

## MUNICIPAL DRINKING WATER LICENCE

**Licence Number: 011-101**  
**Issue Number: 8**

Pursuant to the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32, and the regulations made thereunder and subject to the limitations thereof, I hereby issue this municipal drinking water licence under Part V of the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32 to:

### **The Corporation of the City of Vaughan**

**2800 Rutherford Road**  
**Vaughan ON, L4K 2N9**

For the following municipal residential drinking water system:

### **Vaughan Distribution System**

This municipal drinking water licence includes the following:

<b>Schedule</b>	<b>Description</b>
Schedule A	Drinking Water System Information
Schedule B	General Conditions
Schedule C	System-Specific Conditions
Schedule D	Conditions for Relief from Regulatory Requirements

Upon the effective date of this drinking water licence # 011-101, all previously issued versions of licence # 011-101 are revoked and replaced by this licence.

DATED at TORONTO this 6<sup>th</sup> day of December, 2019

Signature



Aziz Ahmed, P.Eng.  
Director  
Part V, *Safe Drinking Water Act*, 2002

## Schedule A: Drinking Water System Information

System Owner	<b>The Corporation of the City of Vaughan</b>
Licence Number	<b>011-101</b>
Drinking Water System Name	<b>Vaughan Distribution System</b>
Licence Effective Date	<b>December 6, 2019</b>

### 1.0 Licence Information

Licence Issue Date	<b>December 6, 2019</b>
Licence Effective Date	<b>December 6, 2019</b>
Licence Expiry Date	May 22, 2024
Application for Licence Renewal Date	December 23, 2023

### 2.0 Incorporated Documents

The following documents are applicable to the above drinking water system and form part of this licence:

#### 2.1 Drinking Water Works Permit

Drinking Water System Name	Permit Number	Issue Date
Vaughan Distribution System	011-201	May 23, 2019

#### 2.2 Permits to Take Water

Water Taking Location	Permit Number	Issue Date
Not Applicable	Not Applicable	Not Applicable

#### 2.3 Other Documents

Document Title	Version Number	Version Date
Not Applicable	Not Applicable	Not Applicable

### 3.0 Financial Plans

The Financial Plan Number for the Financial Plan required to be developed for this drinking water system in accordance with O. Reg. 453/07 shall be:	011-301
Alternately, if one Financial Plan is developed for all drinking water systems owned by the owner, the Financial Plan Number shall be:	011-301A

**4.0 Accredited Operating Authority**

<b>Drinking Water System or Operational Subsystems</b>	<b>Accredited Operating Authority</b>	<b>Operational Plan No.</b>	<b>Operating Authority No.</b>
Vaughan Distribution System	City of Vaughan, the Water Division of Public Works	011-401	011-OA1

## Schedule B: General Conditions

System Owner	The Corporation of the City of Vaughan
Licence Number	011-101
Drinking Water System Name	Vaughan Distribution System
Licence Effective Date	December 6, 2019

### 1.0 Definitions

1.1 Words and phrases not defined in this licence and the associated drinking water works permit shall be given the same meaning as those set out in the SDWA and any regulations made in accordance with that act, unless the context requires otherwise.

1.2 In this licence and the associated drinking water works permit:

“**adverse effect**”, “**contaminant**” and “**natural environment**” shall have the same meanings as in the EPA;

“**alteration**” may include the following in respect of this drinking water system:

- (a) An addition to the system,
- (b) A modification of the system,
- (c) A replacement of part of the system, and
- (d) An extension of the system;

“**compound of concern**” means a contaminant described in paragraph 4 subsection 26 (1) of O. Reg. 419/05, namely, a contaminant that is discharged to the air from a component of the drinking water system in an amount that is not negligible;

“**CT**” means the CT Disinfection Concept, as described in subsection 3.1.1 of the Ministry’s Procedure for Disinfection of Drinking Water in Ontario, dated July 29 2016.

