



# Town of Newmarket 2021 Annual Water Quality Report

## Abstract

This report contains the information necessary to satisfy the annual reporting requirements stipulated within the Ontario Safe Drinking Act, 2002, and its associated regulations.



Prepared by: Water and Wastewater  
Services, Town of Newmarket  
*February 28, 2022*

# 2021 Annual Water Quality Report

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## Attachments:

There are a number of attachments associated with this report, these attachments consist of the following:

- Attachment One: 2021 MECP Newmarket Distribution System Inspection Report and Rating
- Attachment Two: 2021 Ontario Drinking Water Systems Regulation Annual Report
- Attachment Three: 2021 Town of Newmarket Water Quantity & Flow Rate Data

# Background

## Purpose

The purpose of this Annual Drinking Water Summary Report, and its associated attachments, is to satisfy the annual reporting requirements stipulated within O.Reg 170/03 of the *Safe Drinking Water Act, 2002*. This report, and its associated attachments, also contains information pertaining to the 2021 Annual Ministry of Environment, Conservation and Parks (MECP) Inspection so that the Owner and Public may stay abreast of the Operating Authorities compliance with applicable legislative and regulatory requirements.

## Scope

This Annual Drinking Water Summary Report includes reportable information stipulated within O.Reg 170/03 of the *Safe Drinking Water Act, 2002*, pertaining to the Town of Newmarket's drinking water system for the January 1 to December 31, 2021 reporting period.

## Reporting Requirements under the Ontario Safe Drinking Water Act, 2002

This Annual Drinking Water Summary Report satisfies the requirements of the O.Reg. 170/03 of the *Safe Drinking Water Act, 2002 (SDWA, 2002)*; the requirements for which are identified below:

Section 11 of O. Reg. 170/03 states that the Annual Report must include:

- a brief description of the Drinking Water System, including a list of water treatment chemicals used by the system;
- a summary of adverse test results and other observations that were reported to the MECP during the reporting period;
- a description of any corrective actions that were taken in response to any adverse test results and other observations that were encountered during the reporting period;
- a summary of the most recent water testing results, required under O. Reg. 170/03 and our respective Municipal Drinking Water License (MDWL), that occurred during the reporting period;
- a description of the major expenses incurred during the reporting period to install, repair, or replace required equipment/infrastructure;

- a statement identifying the locations where the annual report will be made available for the public; and,
- the specific number of points sampled during the lead sampling periods identified within O. Reg. 170/03 as well as the total number of samples taken, and the number of points where a sample exceeded the prescribed standard for lead.

Please note that the Town does not utilize any water treatment chemicals as the Town's drinking water system is strictly a drinking water distribution system.

Schedule 22 of O. Reg. 170/03 states that Summary Reports for Municipalities must also include the following:

- a list of the requirements of the *SDWA, 2002* the regulations, the system's approval, Drinking Water Works Permit (DWWP), MDWL, and any orders applicable for the system that were not met at any time during the period covered by the report;
- a list of each requirement that was not met, the duration of the failure and the measures that were taken to correct the failure;
- a summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- a comparison of the above summary against the rated capacity and flow rates approved in the systems approval, drinking water works permit or municipal drinking water license; or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5(4) of O.Reg. 170/03, to the flow rates specified in this written agreement

Please note that the Town of Newmarket does not have any rated capacities identified within its respective MDWL or DWWP, as it is strictly a drinking water distribution system. Similarly no agreement, under subsection 5(4) of O.Reg. 170/03, is in place between the Regional Municipality of York and the Town of Newmarket; therefore, the above stipulated O.Reg. 170/03 Schedule 22 requirement is not applicable to the Town of Newmarket.

The Town of Newmarket 2021 Drinking Water Summary report satisfies all the above regulatory reporting requirements that are applicable to the Town of Newmarket.

O.Reg. 170/03 requires that a copy of the annual report be provided, without charge, to every person who requests a copy, and that a copy of the annual report be available to the public at no charge on the Town's website. O.Reg. 170/03 also requires that the Owner of a drinking water system take effective steps to advise users of the drinking water system that the annual report is available, at no cost, and how to obtain a copy of the annual report. Additionally, O.Reg. 170/03 requires that the annual report be provided

to members of council by no later than March 31<sup>st</sup> of the year following the associated reporting period.

Copies of the 2021 Annual Water Quality Summary Report are available to the public at:

- Robert N. Shelton Operations Centre (1275 Maple Hill Court)
- Newmarket Municipal Offices, Customer Service Counter (395 Mulock Drive)
- Online at [www.newmarket.ca](http://www.newmarket.ca)

Please note that Newmarket's 2021 Annual Water Quality Summary Report will only be available to the public at the Robert N. Shelton Operations Centre and Newmarket Municipal Offices (Customer Service Counter) once public access has been permitted to these locations.

