

2017 ANNUAL WATER QUALITY SUMMARY REPORT

Newmarket Water Distribution System



Public Works Services

The Corporation of the Town of Newmarket

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Introduction

Purpose

The purpose of this Annual Water Quality Summary report is to provide information to residents and stakeholders of the Town of Newmarket, as well as to satisfy the regulatory requirements of the *Safe Drinking Water Act, 2002* including the Drinking Water Quality Management System (DWQMS), reports to Owner, and regulatory reporting required under *Ontario Regulation (O. Reg.) 170/03*. This report is a compilation of information that documents the means of ensuring the ongoing delivery of safe drinking water to the residents of the Town of Newmarket.

Scope

This Annual Water Quality Report includes information pertaining to the Town of Newmarket's WDS for the period of 1 January 2017 to 31 December 2017.

Provincial law requires we report this information to the following:

- The Drinking Water System Owners (Mayor and Council)
- Owner and Operating Authority Top Management (Commissioner, Development & Infrastructure Services; Director, Public Works Services; and Manager, Water/Wastewater Services)
- The Public

Report Requirements under the Ontario Safe Drinking Water Act, 2002

This report satisfies the requirements of the MOECC *Safe Drinking Water Act (SDWA), 2002* and *O. Reg. 170/03* as outlined below.

Section 11, Annual Reports that include:

- a brief description of the Drinking Water System
- a summary of the most recent water test results required under *O.Reg. 170/03*

- a summary of adverse test results and other issues reported to the Ministry including corrective actions taken
- a description of the major expenses incurred to install, repair, or replace required equipment/infrastructure
- the locations where this report is available for inspection

And;

Schedule 22, Summary Report that includes:

- a list of the requirements of the SDWA, the regulations, the system's approval, Drinking Water Works Permit (DWWP), Municipal Drinking Water Licence (MDWL), and any orders applicable for the system that were not met at any time during the period covered by the report
- for each requirement that was not met, the duration of the failure and the measures that were taken to correct the failure

This Annual Water Quality Summary report satisfies the above regulatory reporting requirements.

Copies of Newmarket's 2017 Annual Water Quality Summary Report are available for viewing at:

- **Newmarket Operations Centre, 1275 Maple Hill Court**
- **Newmarket Municipal Offices, Customer Service Counter, 395 Mulock Drive**
- **online at newmarket.ca**



Newmarket's Quality Management System Policy

The Town of Newmarket Water Distribution System is recognized by the Ontario Ministry of the Environment and Climate Change (MOECC) as a Large Municipal Residential Drinking Water System.

The Town of Newmarket is committed to the consistent delivery of safe drinking water through compliance with applicable legislative and regulatory requirements.

The Town will strive to achieve this goal through the implementation, maintenance, and continuous improvement of the Quality Management System.

The Town pledges to ensure open communication, both with the public, as well as staff concerning all policies, procedures, and documentation pertaining to drinking water quality.

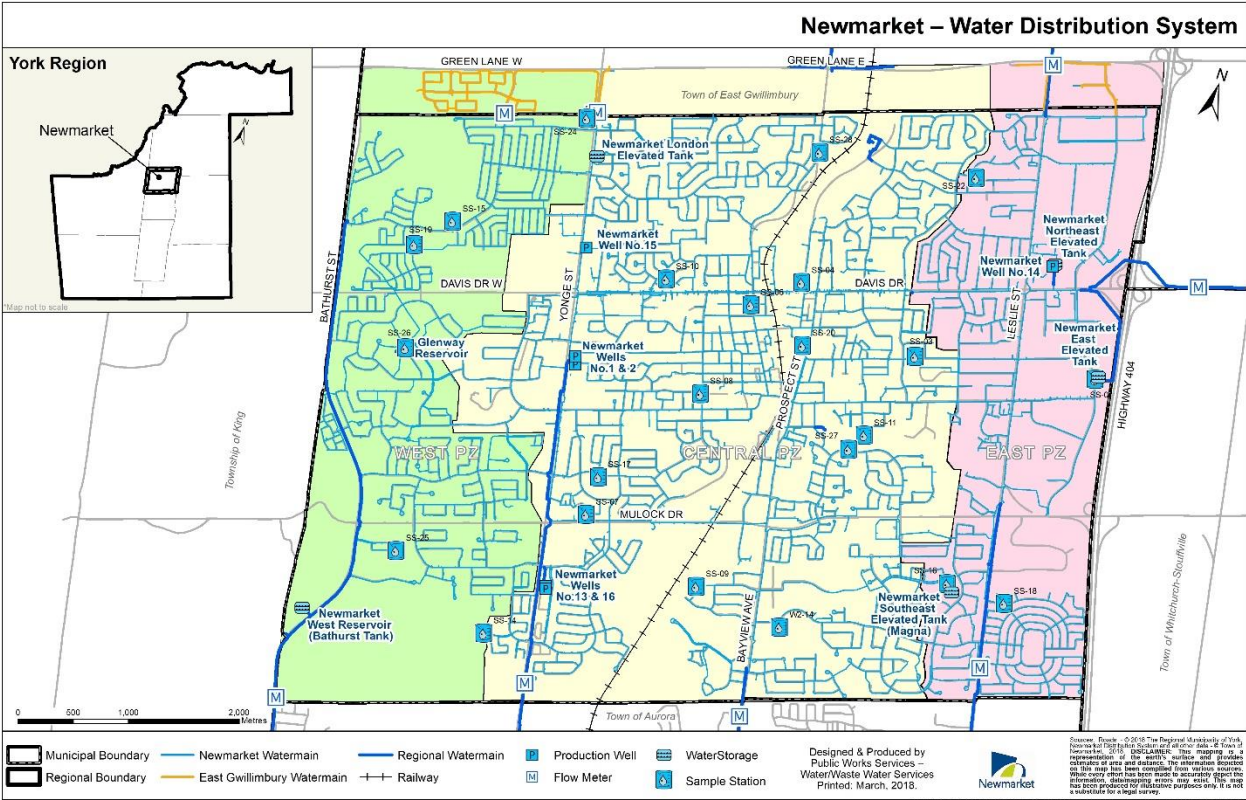
The Quality Management Policy applies to all Municipal management and staff, and is posted at the Operations Centre, Municipal Offices, and on the Town's website.



*Please note: This Report provides a summary of the performance of the Newmarket Water Distribution System (DWS 260003188) for the period of 1 January 2017 – 31 December 2017. This report was written with the best available information at the time of publication, and that every reasonable effort has been made to ensure the accuracy of this report.

Newmarket Water Distribution System Overview

Figure 1: Newmarket Water Distribution System Overview



Town of Newmarket Public Works Services, as part of the Development and Infrastructure Services Commission of the Corporation of the Town of Newmarket (“the Town”, “our”) delivers drinking water to its residents’ through the Newmarket Water Distribution System (WDS). The Town acts as both the Owner and Operating Authority for the Newmarket WDS (DWS 260003188).

Asset Statistics

In 2017, the Newmarket WDS consisted of approximately:

- A population of 84,224 (2016 Census)
- 25,262 residential and 845 commercial metered water service connections

- Over 340 kilometers of watermain (including private developments and in subdivisions not yet assumed by the Town)
- Over 3,800 municipally-owned and maintained valves
- 2,266 municipally-owned and maintained fire hydrants

The Newmarket WDS is classified as a **Large Municipal Residential** system, and operates under the provincially regulated requirements of the *Safe Drinking Water Act, 2002*.

Licences and Permits

Our DWS operates under:

Municipal Drinking Water Licence (MDWL) number: 124-101
Drinking Water Works Permit (DWWP) number: 124-201

The MDWL and the DWWP describe system-specific requirements in addition to provincial regulations water distribution systems. These documents outline detailed conditions and regulatory requirements in regards to the operation, maintenance, and monitoring of the system. If you would like to view either of these documents, please visit the Newmarket Operations Centre at 1275 Maple Hill Court.

The Newmarket WDS consists of three (3) pressure districts/zones (East, Central, and West) that range in pressure from approximately 40 psi – 100 psi. We also maintain two (2) pressure-regulating valves (PRVs), which are a part of the 750 mm watermain on Leslie Street from Aurora into the Copper Hills area.