“**Director**” means a Director appointed pursuant to section 6 of the SDWA for the purposes of Part V of the SDWA;

“**drinking water works permit**” means the drinking water works permit for the drinking water system, as identified in Schedule A of this licence and as amended from time to time;

“**emission summary table**” means a table described in paragraph 14 of subsection 26 (1) of O. Reg. 419/05;

“**EPA**” means the *Environmental Protection Act*, R.S.O. 1990, c. E.19;

“**financial plan**” means the financial plan required by O. Reg. 453/07;

“**Harmful Algal Bloom (HAB)**” means an overgrowth of aquatic algal bacteria that produce or have the potential to produce toxins in the surrounding water, when the algal cells are damaged or die. Such bacteria are harmful to people and animals and include microcystins produced by cyanobacterial blooms.

“**licence**” means this municipal drinking water licence for the municipal drinking water system identified in Schedule A of this licence;

“**Ministry**” means the Ontario Ministry of the Environment, Conservation and Parks;

“**operational plan**” means an operational plan developed in accordance with the Director’s Directions – Minimum Requirements for Operational Plans made under the authority of subsection 15(1) of the SDWA;

“**owner**” means the owner of the drinking water system as identified in Schedule A of this licence;

“**OWRA**” means the *Ontario Water Resources Act*, R.S.O. 1990, c. 0.40;

“**permit to take water**” means the permit to take water that is associated with the taking of water for purposes of the operation of the drinking water system, as identified in Schedule A of this licence and as amended from time to time;

“**point of impingement**” has the same meaning as in section 2 of O. Reg. 419/05 under the EPA;

“**point of impingement limit**” means the appropriate standard from Schedule 2 or 3 of O. Reg. 419/05 under the EPA and if a standard is not provided for a compound of concern, the concentration set out for the compound of concern in the document titled “Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants”, as amended from time to time and published by the Ministry and available on a government of Ontario website;

“**licensed engineering practitioner**” means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act;

“**provincial officer**” means a provincial officer designated pursuant to section 8 of the SDWA;

“**publication NPC-300**” means the Ministry publication titled “Environmental Noise Guideline: Stationary and Transportation Sources – Approval and Planning” dated August 2013, as amended;

“**SCADA system**” means a supervisory control and data acquisition system used for process monitoring, automation, recording and/or reporting within the drinking water system;

“**SDWA**” means the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32;

“**sensitive receptor**” means any location where routine or normal activities occurring at reasonably expected times would experience adverse effect(s) from a discharge to air from an emergency generator that is a component of the drinking water system, including one or a combination of:

- (a) private residences or public facilities where people sleep (e.g.: single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.),
- (b) institutional facilities (e.g.: schools, churches, community centres, day care centres, recreational centres, etc.),
- (c) outdoor public recreational areas (e.g.: trailer parks, play grounds, picnic areas, etc.), and
- (d) other outdoor public areas where there are continuous human activities (e.g.: commercial plazas and office buildings).

“**sub-system**” has the same meaning as in Ontario Regulation 128/04 (Certification of Drinking Water System Operators and Water Quality Analysts) under the SDWA;

“**surface water**” means water bodies (lakes, wetlands, ponds - including dug-outs), water courses (rivers, streams, water-filled drainage ditches), infiltration trenches, and areas of seasonal wetlands;

“**UV**” means ultraviolet, as in ultraviolet light produced from an ultraviolet reactor.

## 2.0 Applicability

- 2.1 In addition to any other applicable legal requirements, the drinking water system identified above shall be established, altered and operated in accordance with the conditions of the drinking water works permit and this licence.

## 3.0 Licence Expiry

- 3.1 This licence expires on the date identified as the licence expiry date in Schedule A of this licence.

## 4.0 Licence Renewal

- 4.1 Any application to renew this licence shall be made on or before the date identified as the application for licence renewal date set out in Schedule A of this licence.

## 5.0 Compliance

- 5.1 The owner and operating authority shall ensure that any person authorized to carry out work on or to operate any aspect of the drinking water system has been informed of the SDWA, all applicable regulations made in accordance with that act, the drinking water works permit and this licence and shall take all reasonable measures to ensure any such person complies with the same.