## **Drinking Water System Description**

The Newmarket Water Distribution System is a Class I Distribution Subsystem. From January 1, 2021 to December 31, 2021, eighteen (18) water operators and staff were certified to operate/maintain the system.

The Town of Newmarket purchases water from York Region, who purchases its water from the City of Toronto and Peel Region. York Region also operates and maintains groundwater wells located in the Yonge Street Aquifer that service the Town of Newmarket. The integrated system includes Newmarket's local distribution watermains and York Region's transmission watermains, pumping stations, storage facilities and groundwater treatment facilities. Treated water from the Region supply network is monitored by York Region staff through the Regional SCADA (Supervisory Control and Data Acquisition) system.

The Town and York Region work closely to deliver source to tap drinking water in this complex integrated system.

The Region also produces Annual Drinking Water Summary Report(s) summarizing applicable drinking water system(s) information for the preceding year; these reports are also made available to the public. More information, as well as electronic version(s) of these report(s) are found on their website at [york.ca](http://york.ca).

The Town's Water Distribution System Infrastructure services approximately 87,942 people within the Town of Newmarket.

The Newmarket DWS is comprised of approximately:

- 26,652 metered water services;
- 2718 mainline valves;
- 2,361 fire hydrants;
- 318.6 kilometers of watermain;

- 29 sample stations;
- 10 auto-flushers;
- 6 air/vacuum relief combo valves;
- 4 pressure zones;
- 5 air relief valves; and
- 4 pressure reducing valves

## **Drinking Water System Monetary Expenses**

Information regarding the major expenses incurred by the Town during the period associated with this report to install, repair and/or replace drinking water system infrastructure can be found within “Attachment Two: 2021 Ontario Drinking Water Systems Regulation Annual Report”.

## **Legislative & Regulatory Requirements**

The following are the primary legislative and regulatory requirements that directly affect the operation of the Town’s drinking water distribution system; please note that this is not an exhaustive list of legislative and regulatory requirements applicable to the operation of a Town’s large municipal residential drinking water system.

### **Safe Drinking Water Act, 2002**

The Ontario *Safe Drinking Water Act, 2002* (*SDWA, 2002*) protects human health through the control and regulation of drinking-water systems and drinking-water testing, to name a couple of major components. The Act also contains all the regulations relating to the treatment and distribution of drinking water.

The following are key aspects of the Act:

- Accreditation of operating authorities
- Municipal drinking water systems
- Drinking water testing
- Inspections, Compliance and Enforcement
- Standard of Care

The Town is required to maintain compliance with all applicable *SDWA, 2002* requirements at all times and adequately address any identified incidents of non-compliance.

## **Standard of Care, Section 19, *Safe Drinking Water Act, 2002***

The Standard of Care is the legal responsibility of the Owner and applicable Operating Authority personnel for a municipal drinking water system. It requires municipal drinking water system Owners and applicable Operating Authority personnel to exercise the level of care, diligence, and skill in regards to the system that a reasonably prudent person would be expected to exercise in a similar situation. Municipal drinking water system Owners and applicable Operating Authority personnel must act honestly, competently and with integrity with a view of ensuring the protection and safety of the users of the system. Within the Town's Drinking Water Quality Management Standard (DWQMS) Operational Plan, the Mayor and Council are identified as the Owner of the Town's drinking water distribution system; Public Works Services is identified as the Operating Authority for the Town's drinking water distribution system.

The information contained within this report, and its associated attachments, can assist the Owner and applicable Operating Authority personnel in meeting their respective Standard of Care requirements as identified within the Ontario *Safe Drinking Water Act, 2002*.

### **Ontario Regulation 169/03: Ontario Drinking Water Quality Standards**

The Ontario Drinking Water Quality Standards (O.Reg. 169/03) regulates the maximum allowable concentration of specific parameters in drinking water. This regulation contains microbiological standards, chemical standards and radiological standards for drinking water. Compliance with O. Reg. 169/03 is partially determined through system inspections conducted annually by MECP Inspectors.

### **Ontario Regulation 170/03: Drinking Water Systems Regulation**

The Drinking Water Systems Regulation (O. Reg. 170/03) regulates municipal drinking water systems. This regulation stipulates requirements for operational checks and sampling, chemical and microbiological testing requirements, reporting adverse test results, corrective actions, and reporting, among many other things. Compliance with O. Reg. 170/03 is determined partially through system inspections conducted annually by the MECP. The annual reporting requirements for drinking water systems is also stipulated within O.Reg. 170/03 under Section 11 (Annual Reports) and Schedule 22 (Summary reports for municipalities). The Town is required to maintain compliance with all applicable O.Reg. 170/03 requirements at all times and adequately address any identified incidents of non-compliance.