Operators, certified by the Province of Ontario through the MOECC, and employed by the Town of Newmarket, maintained and operated our WDS in 2017. Some of the typical operational activities performed by staff include:

- Water quality sampling/monitoring
- System flushing
- Infrastructure repair
- Locates of municipal infrastructure
- Valve exercising/inspections
- Fire hydrant maintenance/inspections
- Customer Service calls re: WDS quality

The Newmarket WDS is required by law to comply with the MOECC *Safe Drinking Water Act, 2002 (SDWA)* and all regulations contained therein (i.e. *O. Reg. 170/03*), as well as

all applicable Federal, Provincial, and/or Municipal legislation. Our Annual Water Quality Sampling Plan annually exceeds the requirements of *O. Reg. 170/03*.

In 2017, the Town maintained the DWS in a fit state of repair and followed best industry practices during the repair, inspection, and maintenance of the system.

The provision of safe drinking water is our top priority.

We closely monitor our system through regulated water quality monitoring/sampling programs. This ensures that the water we provide remains safe for our residents, and that our infrastructure is sound. We make sure we have representation of the entire distribution system by collecting water samples from designated sampling stations.

All samples collected are analyzed in the field for (at a minimum) disinfectant residual (free, total, and combined chlorine – as “mg/L”) by our highly trained operators, and submitted to a provincially accredited laboratory for analysis. In 2017, the York-Durham Regional Environmental Laboratory, an accredited laboratory registered with the Canadian Association for Laboratory Certification Inc., located in Pickering, Ontario, was under contract with the Town for the third party analysis of our water samples.

The above lab analyzed over 1,300 water samples for bacteriological water quality in 2017 – based on our regulatory sampling plan. Provincially certified operators collected all of these samples. Please refer to Tables 4 and 5 for a detailed breakdown of results.

From 1 January 2017 to 31 December 2017, the Operating Authority for the Newmarket WDS reported **90 Adverse Water Quality Incidents (AWQIs)** to the MOECC and the local Medical Officer of Health (MOH) for the Newmarket WDS (York Region Community and Health Services).

Of these:

- 69 were due to adverse (low) combined chlorine residual
- 21 for Total Coliform

Operators initiated corrective actions for all of the AWQIs listed above as per requirements under *O. Reg. 170/03*, and all were resolved without incident.

In all cases, the drinking water supplied to the public was confirmed safe.

In 2017, we continued to work collaboratively with local area municipalities, and the Region of York, as well as continuing to employ the services of industry experts and consultants such as Confluence Engineering, LLC, and Stantec Consulting to help with data analysis, system maintenance recommendations, flow monitoring, and modelling water quality trends/scenarios.

Where does our water come from?

Source Supply

The Region of York (“the Region”) is the Owner and Operating Authority of water source and treatment. York Region is responsible for water supply, production, treatment, storage, and trunk distribution. They are the wholesale supplier of water to the Town of Newmarket.

The Region manages the water supply of six wells, four elevated storage tanks, two underground storage reservoirs, and two booster pumping stations. Lake Ontario water is also supplied by the York Drinking Water System (York DWS). **Newmarket wells were taken offline in April 2016** for a system optimization project, with water supplied by the York, Aurora, and Queensville Drinking Water Systems. The Town of Newmarket maintains and distributes the water to consumers.

The Newmarket DWS is part of the larger York DWS. Connection to the York DWS reduces demand on the aquifer and provides a secure secondary source of drinking water.

The Region of York monitors water quality at source, via SCADA as well as through manual sampling. They publish an Annual Water Quality Summary Report summarizing water quality for the preceding year that is available for viewing to the public. More information, as well as an electronic version of this report is found on their website at: york.ca.

Raw Water Source Description

Groundwater taking is regulated by a Permit to Take Water (PTTW) issued by the MOECC. The City of Toronto and Peel Region have permits for taking Lake Ontario water. Supply agreements govern the purchase of water from the City of Toronto and Peel Region. Wells extract groundwater from deep and shallow aquifers. Iron, manganese and hardness levels are naturally elevated, which is common in deep aquifers across York Region. Staff use raw water test results to monitor the health of the aquifer and determine the best water treatment.

Water Treatment and Supply

Disinfection is maintained with chlorine and ammonia (chloramine). Chlorine gas is used at most wells, except Well 14 which uses sodium hypochlorite. Sodium silicate is added to manage iron and manganese in the distribution system. The storage facilities hold water for peak demand use, and maintain pressure in the system. Disinfection is boosted at some storage facilities. Two booster pumping stations also maintain pressure.

In addition to routine water testing and facility inspections by operators, online analyzers continuously monitor the treatment and delivery processes. These analyzers trigger alarms and automatically shut down and lockout pumps to notify Operators when immediate attention is needed on site.

In 2017, there were two reservoirs and two elevated tanks servicing the community of Newmarket. Regional storage tanks/reservoirs located throughout the Town serve to provide additional storage and fire protection. Some of the Regional storage facilities also have the capability to “top-up” chlorine levels in order to help increase disinfectant residuals and protect water quality throughout the WDS. One such location is the facility at the Kirby Pumping Station/Glenway storage tanks.

How much water did Newmarket buy, sell, or flush in 2017?

The Town of Newmarket purchased 8,061,649 m³ of water in 2017 from the Region of York. Of this total amount purchased, the Town of Newmarket sold 6,657,354 m³ to its residents and businesses; therefore, the total amount of unbilled water was 1,404,295 m³. Of this, approximately 387,911 m³ can be broken down further as follows:

- Watermain swabbing (cleaning) 13,790 m³
- Uni-directional and dead-end flushing of watermains 256,198 m³
- Autoflushers 103,923 m³
- Known leakage attributed to watermain breaks 14,000 m³

Customer Service

From 1 January 2017 to 31 December 2017, the customer service department logged 210 water related inquiries, questions and/or concerns.

Overall, customers are satisfied with level of customer service they receive from our department. The majority of the questions we receive pertain to:

- discolouration
- health concerns
- general taste/odour complaints (musty, metallic, sulphurous/"rotten egg")
- water pressure (low/high/no water)
- maintenance programs

2017 Annual MOECC Inspection Results

As the Operating Authority, the Town of Newmarket undergoes an annual inspection of our WDS and all associated practices by a Provincial Drinking Water Inspector/Officer from the MOECC. This annual inspection ensures we comply with all applicable regulatory requirements. In 2017, our inspection occurred on 27 October with a resulting **final inspection rating of 100%**.

DWQMS

The MOECC mandates the implementation of an Operational Plan under the Drinking Water Quality Management Standard (DWQMS) for all DWS in the Province of Ontario. The Operational Plan serves to provide an understanding of the drinking water system, the responsibilities of the owner and operator (operating authority) of the water system, and a commitment to the provision of safe drinking water, which in turn allows us to plan, implement, check, and continually improve our system. We created Newmarket's Operational Plan internally under requirements laid out by the MOECC. In 2017, it was audited both internally and externally, and re-accredited by SAI Global (third party auditors) under the requirements of the SDWA. Newmarket's Operational Plan is available to view upon request from the Town of Newmarket Operations Centre at 1275 Maple Hill Court.

The Town continues to meet the Quality Management System Requirements as required under the SDWA.

Clean Water Wastewater Fund (CWWF) Grants

Through the Federal and Provincial Government's CWWF, the Town received approximately \$2.3 million in grants - \$1,562,500.00 from the Federal Government and \$781,250.00 from the Provincial Government for water and wastewater infrastructure projects! With this funding, the Town's total contribution to these water and wastewater infrastructure projects is reduced to \$781,250 (25 per cent) from \$3,125,000.

The proposed water and wastewater projects for this funding include:

- Optimization and Automation of Drinking Water Distribution System (study and plan)
- Newmarket watermain condition assessment program
- Asset Condition Assessment and Develop Maintenance Strategy for Water / Wastewater Valves
- Backflow/ cross connection prevention program
- Development and Implementation of a GIS Strategy for Water and Wastewater Linear Assets
- Condition Inspection, Design and Remediation of Gorham Street watermain
- Assessment, Construction and Implementation of a Drinking Water System Dead-End Looping Strategy in the Central Pressure Zone
- Srigley Street Structural Relining of existing cast Iron watermain

Major Expenses

Each year, the Town incurs significant expenses in regards to the installation, repair, or replacement of equipment/infrastructure vital to the operation of the WDS.

These may include, but are not limited to:

- Replacement/Reconstruction of infrastructure
- Infrastructure Repairs
- Consultants
- Contracted Services
- Asset replacement (i.e. vehicles, specialty equipment, etc.)