## 6.0 Licence and Drinking Water Works Permit Availability

- 6.1 At least one copy of this licence and the drinking water works permit shall be stored in such a manner that they are readily viewable by all persons involved in the operation of the drinking water system.

## 7.0 Permit to Take Water and Drinking Water Works Permit

- 7.1 A permit to take water identified in Schedule A of this licence is the applicable permit on the date identified as the Effective Date of this licence.
- 7.2 A drinking water works permit identified in Schedule A of this licence is the applicable permit on the date identified as the Effective Date of this licence.

## 8.0 Financial Plan

- 8.1 For every financial plan prepared in accordance with subsections 2(1) and 3(1) of O. Reg. 453/07, the owner of the drinking water system shall:
- 8.1.1 Ensure that the financial plan contains on the front page of the financial plan, the appropriate financial plan number as set out in Schedule A of this licence; and
- 8.1.2 Submit a copy of the financial plan to the Ministry of Municipal Affairs and Housing within three (3) months of receiving approval by a resolution of municipal council or the governing body of the owner.

## 9.0 Interpretation

- 9.1 Where there is a conflict between the provisions of this licence and any other document, the following hierarchy shall be used to determine the provision that takes precedence:
- 9.1.1 The SDWA;
- 9.1.2 A condition imposed in this licence that explicitly overrides a prescribed regulatory requirement;
- 9.1.3 A condition imposed in the drinking water works permit that explicitly overrides a prescribed regulatory requirement;
- 9.1.4 Any regulation made under the SDWA;
- 9.1.5 Any provision of this licence that does not explicitly override a prescribed regulatory requirement;
- 9.1.6 Any provision of the drinking water works permit that does not explicitly override a prescribed regulatory requirement;
- 9.1.7 Any application documents listed in this licence, or the drinking water works permit from the most recent to the earliest; and

- 9.1.8 All other documents listed in this licence, or the drinking water works permit from the most recent to the earliest.
- 9.1.9 Any other technical bulletin or procedure issued by the Ministry from the most recent to the earliest.
- 9.2** If any requirement of this licence or the drinking water works permit is found to be invalid by a court of competent jurisdiction, the remaining requirements of this licence and the drinking water works permit shall continue to apply.
- 9.3** The issuance of and compliance with the conditions of this licence and the drinking water works permit does not:
- 9.3.1 Relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including the *Environmental Assessment Act*, R.S.O. 1990, c. E.18; and
- 9.3.2 Limit in any way the authority of the appointed Directors and provincial officers of the Ministry to require certain steps be taken or to require the owner to furnish any further information related to compliance with the conditions of this licence or the drinking water works permit.
- 9.4** For greater certainty, nothing in this licence or the drinking water works permit shall be read to provide relief from regulatory requirements in accordance with section 46 of the SDWA, except as expressly provided in the licence or the drinking water works permit.

## 10.0 Adverse Effects

- 10.1** Nothing in this licence or the drinking water works permit shall be read as to permit:
- 10.1.1 The discharge of a contaminant into the natural environment that causes or is likely to cause an adverse effect; or
- 10.1.2 The discharge of any material of any kind into or in any waters or on any shore or bank thereof or into or in any place that may impair the quality of the water of any waters.
- 10.2** All reasonable steps shall be taken to minimize and ameliorate any adverse effect on the natural environment or impairment of the quality of water of any waters resulting from the operation of the drinking water system including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.
- 10.3** Fulfillment of one or more conditions imposed by this licence or the drinking water works permit does not eliminate the requirement to fulfill any other condition of this licence or the drinking water works permit.

## 11.0 Change of Owner or Operating Authority



- 11.1** This licence is not transferable without the prior written consent of the Director.
- 11.2** The owner shall notify the Director in writing at least 30 days prior to a change of any operating authority identified in Schedule A of this licence.
- 11.2.1 Where the change of operating authority is the result of an emergency situation, the owner shall notify the Director in writing of the change as soon as practicable.