## **Ontario Regulation 128/04: Certification of Drinking Water System Operators and Water Quality Analysts**

The Certification of Drinking Water Operators and Water Quality Analyst Regulation (O. Reg. 128/04) establishes the training and certification requirements for Operators of regulated drinking water systems in Ontario. Operators are required to achieve and maintain compliance with these training and certification requirements in order to be able to legally operate drinking water systems regulated under O.Reg. 128/04 and the *Safe Drinking Water Act, 2002*. O. Reg 128/04 also specifies overall responsible operator (ORO) requirements, operator in charge (OIC) responsibilities, record keeping requirements, and operations/maintenance manuals requirements, to name a few aspects. Compliance with O. Reg. 128/04 is determined partially through system inspections conducted annually by the MECP. The Town is required to maintain compliance with all applicable O.Reg. 128/04 requirements at all times and adequately address any identified incidents of non-compliance.

## **Ontario Regulation 453/07: Financial Plans**

The Financial Plans Regulation (O. Reg. 453/07) requirements dictate that all owners of municipal residential drinking water systems prepare a Financial Plan that detail the drinking water system's six year projected financial information. O.Reg. 453/07 also specifies what needs to be included in these Financial Plans. As part of the process identified within O.Reg. 453/07, Financial Plan's must be formally approved and acknowledged by the Owner of the drinking water system through a resolution of the municipal council. The Financial Plan requirements specified within O.Reg. 453/07 are one of the components associated with the provincial drinking water system approvals framework that is applicable to the Town and must be complied with at all times. The O.Reg. 453/07 Financial Plan is also associated with the Operating Authorities respective MDWL and must be updated in accordance with O.Reg. 453/07 Financial Plan requirements as part of the provincial MDWL renewal process. The Town is required to maintain compliance with all applicable O.Reg. 453/07 requirements at all times and adequately address any identified incidents of non-compliance.

## **Drinking Water Quality Management Standard (DWQMS)**

The Drinking Water Quality Management Standard (DWQMS) sets out the framework for Operating Authorities and Owners of Drinking Water Systems to develop and maintain a Quality Management System (QMS) that is relevant and appropriate for their respective drinking water system. The DWQMS is the approved QMS under the *SDWA, 2002*. The



purpose of a QMS is to establish policy and objectives, achieve those objectives as well as direct and control an organization with regards to quality. To adhere to the DWQMS requirements the Town has developed a DWQMS Operational Plan that is relevant and appropriate for the Town, this DWQMS Operational Plan is the QMS associated with the Town's drinking water system. The Town's QMS is subject to annual internal and external audits as part of the on-going Operating Authority accreditation process. The DWQMS, and associated QMS requirements, is one of the components associated with the provincial drinking water system approvals framework that is applicable to the Town. The Town is required to maintain compliance with all applicable DWQMS requirements at all times and adequately address any identified incidents of non-compliance.

### **Drinking Water System Licence and Permit**

- Municipal Drinking Water License (MDWL) number: 124-101 (Issue Number 7)
- Drinking Water Works Permit (DWWP) number: 124-201 (Issue Number 3)

The Town's MDWL and the DWWP describe system-specific requirements in addition to those included in provincial regulations. These documents outline detailed conditions and regulatory requirements in regards to the operation, maintenance, and monitoring of the drinking water system, among many other things. The MDWL and DWWP are two of the components associated with the provincial drinking water system approvals framework that are applicable to the Town and must be complied with at all times. The MDWL is valid for a period of five (5) years and must be renewed every five (5) years in accordance with MECP requirements; the DWWP is also renewed on this frequency as part of the MDWL renewal process. The Town is required to maintain compliance with all applicable MDWL and DWWP requirements at all times and adequately address any identified incidents of non-compliance.

## **Regulatory Compliance and MECP Inspections**

### **2021 Adverse Water Quality Incidents (AWQI's)**

In 2021 a total of 91 (ninety-one) AWQI events occurred: 88 (eighty-eight) were related to low chlorine residuals, 2 (two) were related to the presence of Total Coliform, and 1 (one) was related to an elevated level of sodium.

The AWQI involving sodium was reported to the local Medical Officer of Health (MOH) and the Ministry of Environment, Conservation and Parks (MECP). In addition, the Town performed corrective actions necessary to resolve this AWQI in a timely fashion. The MOH and the MECP were satisfied with the Town's reporting and corrective actions performed.

The two AWQIs involving Total Coliform were isolated incidents and associated with 1 (one) specific sample location per incident. The corrective actions necessary to resolve these AWQIs were completed by the Town in a timely fashion once the Town was informed of these AWQIs. All the necessary corrective actions and reporting requirements were completed, with respect to these two (2) AWQIs, to the satisfaction of the local MOH and the MECP.