2017 Infrastructure Repair Summary

In 2017, there were 29 watermain breaks in our distribution system. These can be broken down further by pipe type as follows:

- Cast Iron: 20
- Ductile Iron: 9

Staff and/or approved contractors completed all repairs following internal Standard Operating Procedures, AWWA C651, and the MOECC Procedure for the Disinfection of Watermains. This ensures the protection of drinking water safety for our residents during repairs.

Consultants

In an effort to streamline operational efficiencies, and to optimize water quality, we continue to work collaboratively with local area municipalities, and the Region of York. In addition, we continue to employ the services of industry experts and consultants to help with data analysis/system maintenance recommendations, comprehensive work plans, flow monitoring, and modelling water quality trends/scenarios. We have some of the industry's leading experts, innovative technologies, and operations staff working together to come up with advanced operational strategies to help us in our daily operations, and specific areas of challenge in regards to water quality.

The Town of Newmarket continues to work in partnership with York Region, local area municipalities, the local Medical Officer of Health, and the MOECC to provide the highest quality drinking water to our customers.

Contracted Services

To meet our levels of service, to save costs, and to meet minimum maintenance standards, it is periodically necessary to hire qualified third party contractors. In 2017, we contracted out activities such as:

- hydrant inspections
- hydrant painting
- watermain flushing and swabbing
- emergency response training
- emergency watermain repair contractor

By bringing in this support, our department was able better equipped to meet the demands of our day-to-day operations and service levels.

Replacement/Reconstruction/Rehabilitation

Replacement, rehabilitation, and reconstruction programs are an integral part of an effective asset management program. Infrastructure reviews are conducted involving the Manager of Capital Projects, Manager of Engineering Services, Director of Public Works Services, Manager of Water/Wastewater, and the Supervisor of Water/Wastewater.

Methods of determining infrastructure condition include:

- previous infrastructure review reports
- staff input
- MOECC compliance inspection reports
- water quality
- maintenance records
- watermain break frequency
- infrastructure age
- customer complaints

Replacement of aging or deteriorating infrastructure is coordinated with road reconstruction projects. Priority is given to replacement or rehabilitation of any infrastructure that may jeopardize water quality.

In 2017, the most significant replacements/reconstructions/rehabilitations were:

- Srigley Street watermain relining
- Queen Street watermain replacement

Water Sampling

Regulatory Lead Sampling Program

As per Section 15 of O. Reg. 170/03, under the SDWA, the Town of Newmarket WDS participates in a regulated community lead testing program. This involves the sampling of a set number of residential locations, non-residential locations, and distribution system sampling points.

Our lead sampling program is coordinated to comply with Schedule 15.1 of O. Reg. 170/03 of the Safe Drinking Water Act, 2002. In 2017, we collected twenty (20) water samples to submit to the York-Durham Regional Environmental Laboratory for analysis. Sample results ranged from between <0.0005mg/L - 0.0005mg/L. Due to sufficient evidence indicating that lead is not leaching from infrastructure in the Newmarket WDS, combined with a significant decline in volunteers for residential samples, the Corporation of the Town of Newmarket, on 18 December 2017, submitted a application to renew our Regulatory Relief from Regulatory Lead Sampling Requirements.

Table 1: Number of Sampling Points Required for Compliance with Schedule 15.1 of O. Reg. 170/03

Column 1 Drinking Water System or Drinking Water Subsystem Name	Column2 DWS Number	Column 3 Number of Sampling Points in Plumbing that Serves Private Residences	Column 4 Number of Sampling Points in Plumbing that Does Not Serve Private Residences	Column 5 Number of Sampling Points in Distribution System
Newmarket Water Distribution System	260003188	40	4	8

The MOECC granted the Town regulatory relief in regards to lead sampling under our Drinking Water Licence (refer to Table 2) for the sampling periods as outlined in the Table 3.

Table 2: Number of Sampling Points Required for Relief from Regulatory Requirements

Column 1 Drinking Water System or Drinking Water Subsystem Name	Column2 DWS Number	Column 3 Number of Sampling Points in Plumbing that Serves Private Residences	Column 4 Number of Sampling Points in Plumbing that Does Not Serve Private Residences	Column 5 Number of Sampling Points in Distribution System
Newmarket Water Distribution System	260003188	10	0	8

Table 3: 2017 Lead Sampling Periods

Column 1 Drinking Water System or Drinking Water Subsystem Name	Column2 DWS Number	Column 3 Sampling Period
Newmarket Water Distribution System	260003188	December 15, 2016 to April 15, 2017 June 15, 2017 to October 15, 2017

In the event that there are changes to O. Reg. 170/03 that result in fewer sampling locations than specified under the relief granted, then the regulation shall prevail.

2017 Water Sampling Summary

Our Annual Water Sampling Plan, developed according to O. Reg. 170/03 under the Safe Drinking Water Act, 2002 dictates our sampling schedule for the calendar year. All sampling documents and records are stored electronically and/or by hard copy in the office of the Compliance Coordinator. The laboratory uploads all results electronically to a web-based data management program (WaterTrax), as well as sends all sampling results to a general “Lab Reports” email, to which key operations staff have access.

We use standardized; internally developed spreadsheets to track residual monitoring results.

Table 4: Microbiological Parameters

Parameter	Regulated Limit	Total no. of Samples Tested	Total no. of Detectable Results	Samples Exceeding Limit	Reported Exceedances	Range of Results
Heterotrophic Plate Count (HPC)	*no current standards	648	192	0	0	<1 – 650 CFU/mL
Total Coliforms (MPN/PA)	0 MAC	1,335	14	14	14	P - A
Escherichia E. Coli/E. (MPN/PA)	0 MAC	1,335	0	0	0	A

Table 5: Organic / Inorganic Parameters

Parameter	Regulated Limit	Total no. of Samples Tested	Total no. of Detectable Results	Samples Exceeding Limit	Reported Exceedances	Range of Results
Alkalinity (total as CaCO3)	Operational Guideline: 30-500mg/L	20	20	0	0	94.8 – 185 mg/L
Ammonia (free, as N)	*no current standards	806	798	0	0	0.0 0.90mg/L
Ammonia (total, as N)	*no current standards	36	17	0	0	0.07 - <0.5 mg/L

Parameter	Regulated Limit	Total no. of Samples Tested	Total no. of Detectable Results	Samples Exceeding Limit	Reported Exceedances	Range of Results
Bromide		36	0	0	0	<0.02 - <1 mg/L
Bromodichloromethane	*no current standards	16	16	0	0	0.0038 - 0.0103 mg/L
Bromoform	(one of the 4 THMs that make up Total THMs)	16	14	0	0	<0.0002 - 0.0006 mg/L
Calcium	*no current standards	36	35	0	0	<1 - 46.6 mg/L
Chloride	Aesthetic Object (AO) 250 mg/L	36	36	0	0	13.1 – 42.4 mg/L
Chloramine (as combined chlorine)	*0.25 mg/L *(if combined chlorine is <0.25mg/L but free chlorine is ≥0.05 mg/L, residual is not considered to be adverse)	5,479	5,451	292	69	0.00 – 3.79 mg/L
Chloroform	(one of the 4 THMs that make up Total THMs)	16	16	0	0	0.0059 – 0.0127 mg/L

Parameter	Regulated Limit	Total no. of Samples Tested	Total no. of Detectable Results	Samples Exceeding Limit	Reported Exceedances	Range of Results
Dibromochloromethane	(one of the 4 THMs that make up Total THMs)	16	16	0	0	0.0014 – 0.0053 mg/L
Fluoride	1.5 mg/L	36	36	0	0	0.206 – 0.6 mg/L
Hardness (total, as CaCO3)	Operational Guideline 80-100mg/L	36	35	36	0	<1 – 175mg/L
Lead (total)	0.01 mg/L	20	2	0	0	<0.0005 – 0.0005 mg/L
Magnesium (total)	*no current standards	36	35	0	0	<1 – 17 mg/L
Nitrate (as N)	10 mg/L (as Nitrogen)	36	14	0	0	0.017 - <1 mg/L
Nitrate + Nitrite (as N)	10 mg/L (as Nitrogen)	27	11	0	0	0.027 - <1 mg/L
Nitrite (as N)	10 mg/L (as Nitrogen)	812	776	0	0	0.000 – 0.200 mg/L
o-Phosphate (as P)	*no current standards	37	13	0	0	<0.004 - <1 mg/L
Potassium (total)	*no current standards	36	36	0	0	0.93 – 1.74 mg/L