## **12.0 Information to be Provided**

- 12.1** Any information requested by a Director or a provincial officer concerning the drinking water system and its operation, including but not limited to any records required to be kept by this licence or the drinking water works permit, shall be provided upon request.

## **13.0 Records Retention**

- 13.1** Except as otherwise required in this licence or the drinking water works permit, any records required by or created in accordance with this licence or the drinking water works permit, other than the records specifically referenced in section 12 or section 13 of O. Reg. 170/03, shall be retained for at least 5 years and made available for inspection by a provincial officer, upon request.

## **14.0 Chemicals and Materials**

- 14.1** All chemicals and materials used in the alteration or operation of the drinking water system that come into contact with water within the system shall meet all applicable standards set by both the American Water Works Association ("AWWA") and the American National Standards Institute ("ANSI") safety criteria standards NSF/60, NSF/61 and NSF/372.
- 14.1.1 In the event that the standards are updated, the owner may request authorization from the Director to use any on hand chemicals and materials that previously met the applicable standards.
- 14.2** The most current chemical and material product registration documentation from a testing institution accredited by either the Standards Council of Canada or by the American National Standards Institution ("ANSI") shall be available at all times for each chemical and material used in the operation of the drinking water system that comes into contact with water within the system.
- 14.3** Conditions 14.1 and 14.2 do not apply in the case of the following:
- 14.3.1 Water pipe and pipe fittings meeting AWWA specifications made from ductile iron, cast iron, PVC, fiber and/or steel wire reinforced cement pipe or high density polyethylene (HDPE);
- 14.3.2 Articles made from stainless steel, glass, HDPE or Teflon®;
- 14.3.3 Cement mortar for watermain lining and for water contacting surfaces of concrete structures made from washed aggregates and Portland cement;

- 14.3.4 Gaskets that are made from NSF approved materials;
- 14.3.5 Food grade oils and lubricants, food grade anti-freeze, and other food grade chemicals and materials that are compatible for drinking water use that may come into contact with drinking water, but are not added directly to the drinking water; or
- 14.3.6 Any particular chemical or material where the owner has written documentation signed by the Director that indicates that the Ministry is satisfied that the chemical or material is acceptable for use within the drinking water system and the chemical or material is only used as permitted by the documentation.

## 15.0 Drawings

- 15.1 All drawings and diagrams in the possession of the owner that show any treatment subsystem as constructed shall be retained by the owner unless the drawings and diagrams are replaced by a revised or updated version showing the subsystem as constructed subsequent to the alteration.
- 15.2 Any alteration to any treatment subsystem shall be incorporated into process flow diagrams, process and instrumentation diagrams, and record drawings and diagrams within one year of the alteration being completed or placed into service.
- 15.3 Process flow diagrams and process and instrumentation diagrams for any treatment subsystem shall be kept in a place, or made available in such a manner, that they may be readily viewed by all persons responsible for all or part of the operation of the drinking water system.

## 16.0 Operations and Maintenance Manual

- 16.1 An up-to-date operations and maintenance manual or manuals shall be maintained and applicable parts of the manual or manuals shall be made available for reference to all persons responsible for all or part of the operation or maintenance of the drinking water system.
- 16.2 The operations and maintenance manual or manuals, shall include at a minimum:
  - 16.2.1 The requirements of this licence and associated procedures;
  - 16.2.2 The requirements of the drinking water works permit for the drinking water system;
  - 16.2.3 A description of the processes used to achieve secondary disinfection within the drinking water system;
  - 16.2.4 Procedures for monitoring and recording the in-process parameters necessary for the control of any treatment subsystem and for assessing the performance of the drinking water system;
  - 16.2.5 Procedures for the operation and maintenance of monitoring equipment;

- 16.2.6 Contingency plans and procedures for the provision of adequate equipment and material to deal with emergencies, upset conditions and equipment breakdown;
- 16.2.7 Procedures for dealing with complaints related to the drinking water system, including the recording of the nature of the complaint and any investigation and corrective action taken in respect of the complaint;
- 16.3** Procedures necessary for the operation and maintenance of any alterations to the drinking water system shall be incorporated into the operations and maintenance manual or manuals prior to those alterations coming into operation.
- 16.4** All of the procedures included or referenced within the operations and maintenance manual must be implemented.