All applicable AWQI's must be reported to the MECP as well as the local MOH in accordance with *SDWA, 2002* and O.Reg. 170/03 requirements. Based upon the information possessed by the Operating Authority, in 2021 all AWQI's were reported in accordance with *SDWA, 2002* and O.Reg. 170/03 requirements. Additionally, any corrective actions that must be taken to resolve an AWQI must be completed in accordance with O.Reg. 170/03, our respective MDWL as well as any additional instruction provided by the MOH. Based upon the information possessed by the Operating Authority, all corrective actions that were necessary to resolve the AWQIs that occurred in 2021 were completed in accordance with the requirements stipulated within O.Reg. 170/03, our respective MDWL, and any additional instruction provided by the MOH. More Specific information regarding the AWQI's that occurred in 2021, as well as any corrective actions that were taken, can be found within "Attachment Two: 2021 Ontario Drinking Water Systems Regulation Annual Report".

## **2021 Annual MECP Inspection Results**

The Town undergoes an annual inspection of its drinking water system by the MECP. The primary focus of the annual MECP drinking water system inspection is to confirm the Town is complying with applicable legislative and regulatory requirements that fall under the jurisdiction of the MECP. Schedule 22 of O.Reg. 170/03 requires that all non-compliance(s) with applicable legislation be documented within the Summary Report.

During the 2021 inspection the MECP did not identify any incidents of non-compliance with regulatory requirements and the Town received a final inspection rating of 100% as a result of the 2021 MECP inspection. The final inspection rating received during the 2021 MECP inspection was an improvement over the final inspection rating of 97.57% received in relation to the 2020 MECP Inspection. The full details regarding the 2021 MECP inspection are located within "Attachment One: 2021 MECP Newmarket Distribution System Inspection Report".

## 2021 Water Quantity & Flow Rate Data

The 2021 water quantity and flow rate data is located within “Attachment Three: 2021 Town of Newmarket Water Quantity & Flow Rate Data”

## 2021 Water Quality Data

The applicable 2021 water quality data is located within “Attachment Two: 2021 Ontario Drinking Water Systems Regulation Annual Report”.

Specific Information regarding the summary of the most recent water testing results that occurred during the reporting period associated with this report, as required under O.Reg. 170/03 and the Town’s respective MDWL, can be found within “Attachment Two: 2021 Ontario Drinking Water Systems Regulation Annual Report”.

Specific information regarding any lead sampling that took place during the reporting period associated with this report can be found within “Attachment Two: 2021 Ontario Drinking Water Systems Regulation Annual Report”.

In 2021 twelve (12) exceedances were observed by the Town with respect to sodium concentrations in drinking water samples that were collected from the distribution system; based upon the 2021 drinking water sample results the sodium concentrations within the Town’s distribution system ranged from 14.0 – 24.7 mg/L. A drinking water sample with a result indicating that the concentration of sodium exceeds 20 mg/L is prescribed as an adverse result of a drinking water test for the purpose of Section 18 of the *SDWA, 2002*; and must therefore be reported accordingly. A result indicating that the concentration of sodium exceeds 20 mg/L in a drinking water sample must be reported under Section 18 of the *SDWA, 2002* if a report has not been made in respect to sodium in the preceding 57 months. The last report that the Town made with respect to a sodium exceedance was January 11<sup>th</sup>, 2021 therefore the next reporting date with respect to an adverse result for sodium in the Town’s drinking water is October 11<sup>th</sup>, 2025; any sodium exceedances that may be observed by the Town in the future will be reported and responded to in accordance with all applicable legislative and regulatory requirements. The Town continues to meet all legislative and regulatory response obligations with respect to sodium exceedances identified within drinking water samples, no further actions are required by the Town at this time in relation to this subject matter.

Sodium is a naturally occurring element in the environment that may be present in both groundwater and surface water sources. Sodium levels in groundwater and surface water sources may also be influenced by road salt application practices. Sodium levels within municipal drinking water may also be influenced due to the addition of water treatment/conditioning chemicals, such as sodium silicate and sodium hypochlorite; both of which are added to the drinking water supplied to the Town by York Region. Additional information regarding sodium in drinking water can be located on the “Drinking Water Quality and Monitoring” page of York Regions website.



**2021 ONTARIO DRINKING WATER SYSTEMS REGULATION ANNUAL REPORT**

<b>Drinking-Water System Number:</b>	<b>260003188</b>
<b>Drinking-Water System Name:</b>	Town of Newmarket Water Distribution System
<b>Drinking-Water System Owner:</b>	The Corporation of the Town of Newmarket
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1 <sup>st</sup> , 2021 to December 31 <sup>st</sup> , 2021

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [ X ] No [ ]</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> <ul style="list-style-type: none"> <li>• Robert N. Shelton Operations Centre (1275 Maple Hill Court, Newmarket On)</li> <li>• Newmarket Municipal Offices, Customer Service Counter (395 Mulock Drive)</li> <li>• Online at <a href="http://newmarket.ca/waterandwastewater">newmarket.ca/waterandwastewater</a></li> </ul>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: N/A</p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ] N/A [ X ]</p> <p>Number of Interested Authorities you report to:</p> <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 [ X ]</p>
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**Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report**

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
N/A	N/A

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 [ ] No [ ] N/A [ X ]

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 Newmarket Water Distribution System is a Class I Distribution Subsystem. The Town's Distribution System Infrastructure services approximately 87,942 people within the Town of Newmarket.