Parameter	Regulated Limit	Total no. of Samples Tested	Total no. of Detectable Results	Samples Exceeding Limit	Reported Exceedances	Range of Results
Sodium (total)	Aesthetic Objective (AO) 200 mg/L Indicator of adverse quality 20 mg/L	36	36	11	0	15.6 – 24.4 mg/L
Sulphate	Aesthetic Objective (AO) 500 mg/L	36	36	0	0	4.42 – 28.3 mg/L
Total Trihalomethanes (TTHMs)	0.100 mg/L	16	16	0	0	0.0111 – 0.0286 mg/L

Water Quality Challenges

Beginning in the fall of 2009, the Newmarket Water Distribution System has been experiencing escalating water quality challenges in regards to maintaining disinfectant (chloramine) residual. We have carried out many initiatives in addition to routine, regulated activities. These include (but are not limited to):

- Free Chlorine Conversions (2012/2013, 2015)
- Enhanced sampling programmes
- Retaining the services of several industry experts/professional organizations to assist by undertaking such projects as: analysis of water quality trends/scenarios, water distribution system modelling, and system optimization studies
- Contracted Corix Water Services to assist with conventional watermain flushing, hydrant inspections/repairs, uni-directional flushing, and swabbing

We also continue to work very closely with the Local Medical Officer of Health (MOH), the Ministry of the Environment and Climate Change (MOECC), the Region of York, consultants, and Local Area Municipalities (LAMs) in trying to develop both short and long-term strategies to address our water quality challenges and optimize system operations.

2017 Adverse Water Quality Incidents

From 1 January 2017 to 31 December 2017, the Operating Authority for the Newmarket WDS reported 90 Adverse Water Quality Incidents to the MOECC and local MOH for the Newmarket WDS.

Of these:

- 69 were due to adverse (low) combined chlorine residual
- 21 for Total Coliform

Operators initiated corrective actions for all of the AWQIs listed above as per requirements under *O. Reg. 170/03*, and all were resolved without incident.

Table 6 Adverse Water Quality Incidents

Date Of Adverse Sample Result	AWQI #	Parameter	Result (mg/L, P/A)	Location	Resolution Notice Provided	Corrective Actions
21-Feb-17	132476	Total Coliform	P	Hydrant fronting 18100 Yonge Street	15-Mar-17	Flush and resample
27-Mar-17	132730	Combined Chlorine (LOW)	0.24mg/L	Hydrant fronting 18100 Yonge Street	28-Mar-17	Flush and resample
03-Apr-17	132781	Combined Chlorine (LOW)	0.16mg/L	Hydrant fronting 18100 Yonge Street	04-Apr-17	Flush and resample
18-Apr-17	132877	Combined Chlorine (LOW)	0.02mg/L	Hydrant fronting 18100 Yonge Street	20-Apr-17	Flush and resample
01-May-17	132974	Combined Chlorine (LOW)	0.24mg/L	SS-28 Main Street N @ Max Stiles Park	04-May-17	Flush and resample

Date Of Adverse Sample Result	AWQI #	Parameter	Result (mg/L, P/A)	Location	Resolution Notice Provided	Corrective Actions
04-May-17	132994	Combined Chlorine (LOW)	0.14mg/L	Hydrant fronting 113 Willow Lane	08-May-17	Flush and resample
05-May-17	133005	Combined Chlorine (LOW)	0.04mg/L	1st Hydrant W of Yonge Street on Sawmill Valley	08-May-17	Flush and resample
08-May-17	133016	Combined Chlorine (LOW)	0.21mg/L	Hydrant fronting 18100 Yonge Street	09-May-17	Flush and resample
10-May-17	133042	Combined Chlorine (LOW)	0.22mg/L	Hydrant fronting 568 Haines Road	11-May-17	Flush and resample
11-May-17	133051	Combined Chlorine (LOW)	0.19mg/L	Hydrant fronting 378 Erin Trail	12-May-17	Flush and resample
15-May-17	133068	Combined Chlorine (LOW)	0.24mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	16-May-17	Flush and resample
17-May-17	133096	Combined Chlorine (LOW)	0.12mg/L	Hydrant fronting 459 Dorchester Court	18-May-17	Flush and resample
23-May-17	133126	Combined Chlorine (LOW)	0.24mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	24-May-17	Flush and resample
24-May-17	133139	Combined Chlorine (LOW)	0.20mg/L	Hydrant fronting 671 Red Deer Street	25-May-17	Flush and resample
29-May-17	133179	Combined Chlorine (LOW)	0.22mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	31-May-17	Flush and resample
31-May-17	133214	Combined Chlorine (LOW)	0.16mg/L	Hydrant fronting 113 Willow Lane	01-Jun-17	Flush and resample

Date Of Adverse Sample Result	AWQI #	Parameter	Result (mg/L, P/A)	Location	Resolution Notice Provided	Corrective Actions
05-Jun-17	133255	Combined Chlorine (LOW)	0.22mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	06-Jun-17	Flush and resample
07-Jun-17	133271	Combined Chlorine (LOW)	0.09mg/L	Hydrant fronting 655 Haines Road	09-Jun-17	Flush and resample
08-Jun-17	133299	Combined Chlorine (LOW)	0.18mg/L	Hydrant on Ashton Road @ Davis Drive	09-Jun-17	Flush and resample
12-Jun-17	133335	Combined Chlorine (LOW)	0.21mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	14-Jun-17	Flush and resample
19-Jun-17	133427	Combined Chlorine (LOW)	0.15mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	21-Jun-17	Flush and resample
21-Jun-17	133475	Combined Chlorine (LOW)	0.22mg/L	Hydrant fronting 347 Simcoe Street	23-Jun-17	Flush and resample
21-Jun-17	133483	Total Coliform	P	SS-28 Main Street N @ Max Stiles Park	30-Jun-17	Flush and resample
23-Jun-17	133557	Total Coliform	P	SS-28 Main Street N @ Max Stiles Park	12-Jul-17	Flush and resample
25-Jun-17	133582	Total Coliform	P	SS-28 Main Street N @ Max Stiles Park	12-Jul-17	Flush and resample
25-Jun-17	133586	Combined Chlorine (LOW)	0.21mg/L	SS-28 Main Street N @ Max Stiles Park	26-Jun-17	Flush and resample
26-Jun-17	133592	Combined Chlorine (LOW)	0.11mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	27-Jun-17	Flush and resample

Date Of Adverse Sample Result	AWQI #	Parameter	Result (mg/L, P/A)	Location	Resolution Notice Provided	Corrective Actions
27-Jun-17	133625	Combined Chlorine (LOW)	0.20mg/L	SS-28 Main Street N @ Max Stiles Park	29-Jun-17	Flush and resample
25-Jun-17	133629	Total Coliform	P	SS-28 Main Street N @ Max Stiles Park	12-Jul-17	Flush and resample
27-Jun-17	133656	Total Coliform	P	SS-28 Main Street N @ Max Stiles Park	12-Jul-17	Flush and resample
28-Jun-17	133661	Total Coliform	P	SS-10 Lindsay Avenue (adj. 175 Penn Avenue)	12-Jul-17	Flush and resample
28-Jun-17	133676	Total Coliform	P	SS-28 Main Street N @ Max Stiles Park	12-Jul-17	Flush and resample
29-Jun-17	133666	Combined Chlorine (LOW)	0.20mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	30-Jun-17	Flush and resample
29-Jun-17	133723	Total Coliform	P	SS-28 Main Street N @ Max Stiles Park	12-Jul-17	Flush and resample
29-Jun-17	133728	Total Coliform	P	SS-06 Simcoe Street (adj. 30 Main Street S)	12-Jul-17	Flush and resample
06-Jul-17	133828	Combined Chlorine (LOW)	0.24mg/L	Hydrant fronting 951 Leslie Valley Drive	07-Jul-17	Flush and resample
10-Jul-17	133910	Combined Chlorine (LOW)	0.21mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	13-Jul-17	Flush and resample
10-Jul-17	134037	Total Coliform	P	SS-28 Main Street N @ Max Stiles Park	18-Jul-17	Flush and resample