## Schedule C: System-Specific Conditions

System Owner	The Corporation of the City of Vaughan
Licence Number	011-101
Drinking Water System Name	Vaughan Distribution System
Licence Effective Date	December 6, 2019

### 1.0 Additional Sampling, Testing and Monitoring

#### Drinking Water Health and Non-Health Related Parameters

- 1.1 For each treatment subsystem or treatment subsystem component identified in column 1 of Tables 5 and 6 and in addition to any other sampling, testing and monitoring that may be required, sampling, testing and monitoring shall be undertaken for a test parameter listed in column 2 at the sampling frequency listed in column 3 and at the monitoring location listed in column 4 of the same row.

**Table 5: Drinking Water Health Related Parameters**

Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Test Parameter	Column 3 Sampling Frequency	Column 4 Monitoring Location
Vaughan Distribution System	Nitrosodimethylamine (NDMA)	Quarterly	Farthest point in the distribution system

**Table 6: Drinking Water Non-Health Related Parameters**

Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Test Parameter	Column 3 Sampling Frequency	Column 4 Monitoring Location
Not Applicable	Not Applicable	Not Applicable	Not Applicable

#### Environmental Discharge Parameters

- 1.2 Pursuant to Condition 10 of Schedule B of this licence, the owner may undertake the following environmental discharges associated with the maintenance and/or repair of the drinking water system:

1.2.1 The discharge of potable water from a watermain to a road or storm sewer;

1.2.2 The discharge of potable water from a water storage facility or pumping station:

1.2.2.1 To a road or storm sewer; or

- 1.2.2.2 To a watercourse where the discharge has been dechlorinated and if necessary, sediment and erosion control measures have been implemented.
- 1.2.3 The discharge of dechlorinated non-potable water from a watermain, water storage facility or pumping station to a road or storm sewer;
- 1.2.4 The discharge of potable water or non-potable water from a treatment subsystem to the environment where if necessary, the discharge has been dechlorinated and sediment and erosion control measures have been implemented.
- 1.2.5 The discharge of any excess water to a road, storm sewer or the environment, associated with the management of materials excavated as part of watermain construction or repair, where necessary sediment, erosion and environmental control measures have been implemented.

## 2.0 Studies Required

- 2.1 Not Applicable.

## 3.0 Source Protection

- 3.1 The owner of the drinking water system shall implement risk management measures, as appropriate, to manage any potential threat to drinking water that results from the operation of the drinking water system.
- 3.2 The owner of the system shall notify the Director in writing within thirty (30) days of any approved changes to an applicable source protection plan that impact the assessed threat level of a fuel oil system identified in Schedule A of drinking water works permit.
- 3.3 The notification required in condition 3.2 shall include:
  - 3.3.1 A description of the changes and their impact on the assessed threat level of the fuel oil system(s); and,
  - 3.3.2 A timeline for re-assessing the threat level and providing the results of the assessment to the Director.

## **Schedule D: Conditions for Relief from Regulatory Requirements**

System Owner	<b>The Corporation of the City of Vaughan</b>
Licence Number	<b>011-101</b>
Drinking Water System Name	<b>Vaughan Distribution System</b>
Licence Effective Date	<b>December 6, 2019</b>

### **1.0 Lead Regulatory Relief**

- 1.1 for relief from regulatory requirements, pursuant to *section 38 of the Safe Drinking Water Act*, as follows:

Notwithstanding the provisions of Schedule 15.1 of O.Reg. 170/03, the Owner is not required to comply with the following:

- 1.1.1 Sampling Requirements of Schedule 15.1-4 (Standard Sampling)
- 1.1.2 Sampling Requirements of Schedule 15.1-5 (1) to (8) (Reduced Sampling)

- 1.2 In exchange for the relief granted under 1.1 above, the Owner is required to comply with the following:

- 1.2.1 Sampling Requirements of Schedule 15.1-5 (9) and 15.1-5 (10) (Exemption from Plumbing Sampling)

### **2.0 Other Regulatory Relief**

- 2.1 Subject to condition 2.2 below, the Owner is not required to comply with the provisions of O. Reg. 170/03 section 17-9 of Schedule 17 - *Aeromonas* spp., etc.