The Newmarket DWS is comprised of approximately:

- 26,652 metered water services;
- 2718 mainline valves;
- 2,361 municipally owned fire hydrants;
- 318.6 kilometers of municipally owned watermain;
- 29 sample stations;
- 10 auto-flushers;
- 6 air/vacuum relief combo valves;
- 4 pressure zones;
- 5 air relief valves; and
- 4 pressure reducing valves

**List all water treatment chemicals used over this reporting period**

Water treatment is the responsibility of York Region. Chlorine is added to provide primary disinfection, and chloramine (addition of ammonia) provides a secondary residual in the distribution system. Sodium silicate is added to sequester naturally occurring iron and manganese in the groundwater supply(ies) associated with the York Region drinking water system(s).

**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**

- **Water System Capital Improvements** **\$541,000 (approx.)**
- **Emergency repairs related to water** **\$290,536 (approx.)**
- **Cathodic Protection** **\$196,910 (approx.)**
- **Unidirectional Flushing:** **\$156,599 (approx.)**
- **Hydrant Inspections:** **\$19,774 (approx.)**

**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	AWQI Number	Parameter	Result (mg/L or Present)	Corrective Action(s)	Resolution Date
04-Jan-21	153352	Combined Chlorine	0.09 mg/L	Flush and re-sample	04-Jan-21
05-Jan-21	153362	Combined Chlorine	0.18 mg/L	Flush and re-sample	05-Jan-21
11-Jan-21	153383	Combined Chlorine	0.13 mg/L	Flush and re-sample	11-Jan-21
11-Jan-21	153410	Sodium	24.7 mg/L	Re-sample	19-Jan-21
16-Jan-21	153417	Combined Chlorine	0.23 mg/L	Flush and re-sample	16-Jan-21
18-Jan-21	153421	Combined Chlorine	0.21 mg/L	Flush and re-sample	18-Jan-21
19-Jan-21	153432	Combined Chlorine	0.12 mg/L	Flush and re-sample	19-Jan-21

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

01-Feb-21	153487	Combined Chlorine	0.14 mg/L	Flush and re-sample	01-Feb-21
02-Feb-21	153498	Combined Chlorine	0.00 mg/L	Flush and re-sample	02-Feb-21
08-Feb-21	153529	Combined Chlorine	0.17 mg/L	Flush and re-sample	08-Feb-21
09-Feb-21	153539	Combined Chlorine	0.15 mg/L	Flush and re-sample	09-Feb-21
16-Feb-21	153572	Combined Chlorine	0.23 mg/L	Flush and re-sample	16-Feb-21
23-Feb-21	153610	Combined Chlorine	0.15mg/L	Flush and re-sample	23-Feb-21
24-Feb-21	153625	Combined Chlorine	0.16mg/L	Flush and re-sample	24-Feb-21
08-Mar-21	153666	Combined Chlorine	0.12mg/L	Flush and re-sample	08-Mar-21
11-Mar-21	153681	Combined Chlorine	0.21mg/L	Flush and re-sample	11-Mar-21
16-Mar-21	153700	Combined Chlorine	0.24mg/L	Flush and re-sample	16-Mar-21
17-Mar-21	153707	Combined Chlorine	0.19mg/L	Flush and re-sample	17-Mar-21
17-Mar-21	153708	Combined Chlorine	0.15mg/L	Flush and re-sample	17-Mar-21
18-Mar-21	153712	Combined Chlorine	0.23mg/L	Flush and re-sample	18-Mar-21
22-Mar-21	153723	Combined Chlorine	0.16mg/L	Flush and re-sample	22-Mar-21
29-Mar-21	153770	Combined Chlorine	0.19mg/L	Flush and re-sample	29-Mar-21
06-Apr-21	153803	Combined Chlorine	0.10mg/L	Flush and re-sample	06-Apr-21
07-Apr-21	153813	Combined Chlorine	0.23mg/L	Flush and re-sample	07-Apr-21
12-Apr-21	153844	Combined Chlorine	0.14mg/L	Flush and re-sample	12-Apr-21
14-Apr-21	153874	Combined Chlorine	0.24mg/L	Flush and re-sample	14-Apr-21
19-Apr-21	153897	Combined Chlorine	0.13mg/L	Flush and re-sample	19-Apr-21
26-Apr-21	153941	Combined Chlorine	0.15mg/L	Flush and re-sample	26-Apr-21
28-Apr-21	153953	Combined Chlorine	0.23mg/L	Flush and re-sample	28-Apr-21
04-May-21	153974	Combined Chlorine	0.12mg/L	Flush and re-sample	04-May-21
07-May-21	153989	Combined Chlorine	0.23mg/L	Flush and re-sample	07-May-21
10-May-21	154004	Combined Chlorine	0.08mg/L	Flush and re-sample	10-May-21
13-May-21	154036	Combined Chlorine	0.19mg/L	Flush and re-sample	13-May-21
18-May-21	154077	Combined Chlorine	0.14mg/L	Flush and re-sample	18-May-21