Date Of Adverse Sample Result	AWQI #	Parameter	Result (mg/L, P/A)	Location	Resolution Notice Provided	Corrective Actions
18-Jul-17	134231	Combined Chlorine (LOW)	0.13mg/L	Hydrant fronting 287 Woodland Court	19-Jul-17	Flush and resample
19-Jul-17	134318	Combined Chlorine (LOW)	0.19mg/L	Hydrant fronting 99 Woodpark Place	20-Jul-17	Flush and resample
20-Jul-17	134345	Combined Chlorine (LOW)	0.22mg/L	Hydrant fronting 658 Park Court	21-Jul-17	Flush and resample
24-Jul-17	134618	Total Coliform	0.44mg/L	SS-10 Lindsay Avenue (adj. 175 Penn Avenue)		Flush and resample
24-Jul-17	134642	Total Coliform	P	SS-06 Simcoe Street (adj. 30 Main Street S)	01-Aug-17	Flush and resample
25-Jul-17	134536	Combined Chlorine (LOW)	0.08mg/L	Hydrant fronting 113 Willow Lane	26-Jul-17	Flush and resample
26-Jul-17	134706	Total Coliform	P	SS-10 Lindsay Avenue (adj. 175 Penn Avenue)	01-Aug-17	Flush and resample
27-Jul-17	134658	Combined Chlorine (LOW)	0.08mg/L	Hydrant fronting 113 Willow Lane	28-Jul-17	Flush and resample
31-Jul-17	134951	Total Coliform	P	Hydrant Fronting 18100 Yonge Street	10-Aug-17	Flush and resample
08-Aug-17	135075	Combined Chlorine (LOW)	0.20mg/L	SS-08 (adj. 238 Lorne Avenue)	09-Aug-17	Flush and resample
15-Aug-17	135474	Combined Chlorine (LOW)	0.22mg/L	Hydrant fronting 380 Traviss Drive	16-Aug-17	Flush and resample

Date Of Adverse Sample Result	AWQI #	Parameter	Result (mg/L, P/A)	Location	Resolution Notice Provided	Corrective Actions
18-Aug-17	135618	Combined Chlorine (LOW)	0.10mg/L	Hydrant fronting 113 Willow Lane	21-Aug-17	Flush and resample
22-Aug-17	135756	Combined Chlorine (LOW)	0.12mg/L	Hydrant fronting 277 Rockway Court	24-Aug-17	Flush and resample
23-Aug-17	135788	Combined Chlorine (LOW)	0.17mg/L	Hydrant fronting 327 Oakwood Court	25-Aug-17	Flush and resample
24-Aug-17	135882	Combined Chlorine (LOW)	0.10mg/L	Hydrant fronting 294 Woodland Court	29-Aug-17	Flush and resample
29-Aug-17	136075	Combined Chlorine (LOW)	0.21mg/L	Hydrant fronting 599 Brooks Howard Court	30-Aug-17	Flush and resample
05-Sep-17	136344	Combined Chlorine (LOW)	0.14mg/L	SS-08 (adj. 238 Lorne Avenue)	07-Sep-17	Flush and resample
08-Sep-17	136507	Combined Chlorine (LOW)	0.24mg/L	Hydrant fronting 185 Sherwood Place	11-Sep-17	Flush and resample
11-Sep-17	136595	Combined Chlorine (LOW)	0.19mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	14-Sep-17	Flush and resample
15-Sep-17	136684	Combined Chlorine (LOW)	0.20mg/L	Hydrant fronting 117 Aubrey Court	18-Sep-17	Flush and resample
18-Sep-17	136738	Combined Chlorine (LOW)	0.17mg/L	Hydrant fronting 227 Rockway Court	19-Sep-17	Flush and resample
20-Sep-17	136790	Combined Chlorine (LOW)	0.03mg/L	Hydrant fronting 71 Forhan Drive	22-Sep-17	Flush and resample

Date Of Adverse Sample Result	AWQI #	Parameter	Result (mg/L, P/A)	Location	Resolution Notice Provided	Corrective Actions
26-Sep-17	136850	Combined Chlorine (LOW)	0.11mg/L	Hydrant fronting 837 Columbia Court	27-Sep-17	Flush and resample
27-Sep-17	136880	Combined Chlorine (LOW)	0.16mg/L	Hydrant fronting 228 Hibiscus Court	28-Sep-17	Flush and resample
02-Oct-17	136998	Combined Chlorine (LOW)	0.06mg/L	Hydrant fronting 18100 Yonge Street	04-Oct-17	Flush and resample
10-Oct-17	137152	Combined Chlorine (LOW)	0.13mg/L	SS-06 Simcoe Street (adj. 30 Main Street S)	12-Oct-17	Flush and resample
10-Oct-17	137414	Total Coliform	P	SS-08 (adj. 238 Lorne Avenue)	25-Oct-17	Flush and resample
11-Oct-17	137184	Combined Chlorine (LOW)	0.18mg/L	Hydrant fronting 117 Aubrey Court	12-Oct-17	Flush and resample
12-Oct-17	137202	Combined Chlorine (LOW)	0.13mg/L	Hydrant adj. 671 Red Deer Street	13-Oct-17	Flush and resample
13-Oct-17	137243	Combined Chlorine (LOW)	0.02mg/L	Hydrant fronting 99 Woodpark Place	17-Oct-17	Flush and resample
16-Oct-17	137338	Combined Chlorine (LOW)	0.10mg/L	SS-10 Lindsay Avenue (adj. 175 Penn Avenue)	19-Oct-17	Flush and resample
17-Oct-17	137343	Combined Chlorine (LOW)	0.02mg/L	Hydrant fronting 677 Elgin Street	19-Oct-17	Flush and resample
18-Oct-17	137388	Combined Chlorine (LOW)	0.11mg/L	Hydrant fronting 113 Willow Lane	19-Oct-17	Flush and resample

Date Of Adverse Sample Result	AWQI #	Parameter	Result (mg/L, P/A)	Location	Resolution Notice Provided	Corrective Actions
19-Oct-17	137443	Combined Chlorine (LOW)	0.09mg/L	Hydrant fronting 75 Dawson Manor Boulevard	20-Oct-17	Flush and resample
27-Oct-17	137649	Combined Chlorine (LOW)	0.19mg/L	Hydrant on Ashton Road @ Davis Drive	30-Oct-17	Flush and resample
30-Oct-17	137685	Combined Chlorine (LOW)	0.22mg/L	SS-10 Lindsay Avenue (adj. 175 Penn Avenue)	31-Oct-17	Flush and resample
03-Nov-17	137798	Combined Chlorine (LOW)	0.16mg/L	Hydrant fronting 188 Deerfield Road	06-Nov-17	Flush and resample
07-Nov-17	137955	Combined Chlorine (LOW)	0.10mg/L	Hydrant adj. 671 Red Deer Street	09-Nov-17	Flush and resample
14-Nov-17	138005	Combined Chlorine (LOW)	0.18mg/L	SS-10 Lindsay Avenue (adj. 175 Penn Avenue)	16-Nov-17	Flush and resample
15-Nov-17	138049	Combined Chlorine (LOW)	0.22mg/L	Hydrant fronting 57 Marlin Court	17-Nov-17	Flush and resample
16-Nov-17	138070	Combined Chlorine (LOW)	0.16mg/L	Hydrant fronting 277 Rockway Court	17-Nov-17	Flush and resample
20-Nov-17	138101	Combined Chlorine (LOW)	0.17mg/L	SS-08 (adj. 238 Lorne Avenue)	21-Nov-17	Flush and resample
20-Nov-17	138155	Total Coliform	P	SS-10 Lindsay Avenue (adj. 175 Penn Avenue)	06-Dec-17	Flush and resample
22-Nov-17	138185	Total Coliform	P	Hydrant fronting 820 Gorham Street	06-Dec-17	Flush and resample

Date Of Adverse Sample Result	AWQI #	Parameter	Result (mg/L, P/A)	Location	Resolution Notice Provided	Corrective Actions
23-Nov-17	138163	Combined Chlorine (LOW)	0.19mg/L	SS-28 Main Street N @ Max Stiles Park	24-Nov-17	Flush and resample
23-Nov-17	138188	Total Coliform	P	SS-10 Lindsay Avenue (adj. 175 Penn Avenue)	06-Dec-17	Flush and resample
25-Nov-17	138191	Total Coliform	P	SS-10 Lindsay Avenue (adj. 175 Penn Avenue)	06-Dec-17	Flush and resample
04-Dec-17	138257	Total Coliform	P	SS-10 Lindsay Avenue (adj. 175 Penn Avenue)	14-Dec-17	Flush and resample
07-Dec-17	138264	Combined Chlorine (LOW)	0.18mg/L	Hydrant fronting 287 Woodland Court	08-Dec-17	Flush and resample
15-Dec-17	138388	Combined Chlorine (LOW)	0.12mg/L	Hydrant fronting 75 Dawson Manor Boulevard	18-Dec-17	Flush and resample
19-Dec-17	138407	Combined Chlorine (LOW)	0.21mg/L	Hydrant fronting 380 Traviss Drive	21-Dec-17	Flush and resample
29-Dec-17	138456	Combined Chlorine (LOW)	0.06mg/L	Hydrant fronting 281 Herridge Circle	29-Dec-17	Flush and resample

2017 Water Consumption Data

The table below shows a summary of water billing from the Region of York to the Town of Newmarket for the supply of water for 2017.

