

ANNUAL REPORT

Drinking-Water System Number: 260003097
Drinking-Water System Name: Vaughan Distribution System
Drinking-Water System Owner: The Corporation of the City of Vaughan
Drinking-Water System Category: Large Municipal - Residential
Period being reported: January 1, 2020 to December 31, 2020

Complete if your Category is Large Municipal Residential or Small Municipal Residential:

Does your Drinking-Water System serve more than 10,000 people? Yes No

Is your annual report available to the public at no charge on a web site on the Internet? Yes No

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection:
http://www.vaughan.ca/services/residential/water/water_quality/Pages/default.aspx

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

None

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

- Yes
 No
 Not applicable

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

The Vaughan Distribution System consists of:

One (1) booster pumping station (Maplewood Booster Station/North Maple Booster Station), one (1) pressure elevating system (Woodland Acres Pressure Elevating System) and trunk and distribution watermains in the City of Vaughan.

Drinking water for the City of Vaughan is supplied from York Region, who procure water from the City of Toronto and Peel Region. The City of Toronto operates four (4) water treatment plants using Lake Ontario as a raw water source.

List all water treatment chemicals used over this reporting period.

Water is treated by City of Toronto and the Regional Municipality of Peel. List of chemicals used for water supplied to City of Vaughan is available on their web site www.toronto.ca and <https://www.peelregion.ca/pw/water/quality/reports/> , respectively.

Were any significant expenses incurred to?

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

Brief description and a breakdown of monetary expenses incurred:

- **PRVs.** Completed a condition assessment of 14 of the 15 PRVs in the Water distribution system in Q4, 2020. From the recommendations from the assessment, the Water Operations leadership team prioritized the most pressing actions as:
 - Clarence & Woburn Service valves - new rubber, pilot system, position indicators
 - Vaughan Mills & Rutherford Install position indicators (both valves)
 - Chancelor & San Marko Service valves - new rubber, pilot system, position indicators
 - Hunterwood & Mapledown Replace valve rubber components and position indicator, replace pilot system
 - Pine Valley & Strada Service valves - new rubber & pilot systemsThe cost of the assessments and activities at the five sites above was \$29.6K and \$25K respectively.
- **Anti-stag valves.** Identified 11 areas for the installation of ASV. The total cost for the supply and installation was \$60K.
- **Air relief valves.** Completed an internal assessment of 30 air relief valves and refurbished 8 valves at a cost of \$5K.
- **Chambers.** Outside consultant inspected 33 chambers bordering regional water infrastructure at a cost of \$49K.
- **Maplewood Water pumping station.** Completed upgrade to station which included two VFD pumps at a cost of \$969K.
- **Curb box repairs.** Water Services, through a contractor completed 451 scheduled and 68 emergency repairs on curb boxes and rods. A further 53 scheduled and 45 emergency curb stops were completed in 2020.
- **Hydrant.** Completed annual hydrant maintenance on 9500+ hydrants at a cost of \$222K. Completed 1327 work orders for hydrant inspections and repairs. Repaired 257 hydrant secondary valves at a cost of \$144K through vacuum excavation. Completed 36 scheduled and 6 emergency repairs of hydrants at a cost of \$147.4K.
- **Main repairs.** Water Services responded to 26 emergency main repairs and another scheduled 33 main repairs for a total cost of \$260K.
- **Service connections.** Water Services responded to 10 emergency and 25 scheduled service connections repairs at a total cost of \$111K.
- **Valve turning.** Completed 3250 valves in 2020 at a cost of \$131K.
- **Swabbing.** Completed 14.9km at a cost of \$20.9K.
- **Valve repairs.** Water Services completed 57 scheduled and 12 emergency valve repairs at total cost of \$205K.

- **Watermain Replacements.** Costs were approximately \$6.7M.

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
01/17/20	Total Coliform	TC – P	P-A/100mL	Flush and resample	01/20/20
03/18/20	Total Coliform	TC – P	P-A/100mL	Flush and resample	03/20/20
06/02/20	Combined Chlorine	0.00	mg/L	Flush and resample	06/04/20
07/19/20	Total Coliform	TC – P	P-A/100mL	Flush and resample	07/21/20
08/05/20	Combined Chlorine	0.10	mg/L	Flush and resample	08/11/20
08/20/20	Combined Chlorine	0.06	mg/L	Flush and resample	08/21/20
08/26/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	08/28/20
08/30/20	Combined Chlorine	0.12	mg/L	Flush and retest	08/30/20
09/02/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	09/04/20
10/01/20	Combined Chlorine	0.12	mg/L	Flush and resample	10/02/20
10/06/20	Combined Chlorine	0.04	mg/L	Flush and resample	10/08/20
10/21/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	10/23/20
10/22/20	Combined Chlorine	3.09	mg/L	Flush and retest	10/22/20
10/23/20	Combined Chlorine	0.00	mg/L	Flush and retest	10/23/20
10/28/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	10/30/20
11/04/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	11/09/20
11/04/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	11/09/20
11/04/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	11/10/20

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
11/04/20	Combined Chlorine	0.05	mg/L	Flush and retest	11/04/20
11/06/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	11/12/20
11/11/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	11/16/20
11/18/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	11/23/20
11/20/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	11/24/20
11/19/20	Combined Chlorine	0.08	mg/L	Flush and retest	11/19/20
12/08/20	Combined Chlorine	0.04	mg/L	Flush and retest	12/08/20
12/14/20	Combined Chlorine	0.10	mg/L	Flush and retest	12/14/20
12/18/20	Total Coliform	TC-P	P-A/100mL	Flush and resample	12/21/20

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

	# of Samples	Range of E.Coli or Fecal Results Present (P)/Absent (A)	Range of Total Coliform Results Present (P)/Absent (A)	# of HPC Samples	Range of HPC Results (cfu/1mL)
Distribution	1,755	A – A MPN/100mL	A – P MPN/100mL	864	<1 CFU/mL – 99,999 CFU/mL

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
Turbidity	1	0.2 NTU
Combined Chlorine – Range (Maximum/Minimum)	2,197	0.00mg/L – 3.09mg/L

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 Last Sampled	Range of Results	Unit of Measure
05/23/19	Nitrosodimethylamine (NDMA)	12/10/20	<0.0009 – 0.0021	µg/L

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

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
Antimony	10/29/20	<0.0005	mg/L	No
Arsenic	10/29/20	0.0007	mg/L	No
Cadmium	10/29/20	<0.0005	mg/L	No
Chromium	10/29/20	<0.0005	mg/L	No
Selenium	10/29/20	<0.0005	mg/L	No
Sodium	10/29/20	14.0	mg/L	No
Fluoride	10/29/20	0.61	mg/L	No
Nitrite	12/10/20	<0.05	mg/L	No
Nitrate	12/10/20	<0.50	mg/L	No

Summary of lead testing under Schedule 15.1 during this reporting period.

Location Type	Number of Samples	Range of Lead Results (min#) – (max#)	Number of Exceedances
Plumbing	8	<0.0005 – <0.0005	0
Distribution	20	<0.0005 – 0.0094	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Haloacetic Acids (HAA's) (NOTE: show latest annual average)	4/year	<8.0	µg/L	No
Trihalomethane (THM) (NOTE: show latest annual average)	4/year	17.6	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 (mm/dd/yy)
none			