25-May-21	154117	Combined Chlorine	0.09mg/L	Flush and re-sample	25-May-21
27-May-21	154137	Combined Chlorine	0.23mg/L	Flush and re-sample	27-May-21
28-May-21	154150	Combined Chlorine	0.15mg/L	Flush and re-sample	28-May-21
31-May-21	154164	Combined Chlorine	0.10mg/L	Flush and re-sample	31-May-21
01-Jun-21	154180	Combined Chlorine	0.10mg/L	Flush and re-sample	01-Jun-21
09-Jun-21	154224	Combined Chlorine	0.14mg/L	Flush and re-sample	09-Jun-21
14-Jun-21	154286	Combined Chlorine	0.11mg/L	Flush and re-sample	14-Jun-21
21-Jun-21	154357	Combined Chlorine	0.13mg/L	Flush and re-sample	21-Jun-21
28-Jun-21	154432	Combined Chlorine	0.19mg/L	Flush and re-sample	28-Jun-21
29-Jun-21	154453	Combined Chlorine	0.16mg/L	Flush and re-sample	29-Jun-21
06-Jul-21	154528	Combined Chlorine	0.08mg/L	Flush and re-sample	06-Jul-21
06-Jul-21	154535	Combined Chlorine	0.10mg/L	Flush and re-sample	06-Jul-21
07-Jul-21	154546	Combined Chlorine	0.23mg/L	Flush and re-sample	07-Jul-21
12-Jul-21	154614	Combined Chlorine	0.18mg/L	Flush and re-sample	12-Jul-21
14-Jul-21	154648	Combined Chlorine	0.21mg/L	Flush and re-sample	14-Jul-21
19-Jul-21	154750	Combined Chlorine	0.10mg/L	Flush and re-sample	19-Jul-21
19-Jul-21	154752	Combined Chlorine	0.22mg/L	Flush and re-sample	19-Jul-21
19-Jul-21	154779	Total Coliforms	P	Flush and re-sample	26-Jul-21
22-Jul-21	154786	Combined Chlorine	0.12mg/L	Flush and re-sample	22-Jul-21
26-Jul-21	154839	Combined Chlorine	0.09mg/L	Flush and re-sample	26-Jul-21
26-Jul-21	154844	Combined Chlorine	0.24mg/L	Flush and re-sample	26-Jul-21
04-Aug-21	154946	Combined Chlorine	0.19mg/L	Flush and re-sample	04-Aug-21
17-Aug-21	155111	Combined Chlorine	0.07mg/L	Flush and re-sample	17-Aug-21
07-Sep-21	155402	Combined Chlorine	0.14mg/L	Flush and re-sample	07-Sep-21
07-Sep-21	155403	Combined Chlorine	0.15mg/L	Flush and re-sample	07-Sep-21
20-Sep-21	155574	Combined Chlorine	0.17mg/L	Flush and re-sample	20-Sep-21
21-Sep-21	155587	Combined Chlorine	0.08mg/L	Flush and re-sample	21-Sep-21