Description	Amount
Total water billed to the Town of Newmarket by the Region of York	8,061,649 m ³
Total water sold to the consumers of the Town of Newmarket	6,657,354 m ³
Total unbilled water (m³)	1,404,295 m ³
Percentage loss*	17.4%

***Please note:** "Percentage loss" includes water used for flushing to maintain water quality (403,383 m³), firefighting, new watermain commissioning / testing, routine maintenance activities, watermain breaks (approximately 14,000 m³), meter reading inaccuracies, and unknown system leakage.

Town of Newmarket Monthly Water Flows – York Region

Town of Newmarket

Monthly Water 2017

Date: 1/30/2018



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	-2	-1	-11	-22	-14	-49
Aurora Ballymore (Newmarket) m3	107,132	88,305	107,521	134,960	120,608	122,208	111,596	130,387	127,677	124,885	107,249	121,606	1,404,132
Aurora West 12" (Aurora) m3	-4	0	-15	-3	-8	-4	-5	-5	-1	0	0	0	-45
Aurora West 12" (Newmarket) m3	147,805	133,578	174,534	136,020	153,002	164,009	165,623	156,106	152,213	144,615	139,544	148,268	1,815,317
Aurora West 8" (Aurora) m3	-5	0	-10	-6	-7	-8	-9	-9	-1	0	0	0	-56
Aurora West 8" (Newmarket) m3	85	5	159	82	82	78	78	77	11	0	0	0	654
EG Leslie Street MC 12" Fwd to NW m3	64,531	64,457	87,074	107,868	0	0	0	0	0	0	0	0	323,930
EG Leslie Street MC 12" Rev to EG m3	-5,709	-5,030	-6,857	-3,074	0	0	0	0	0	0	0	0	-20,670
EG Leslie Street MC 22" Fwd to NW m3	0	0	0	8,859	107,241	109,275	114,246	117,635	104,603	105,007	110,078	93,293	870,236
EG Leslie Street MC 22" Rev to EG m3	0	0	0	-128	-2,348	-6,123	-4,334	-3,660	-5,212	-6,636	-2,992	-4,431	-35,864
Leslie/Broughton (Aurora) m3	-9	-26	-25	-30	-39	-27	-31	-40	-28	-31	-38	-25	-349
Leslie/Broughton (Newmarket) m3	204,776	181,765	210,887	153,726	171,887	181,061	161,863	175,456	181,986	172,263	167,762	164,704	2,128,134
Newmarket Well No. 1 m3	0	0	1	0	0	129	0	0	0	0	0	0	130
Newmarket Well No. 13 m3	0	0	0	0	0	1,270	0	0	0	0	0	0	1,270
Newmarket Well No. 15 m3	399	239	12	150	813	611	276	344	319	290	353	364	4,169
Newmarket Well No. 16 m3	840	676	1,301	715	881	2,054	699	469	808	805	1,493	506	11,245
Newmarket Well No. 2 m3	0	1	1	1	3	492	9	44	7	1	2	118	676
Newmarket/Aurora (Aurora) m3	0	0	0	0	0	0	0	0	0	0	0	-7	-7
Newmarket/Aurora (Newmarket) m3	126,663	131,738	102,335	119,759	183,137	200,853	199,857	176,893	163,264	151,277	147,192	155,521	1,858,487
Woodspring Avenue (East Gwillimbury) m3	-15,284	-13,917	-15,392	-14,548	-15,524	-18,779	-19,397	-17,769	-16,485	-15,490	-14,567	-15,327	-192,478
Woodspring Avenue (Newmarket) m3	5	12	6	8	10	6	3	5	11	23	48	4	140
Yonge/Aspenwood (East Gwillimbury) m3	-17	-62	-16	-16	-16	-16	-17	-17	-16	-1	0	0	-194
Yonge/Aspenwood (Newmarket) m3	41	40	41	41	45	45	46	45	44	3	0	0	393
Yonge/Bristol (East Gwillimbury) m3	-5,543	-6,962	-5,935	-5,362	-5,356	-6,548	-6,657	-6,320	-5,290	-2,653	-5,789	-6,155	-68,572
Yonge/Bristol (Newmarket) m3	117	94	102	161	147	69	48	50	53	29	6	23	898
Total Water Consumption m3	625,821	574,912	655,723	639,182	714,557	750,654	723,892	729,688	703,958	674,374	650,318	658,448	8,101,529

Maximum Daily Flow m3	24,365	23,392	24,109	25,024	30,202	30,163	29,001	29,570	27,885	26,847	25,705	24,822	30,202
Maximum Date	27-Jan-2017	26-Feb-2017	15-Mar-2017	13-Apr-2017	18-May-2017	28-Jun-2017	25-Jul-2017	01-Aug-2017	19-Sep-2017	03-Oct-2017	21-Nov-2017	19-Dec-2017	
Minimum Daily Flow m3	15,446	17,867	17,259	18,574	19,115	20,471	18,827	17,908	18,178	17,686	17,797	17,136	15,446
Minimum Date	26-Jan-2017	11-Feb-2017	08-Mar-2017	19-Apr-2017	12-May-2017	04-Jun-2017	13-Jul-2017	12-Aug-2017	13-Sep-2017	15-Oct-2017	04-Nov-2017	01-Dec-2017	
Average Daily Flow m3	20,188	20,533	21,152	21,306	23,050	25,022	23,351	23,538	23,465	21,754	21,677	21,240	22,190

Keeping Our Water Safe

Multiple-Barrier Approach

As a part of the 2002 Walkerton Inquiry, Justice Dennis O'Connor endorsed a "multi-barrier approach" to ensure drinking water safety. This multi-faceted system is a collection of "procedures, processes, and tools that collectively prevent or reduce the contamination of drinking water from source to consumer in order to reduce the risks to public health." (Source: *Ontario Ministry of the Environment, 2007; Implementing Quality Management: A Guide for Ontario's Drinking Water Systems*).

The multiple barriers include:

- **Source Protection** to keep the raw water as clean as possible in order to lower the risks that hazards present
- **Treatment** to remove and/or neutralize hazards
- **Monitoring Program** to detect and act on system problems that could impair drinking water safety and to verify the performance of the system components and finished drinking water quality
- **Effective management systems** including automatic control systems, well-developed responses, and operating practices that are the ultimate means for protecting the safety of drinking water systems."

