar 29, 2023 | N/A | Reported as due diligence. Operator attended site. Facility returned to normal operation. Compliant grab sample taken. | Mar 30, 2023 |

**Microbiological testing completed under
Schedule 10 of O. Reg. 170/03**

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Not Applicable

York DWS does not have any raw water or treatment facilities, so there are no microbiological tests to report here. For more data, view the Open Dataset or refer to the local municipality.

**Operational testing completed under Schedule 7
of O. Reg. 170/03 during this reporting period**

| Test Parameter | Test Unit | No. of Samples ¹ | Average | Minimum | Maximum |
|-----------------------|------------------|------------------------------------|----------------|----------------|----------------|
| Combined Chlorine | mg/L | 8,760 | 1.68 | 0.00 | 5.00 |

¹ 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign (" $<$ ") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the " $<$ " is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

| Test Parameter ^{2 3} | Test Unit | No. of Samples ¹ | Average | Minimum | Maximum |
|--|-----------|-----------------------------|---------|---------|---------|
| Fluoride | mg/L | 48 | 0.620 | 0.56 | 0.69 |
| Haloacetic Acids (Distribution) | ug/L | 48 | 8.121 | <8 | 10 |
| Nitrate (Distribution) | mg/L | 48 | 0.470 | 0.33 | <0.5 |
| Nitrite (Distribution) | mg/L | 48 | 0.039 | <0.003 | <0.05 |
| N-Nitrosodimethylamine (NDMA) (Distribution) | ug/L | 13 | 0.001 | <0.0009 | 0.001 |
| Sodium | mg/L | 12 | 19.342 | 15.3 | 26.1 |
| Trihalomethanes (Distribution) | ug/L | 50 | 12.896 | 5.10 | 25.80 |

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

¹ 8,760 is used as the number of samples for continuous analyzers.

² The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

³ Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems and include at least one facility from every subsystem.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign (" $<$ ") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

| Test Parameter | Test Unit | No. of Samples | Average | Minimum | Maximum | ODWS Limit |
|-----------------------|------------------|-----------------------|----------------|----------------|----------------|-------------------|
| Antimony | mg/L | 12 | 0.0005 | <0.0005 | <0.0005 | 0.0060 |
| Arsenic | mg/L | 12 | 0.0007 | 0.0005 | 0.0009 | 0.01 |
| Barium | mg/L | 12 | 0.0227 | 0.0206 | 0.0258 | 1 |
| Boron | mg/L | 12 | 0.0289 | 0.0233 | 0.0345 | 5 |
| Cadmium | mg/L | 12 | 0.0005 | <0.0005 | <0.0005 | 0.0050 |
| Chromium | mg/L | 12 | 0.0005 | <0.0005 | <0.0005 | 0.05 |
| Mercury | ug/L | 12 | 0.0500 | <0.05 | <0.05 | 1 |
| Selenium | mg/L | 12 | 0.0005 | <0.0005 | <0.0005 | 0.05 |
| Uranium | mg/L | 12 | 0.0005 | <0.0005 | <0.0005 | 0.02 |

**Summary of organic parameters tested pursuant to
Schedule 24 of O. Reg. 170/03**

Values with a less than sign ("<") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Not Applicable
Schedule 24 sampling is not applicable to the York DWS
as it has no active treatment facilities.