22-Sep-21	155602	Combined Chlorine	0.08mg/L	Flush and re-sample	22-Sep-21
01-Oct-21	155763	Combined Chlorine	0.21mg/L	Flush and re-sample	01-Oct-21
04-Oct-21	155783	Combined Chlorine	0.11mg/L	Flush and re-sample	04-Oct-21
05-Oct-21	155818	Total Coliforms	P	Flush and re-sample	07-Oct-21
15-Oct-21	156007	Combined Chlorine	0.00mg/L	Flush and re-sample	15-Oct-21
18-Oct-21	156035	Combined Chlorine	0.17mg/L	Flush and re-sample	18-Oct-21
19-Oct-21	156065	Combined Chlorine	0.13mg/L	Flush and re-sample	19-Oct-21
20-Oct-21	156084	Combined Chlorine	0.23mg/L	Flush and re-sample	20-Oct-21
20-Oct-21	156089	Combined Chlorine	0.22mg/L	Flush and re-sample	20-Oct-21
25-Oct-21	156190	Combined Chlorine	0.16mg/L	Flush and re-sample	25-Oct-21
25-Oct-21	156191	Combined Chlorine	0.21mg/L	Flush and re-sample	25-Oct-21
25-Oct-21	156192	Combined Chlorine	0.06mg/L	Flush and re-sample	25-Oct-21
26-Oct-21	156198	Combined Chlorine	0.19mg/L	Flush and re-sample	26-Oct-21
01-Nov-21	156286	Combined Chlorine	0.22mg/L	Flush and re-sample	01-Nov-21
02-Nov-21	156333	Combined Chlorine	0.10mg/L	Flush and re-sample	02-Nov-21
08-Nov-21	156435	Combined Chlorine	0.12mg/L	Flush and re-sample	08-Nov-21
09-Nov-21	156449	Combined Chlorine	0.20mg/L	Flush and re-sample	09-Nov-21
09-Nov-21	156460	Combined Chlorine	0.16mg/L	Flush and re-sample	09-Nov-21
12-Nov-21	156528	Combined Chlorine	0.14mg/L	Flush and re-sample	12-Nov-21
15-Nov-21	156561	Combined Chlorine	0.07mg/L	Flush and re-sample	15-Nov-21
15-Nov-21	156566	Combined Chlorine	0.19mg/L	Flush and re-sample	15-Nov-21
16-Nov-21	156594	Combined Chlorine	0.10mg/L	Flush and re-sample	16-Nov-21
16-Nov-21	156603	Combined Chlorine	0.24mg/L	Flush and re-sample	16-Nov-21
17-Nov-21	156645	Combined Chlorine	0.11mg/L	Flush and re-sample	17-Nov-21
22-Nov-21	156779	Combined Chlorine	0.14mg/L	Flush and re-sample	22-Nov-21
25-Nov-21	156826	Combined Chlorine	0.14mg/L	Flush and re-sample	25-Nov-21
29-Nov-21	156923	Combined Chlorine	0.22mg/L	Flush and re-sample	29-Nov-21





13-Dec-21	157302	Combined Chlorine	0.12mg/L	Flush and re-sample	13-Dec-21
15-Dec-21	157400	Combined Chlorine	0.24mg/L	Flush and re-sample	15-Dec-21
20-Dec-21	157438	Combined Chlorine	0.22mg/L	Flush and re-sample	20-Dec-21

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	N/A	N/A	N/A	N/A	N/A
Treated	N/A	N/A	N/A	N/A	N/A
Distribution	1359 (approx.)	0 "Present" samples	2 "Present" samples	676 (approx.)	0 – 3900 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 (min #)-(max #)	Unit of Measure
Turbidity	N/A	N/A	N/A
Chlorine	4594	0.00 - 3.56 (Combined Cl <sub>2</sub> )	mg/L
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

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

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
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Sodium	Jan 1 - Dec 31 2021	14.0 – 24.7*	mg/L	*Yes - Next required reporting date is October 11 <sup>th</sup> , 2025 or later
Fluoride	Jan 1 - Dec 31 2021	0.22 – 0.64	mg/L	No
Nitrite	Jan 1 - Dec 31 2021	0.000 – 0.099	mg/L	No
Nitrate	Jan 1 - Dec 31 2021	<0.50 – 0.74	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 #)	Unit of Measure	Number of Exceedances
<b>Plumbing</b>	N/A	N/A	mg/L	N/A
<b>Distribution</b>	18	Non-Detect - <0.0005	mg/L	0

**Note:** The Town of Newmarket possesses Lead Regulatory Relief under Schedule D of Municipal Drinking Water License 124-101; and is only required to sample “8” (eight) points in our respective distribution system during each of the sampling periods identified within O.Reg 170/03 and our respective Municipal Drinking Water License. All other lead sampling that is completed is above the requirements stipulated within the above referenced license and regulation and is done at the sole discretion of the Town of Newmarket.

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>HAA (Total)</b> (NOTE: show latest annual average)	Jan 1 - Dec 31 2021	Q4 RAA 0.0080	mg/L	No
<b>THM (Total)</b> (NOTE: show latest annual average)	Jan 1 - Dec 31 2021	Q4 RAA 0.0161	mg/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
N/A	N/A	N/A	N/A