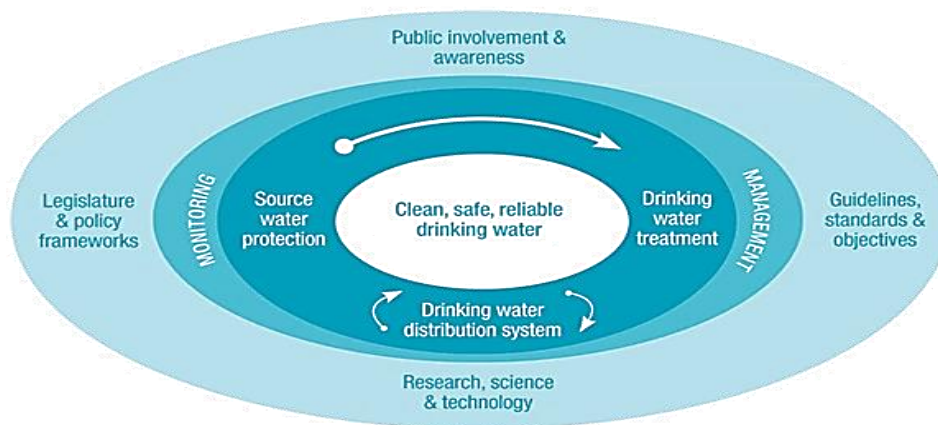


Figure 2: Multiple-Barrier Approach to Drinking Water Protection

Requirements of the *Ontario Safe Drinking Water Act, 2002*

The *Ontario Safe Drinking Water Act, 2002 (SDWA)* enhances the level of drinking water protection across the province by providing a clear, consistent set of standards and rules to ensure the provision of safe, high-quality drinking water. This Act holds owners of drinking water systems to their responsibilities to protect drinking water consumers. It specifies the requirements for drinking water systems, testing services, and for the certification of operators, as well as setting quality standards and mechanisms for compliance and enforcement. The section of the SDWA that specifically applies to the owners and operating authority of the Newmarket WDS is “*Part III – General Requirements*”. This document outlines the minimum standards that owners/operating authorities must follow.

PART III GENERAL REQUIREMENTS

Potable water

10. Despite any other Act, a requirement that water be “potable” in any Act, regulation, order or other document issued under the authority of any Act or in a municipal by-law shall be deemed to be a requirement to meet, at a minimum, the requirements of the prescribed drinking water quality standards. 2002, c. 32, s. 10.

Duties of owners and operating authorities

11. (1) Every owner of a municipal drinking water system or a regulated non-municipal drinking water system and, if an operating authority is responsible for the operation of the system, the operating authority for the system shall ensure the following:
1. That all water provided by the system to the point where the system is connected to a user’s plumbing system meets the requirements of the prescribed drinking water quality standards.
 2. That, at all times in which it is in service, the drinking water system,
 - i. is operated in accordance with the requirements under this Act,
 - ii. is maintained in a fit state of repair, and
 - iii. satisfies the requirements of the standards prescribed for the system or the class of systems to which the system belongs.

3. That the drinking water system is operated by persons having the training or expertise for their operating functions that is required by the regulations and the licence or approval issued or granted for the system under this Act.
4. That all sampling, testing and monitoring requirements under this Act that relate to the drinking water system are complied with.
5. That personnel at the drinking water system are under the supervision of persons having the prescribed qualifications.
6. That the persons who carry out functions in relation to the drinking water system comply with such reporting requirements as may be prescribed or that are required by the conditions in the licence or approval issued or granted for the system under this Act. 2002, c. 32, s. 11 (1).

Duty of owner to report to public

(2) If an owner of a municipal drinking water system or regulated non-municipal drinking water system is required by the regulations to report on any matter to the public, the owner shall report in accordance with the regulations. 2002, c. 32, s. 11 (2).

Out-of-province drinking water testing service

(3) No owner or operating authority of a municipal drinking water system or regulated non-municipal drinking water system shall obtain a drinking water testing service from a person who is not licensed under Part VII to offer or provide the service unless,

- a) the laboratory at which the testing is to be conducted is located outside Ontario and is an eligible laboratory in respect of the particular tests to be conducted;
- b) the person agrees in writing to comply with section 18 and any prescribed requirements; and
- c) the owner or operating authority provides to the Director appointed for the purposes of Part VII,

- i. written notice of the use of the testing service,
- ii. a copy of the accreditation referred to in clause (4) (a), if applicable, and
- iii. a copy of the agreement referred to in clause (b). 2002, c. 32, s. 11 (3).

Eligible laboratory

(4) For the purposes of this section, a laboratory located outside Ontario is an eligible laboratory in respect of a particular test if the laboratory is on a list maintained by the Director appointed for the purposes of Part VII and,

- a) the laboratory is accredited for the conduct of the test and, in the Director's opinion, the accreditation is equivalent to the accreditation standard of an accreditation body for drinking water testing under Part VII; or
- b) in the Director's opinion,
 - i. it is desirable for the purposes of this Act that the test be available,
 - ii. there is no laboratory, or there are insufficient laboratories, in the area for the conduct of the test under a licence issued under Part VII, and
 - iii. the person who is to provide the drinking water testing service will be capable of conducting the test at the laboratory, or causing the test to be conducted there. 2002, c. 32, s. 11 (4).

List of out-of-province laboratories

(5) For the purposes of subsection (4), a laboratory may be added to the list maintained by the Director, and may be retained on the list, only if,

- a) any fee required under this Act has been paid in respect of the laboratory; and

- b) the laboratory complies with the prescribed requirements. 2002, c. 32, s. 11 (5).

Director's direction

(6) The Director may issue a direction to one or more owners or operating authorities prohibiting them from obtaining drinking water testing services from a laboratory located outside Ontario if the Director has reason to believe that the laboratory has ceased to be an eligible laboratory or has failed to comply with section 18 or a prescribed requirement. 2002, c. 32, s. 11 (6).

Same

(7) Every person who receives a direction under subsection (6) shall comply with the direction and advise the Director in writing of the alternative laboratory from which the person will obtain drinking water testing services. 2002, c. 32, s. 11 (7).

Revocation of direction

(8) The Director may revoke a direction issued under subsection (6) if he or she is of the opinion that the reasons for issuing the direction no longer exist. 2002, c. 32, s. 11 (8).

Operator's certificate

12. (1) No person shall operate a municipal drinking water system or a regulated non-municipal drinking water system unless the person holds a valid operator's certificate issued in accordance with the regulations. 2002, c. 32, s. 12 (1).

Transitional

(2) For the purposes of subsection (1), a valid operator's licence issued under section 6 of Ontario Regulation 435/93 under the Ontario Water Resources Act shall be deemed to be an operator's certificate until the day the operator's licence expires or is cancelled or suspended. 2002, c. 32, s. 12 (2).

Same

(3) For the purposes of subsection (1), a valid operator's licence issued under section 7 or 8 of Ontario Regulation 435/93 under the Ontario Water Resources Act shall be deemed to be an operator's certificate until the earlier of,

- a) the day the operator's licence is cancelled or suspended; and
- b) the day that is the second anniversary of the day of filing of a regulation made under this Act governing the application and issue of operator's certificates. 2002, c. 32, s. 12 (3).

Same

(4) If an operator's licence mentioned in subsection (3) expires before the day described in clause (3) (b) and is not renewed, the licence ceases to be deemed to be an operator's certificate on the day it expires. 2002, c. 32, s. 12 (4).

Duty to have accredited operating authority

13. (1) Every owner of a municipal drinking water system shall ensure that an accredited operating authority is in charge of the system at all times on and after the day specified in the regulations for the municipality, the system or the owner of the system. 2002, c. 32, s. 13 (1).

Same

(2) If the Minister makes a regulation requiring an accredited operating authority to be in charge of a non-municipal drinking water system, the owner of the system shall ensure that an accredited operating authority is in charge of the system at all times. 2002, c. 32, s. 13 (2).

Agreement with accredited operating authority

14. (1) if an accredited operating authority is in charge of a drinking water system and it is not the owner of the system, the accredited operating authority and the owner of the system shall enter into an agreement that contains the following:

1. A description of the system or the parts of the system for which the operating authority is responsible.
2. A description of the respective responsibilities of the owner and the operating authority to ensure that the operation, maintenance, management and alteration of the system comply with this Act, the regulations, any order under this Act and the conditions in,
 - i. the drinking water works permit and the municipal drinking water licence for the system, in the case of a municipal drinking water system, or
 - ii. the approval for the system, in the case of a non-municipal drinking water system.
3. A description of the respective responsibilities of the owner and the accredited operating authority in the event a deficiency is determined to exist or an emergency occurs.
4. A description of the respective responsibilities of the owner and the accredited operating authority to ensure that the operational plans for the system are reviewed and revised appropriately and that both parties are informed of all revisions.
5. Any other provisions required by the regulations. 2002, c. 32, s. 14 (1).

Delegation of duty

(2) If an owner of a drinking water system enters into an agreement with an accredited operating authority, the owner may, in the agreement, delegate a duty imposed on the owner under this Act to the accredited operating authority. 2002, c. 32, s. 14 (2).