- 2.2 For the purpose of section 18 of the Act in respect of *Aeromonas* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp., or fecal *streptococci* (Group D *streptococci*), the owner of the drinking water system and the operating authority for the system shall ensure that the following corrective action is taken:

- a) Immediately resample and test
- b) If *Aeromonas* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp., or fecal *streptococci* (Group D *streptococci*) are detected under paragraph 1, immediately flush the watermains to ensure that a combined chlorine residual of at least 0.25 mg/L is achieved at all points in the affected parts of the distribution system.

- c) Continue to resample and test until *Aeromonas* spp., *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Clostridium* spp., or fecal *streptococci* (Group D *streptococci*) are not detected in all of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the Medical Officer of Health
- d) Take such other steps as are directed by the Medical Officer of Health.
- 2.3** Subject to condition 2.4 below, the following provisions of O. Reg. 170/03 do not apply to the drinking water system with respect to test results obtained using continuous residual chlorine and turbidity analyzers obtained in accordance with section 6-5 of Schedule 6 of the Regulation.
- a) **Information to be available**
- Paragraph 1 of subsection 12(1) of O. Reg. 170/03 (Information to be available), requiring the owner to ensure that a copy of every test result obtained in respect of a test required under the Regulation, or under an approval or order, including an OWRA order to be available for inspection by any member of the public.
- 2.4** For the purpose of Section 18 of the SDWA, and subject to condition above, the following shall apply:
- a) **Information to be available**
- Paragraph 1 of subsection 12(1) of O. Reg. 170/03 requiring information to be available for inspection by any member of the public, the test results obtained using continuous chlorine residual and turbidity monitoring equipment in accordance with section 6-5 of Schedule 6 of the Regulation be rolled up and presented as daily average, maximum and minimum values.
- 2.5** Subject to Condition 2.6 below, the following provision of O. Reg. 170/03 do not apply to the drinking water system with respect to corrective action in the event of an adverse bacteriological test results indicating the presence of *Escherichia coli* (*E. coli*) or Total Coliforms:
- a) Paragraph 2 of Section 17-5 Schedule 17 - *Escherichia coli* (*E. coli*)
- Immediately increase the chlorine or chloramination dose and flush the watermain to ensure that a combined chlorine residual of at least 1.0 milligram per litre is achieved at all points in the affected parts of the distribution system, if the drinking water system provides chloramination.
- b) Paragraph 2 of Section 17-6 Schedule 17 - Total Coliforms
- Immediately increase the chlorine or chloramination dose and flush the watermain to ensure that a combined chlorine residual of at least 1.0 milligram per litre is achieved at all points in the affected parts of the distribution system, if the drinking water system provides chloramination.

**2.6** For the purpose of Section 18 of the SDWA, the following corrective action in the event of an adverse bacteriological test results indicating the presence of *Escherichia coli* (*E. coli*) or Total Coliforms shall apply:

- a) Paragraph 2 of Section 17-5 Schedule 17 - *Escherichia coli* (*E. coli*) and Paragraph 2 of Section 17-6 Schedule 17 - Total coliforms

Immediately flush the watermain to ensure that a combined chlorine residual of at least 0.25 milligram per litre is achieved at all points in the affected parts of the distribution system, if the drinking water system provides chloramination.

- b) Continue to resample and test until for *Escherichia coli* (*E. coli*) and Total coliforms are not detected in all of the samples from two consecutive sets of samples taken 24 to 48 hours apart or as otherwise directed by the Medical Officer of Health.