**Town of Newmarket**  
**Monthly Water 2021**



Date: 1/27/2022

Newmarket	January	February	March	April	May	June	July	August	September	October	November	December	Year to Date Total
Aurora Ballymore (Aurora) m3	0	0	0	0	0	0	0	0	0	0	0	0	0
Aurora Ballymore (Newmarket) m3	26,189	25,783	25,857	17,123	33,171	43,206	36,453	50,857	40,638	35,651	36,865	39,963	411,756
Aurora West 12" (Aurora) m3	-4	-5	-1	-5	-33	-8	-21	-20	-6	-2	-2	-2	-108
Aurora West 12" (Newmarket) m3	196,559	198,563	224,234	210,424	236,582	239,764	221,760	244,152	203,611	191,065	179,694	189,219	2,535,627
Aurora West 8" (Aurora) m3	0	0	0	0	0	0	0	0	0	0	0	0	0
Aurora West 8" (Newmarket) m3	0	0	0	0	0	0	0	0	0	0	0	0	0
Davis Drive/Hwy. 404 m3	-6,973	-6,408	-6,704	-8,160	-7,916	-8,733	-10,720	-15,813	-18,428	-14,571	-8,538	-6,644	-119,609
EG Leslie Street MC 12" Fwd to NW m3	45,243	37,706	48,067	50,151	57,480	61,325	47,485	47,473	52,635	32,221	17,588	18,148	515,520
EG Leslie Street MC 12" Rev to EG m3	-6,968	-9,191	-9,321	-10,510	-12,790	-6,462	-11,010	-13,306	-10,174	-17,529	-32,485	-30,967	-170,714
EG Leslie Street MC 22" Fwd to NW m3	0	0	0	0	0	0	0	0	0	0	2	0	2
EG Leslie Street MC 22" Rev to EG m3	0	0	0	0	0	0	0	0	0	0	0	0	0
Leslie/Broughton (Aurora) m3	-14	-12	-14	-17	-11	-6	-6	-4	-11	-10	-13	-13	-131
Leslie/Broughton (Newmarket) m3	191,346	186,781	199,156	210,505	239,109	269,505	272,630	306,652	251,804	253,601	262,701	254,581	2,898,369
Newmarket Well No. 1 m3	26,155	20,564	26,640	23,645	28,505	23,477	13,024	24,347	27,260	27,619	13,387	26,672	281,293
Newmarket Well No. 13 m3	65,831	36,851	25,635	24,148	25,518	36,752	641	35,594	1,670	14,442	32,461	29,861	329,403
Newmarket Well No. 15 m3	0	0	0	0	0	0	0	0	0	315	0	0	315
Newmarket Well No. 16 m3	264	249	8,143	8,381	16,597	38,077	100,067	45,317	69,361	58,708	38,134	38,088	421,385
Newmarket Well No. 2 m3	56,151	44,732	58,042	50,538	62,140	71,429	56,657	80,939	59,576	58,829	27,277	52,026	678,336
Newmarket/Aurora (Aurora) m3	0	0	0	0	0	0	0	0	-3	0	0	0	-4
Newmarket/Aurora (Newmarket) m3	68,356	73,288	82,396	63,037	86,346	85,468	53,778	75,161	62,982	57,596	76,419	47,845	832,672
Woodspring Avenue (East Gwillimbury) m3	-10,318	-9,825	-11,442	-11,158	-13,425	-15,205	-14,267	-13,470	-10,809	-9,065	-7,590	-8,250	-134,825
Woodspring Avenue (Newmarket) m3	0	0	0	0	1	1	0	1	4	0	1	0	7
Yonge/Aspenwood (East Gwillimbury) m3	-778	-614	-1,066	-1,057	-2,760	-5,734	-5,291	-5,594	-4,432	-2,973	-1,686	-1,257	-33,241
Yonge/Aspenwood (Newmarket) m3	0	0	12	55	0	1	3	0	2	1	1	0	75
Yonge/Bristol (East Gwillimbury) m3	-2,246	-2,431	-5,123	-2,058	-2,906	-8,561	-6,522	-5,765	-4,647	-5,558	-3,351	-4,259	-53,428
Yonge/Bristol (Newmarket) m3	12	11	8	6	7	5	6	11	10	8	11	9	105
<b>Total Water Consumption m3</b>	<b>648,806</b>	<b>596,041</b>	<b>664,519</b>	<b>625,048</b>	<b>745,615</b>	<b>824,301</b>	<b>754,664</b>	<b>856,530</b>	<b>721,043</b>	<b>680,347</b>	<b>630,874</b>	<b>645,019</b>	<b>8,392,808</b>

	January	February	March	April	May	June	July	August	September	October	November	December	Total
<b>Maximum Daily Flow m3</b>	24,446	22,940	25,565	27,702	30,298	32,703	28,552	33,901	27,866	25,033	23,345	22,865	33,901
<b>Maximum Date</b>	16-Jan-2021	20-Feb-2021	30-Mar-2021	08-Apr-2021	25-May-2021	17-Jun-2021	05-Jul-2021	23-Aug-2021	06-Sep-2021	28-Oct-2021	22-Nov-2021	08-Dec-2021	
<b>Minimum Daily Flow m3</b>	17,610	19,340	17,957	15,419	18,303	21,512	19,595	20,019	19,506	18,655	19,248	18,085	15,419
<b>Minimum Date</b>	15-Jan-2021	22-Feb-2021	24-Mar-2021	09-Apr-2021	06-May-2021	26-Jun-2021	02-Jul-2021	01-Aug-2021	05-Sep-2021	03-Oct-2021	26-Nov-2021	14-Dec-2021	
<b>Average Daily Flow m3</b>	20,929	21,287	21,436	20,835	24,052	27,477	24,344	27,630	24,035	21,947	21,029	20,807	22,984