Exception

(3) A delegation referred to in subsection (2) shall not relieve the owner of the drinking water system from the duty to comply with section 19 or the duty,

- a) to ensure that the accredited operating authority carries out its duties under this Act and the agreement in a competent and diligent manner while it is in charge of the system; and
- b) upon discovery that the accredited operating authority is failing to act in accordance with clause (a), to take all reasonable steps to ensure that the operation of the system complies with the requirements under this Act. 2002, c. 32, s. 14 (3).

Agreement to be made public

(4) The contents of every agreement referred to in subsection (1) between an owner of a drinking water system and an accredited operating authority shall be made public by the owner of the system in accordance with the requirements prescribed by the Minister. 2002, c. 32, s. 14 (4).

Directions, operational plans

15. (1) The Director shall, on or before the prescribed date, issue directions governing the preparation and content of operational plans for municipal drinking water systems and may issue such additional directions as the Director considers necessary for the purposes of this section. 2002, c. 32, s. 15 (1).

Same

(2) If the Minister makes a regulation requiring a non-municipal drinking water system or a class of non-municipal drinking water systems to have operational plans, the Director shall, on or before the date prescribed by the Minister, issue directions governing the preparation and content of operational plans for the system or systems. 2002, c. 32, s. 15 (2).

Same

(3) The Director may amend, revoke or replace a direction issued under this section. 2002, c. 32, s. 15 (3).

Content of direction

- (4) The direction shall include,
- a) minimum content requirements for operational plans;
 - b) rules respecting the retention of copies of versions of operational plans;
 - c) rules respecting the public disclosure of the contents of operational plans; and
 - d) such other requirements as the Director considers necessary for the purposes of this Act and the regulations. 2002, c. 32, s. 15 (4).

Same

- (5) A direction issued under this section may,
- a) be general or limited in its application;
 - b) apply in respect of any class of drinking water systems;
 - c) require the preparation of operational plans for a treatment system, a distribution system or any part of either or both of them. 2002, c. 32, s. 15 (5).

Publication

- (6) A direction, amendment to a direction or revocation of a direction takes effect when a notice of the direction, amendment or revocation, as the case may be, is given in the Registry. 2002, c. 32, s. 15 (6).

Legislation Act, 2006, Part III

- (7) Part III (Regulations) of the Legislation Act, 2006 does not apply to a direction issued under this section. 2002, c. 32, s. 15 (7); 2006, c. 21, Sched. F, s. 132 (1).

Operational plans

16. (1) If operational plans are required for a drinking water system under this Act, every owner and accredited operational authority of the system shall,

- a) ensure that the plans comply with such directions issued under section 15 that apply in respect of the system; and
- b) make public the contents of the operating plans in accordance with the Director's directions. 2002, c. 32, s. 16 (1).

Submission of plans, municipal drinking water system

(2) Every owner of a municipal drinking water system shall provide a copy of all operational plans for the system to the Director on or before the day prescribed by the regulations for the municipality, the system or the owner of the system. 2002, c. 32, s. 16 (2).

Review of plans

(3) The Director shall review the operational plans for the municipal drinking water system and shall issue a notice,

- a) accepting the plans if the Director is satisfied that the plans satisfy the directions; or
- b) rejecting the plans for the reasons set out in the notice, if the Director is not satisfied that the plans satisfy the directions. 2002, c. 32, s. 16 (3).

Resubmission of plans

(4) The owner of a municipal drinking water system whose operational plans are rejected by the Director shall revise and resubmit the revised plans to the Director in accordance with the directions specified in the notice. 2002, c. 32, s. 16 (4).

Ownership of operational plans

17. (1) All operational plans for a drinking water system remain the property of the owner of the system, irrespective of who prepares or revises the plans. 2002, c. 32, s. 17 (1).

Retention of plans

(2) Every accredited operating authority of a drinking water system for which operational plans are required under this Act shall retain copies of the operational plans for the system in accordance with the Director's directions under section 15. 2002, c. 32, s. 17 (2).

Same

(3) Upon termination of an agreement between the owner and the accredited operating authority of a system, the accredited operating authority shall ensure that the owner has copies of the most recently prepared and revised operational plans for the system. 2002, c. 32, s. 17 (3).

Duty to report adverse test result

18. (1) Each of the following persons shall report every prescribed adverse result of a drinking water test conducted on any waters from a municipal drinking water system or a regulated non-municipal drinking water system to the Ministry and the medical officer of health immediately after the adverse result is obtained:
1. The operating authority responsible for the system or, if there is no operating authority responsible for the system, the owner of the system.
 2. The person operating the laboratory at which the adverse result was obtained. 2002, c. 32, s. 18 (1); 2007, c. 10, Sched. D, s. 3 (6).

Same

(2) A report under subsection (1) shall be made in accordance with the regulations. 2002, c. 32, s. 18 (2).

Duty to report to the owner

(3) If an operating authority is required to report an adverse test result under subsection (1), the operating authority shall also immediately report the adverse test result to the owner of the system for which the operating authority is responsible. 2007, c. 10, Sched. D, s. 3 (7).

Duty of laboratory to report

(4) Every person operating a laboratory who is required to report an adverse test result under subsection (1) shall also notify the operating authority responsible for the system or, if there is no operating authority responsible for the system, the owner of the system, of every adverse test result relating to the system, immediately after the adverse result is obtained. 2007, c. 10, Sched. D, s. 3 (7).

Duty to report adverse test result

18.1 (1) The person operating the laboratory at which an adverse result was obtained shall report every prescribed adverse result of a drinking water test conducted on any waters from a small drinking water system within the meaning of the Health Protection and Promotion Act to the Ministry of Health and Long-Term Care and the medical officer of health immediately after the adverse result is obtained. 2007, c. 10, Sched. D, s. 3 (8).

Same

(2) A report under subsection (1) shall be made in accordance with the regulations. 2007, c. 10, Sched. D, s. 3 (8).

Duty of laboratory to report

(3) Every person operating a laboratory who is required to report an adverse test result under subsection (1) shall also notify the operator responsible for the system or, if there is no operator responsible for the system, the owner of the system, of every adverse test result relating to the system, immediately after the adverse result is obtained. 2007, c. 10, Sched. D, s. 3 (8).

Standard of care, municipal drinking water system

19. (1) Each of the persons listed in subsection (2) shall,

- a) exercise the level of care, diligence and skill in respect of a municipal drinking water system that a reasonably prudent person would be expected to exercise in a similar situation; and

- b) act honestly, competently and with integrity, with a view to ensuring the protection and safety of the users of the municipal drinking water system. 2002, c. 32, s. 19 (1).

Same

(2) The following are the persons listed for the purposes of subsection (1):

1. The owner of the municipal drinking water system.
2. If the municipal drinking water system is owned by a corporation other than a municipality, every officer and director of the corporation.
3. If the system is owned by a municipality, every person who, on behalf of the municipality, oversees the accredited operating authority of the system or exercises decision-making authority over the system. 2002, c. 32, s. 19 (2).

Offence

(3) Every person under a duty described in subsection (1) who fails to carry out that duty is guilty of an offence. 2002, c. 32, s. 19 (3).

Same

(4) A person may be convicted of an offence under this section in respect of a municipal drinking water system whether or not the owner of the system is prosecuted or convicted. 2002, c. 32, s. 19 (4).

Reliance on experts

(5) A person shall not be considered to have failed to carry out a duty described in subsection (1) in any circumstance in which the person relies in good faith on a report of an engineer, lawyer, accountant or other person whose professional qualifications lend credibility to the report. 2002, c. 32, s. 19 (5).

Prohibition

20. (1) No person shall cause or permit any thing to enter a drinking water system if it could result in,
- a) a drinking water health hazard;
 - b) a contravention of a prescribed standard; or
 - c) interference with the normal operation of the system. 2002, c. 32, s. 20 (1).

Exception

- (2) Subsection (1) does not apply to prohibit activities that are carried out,
- a) in the course of the proper operation, maintenance, repair or alteration of a drinking water system; or
 - b) under a statutory authority or for the purposes of complying with a statutory requirement. 2002, c. 32, s. 20 (2).

Dilution no defence

- (3) For the purposes of prosecuting the offence of contravening subsection (1), it is not necessary to prove that the thing, if it was diluted when or after it entered the system, continued to result in or could have resulted in a drinking water health hazard. 2002, c. 32, s. 20 (3).



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The Public Works Services Department is pleased to present this report for 2017 to members of Council and our residents.