THE CORPORATION OF THE TOWNSHIP OF KING
REPORT TO COMMITTEE OF THE WHOLE

Public Works Department **April 26, 2021**
Environmental Division Report No.: PW-ENV-2021-003

Re: 2020 Water Summary Report

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1. RECOMMENDATION(S):

The Director of Public Works respectfully submits the following recommendation(s):

(a) Report PW-ENV-2021-003 be received for information; and

(b) A copy of this report and a copy of the Annual Water Quality Report for Schomberg be sent to the Town of New Tecumseth.

2. REPORT HIGHLIGHTS:

- The 2020 Annual Water Quality Reports for each Township Drinking Water System have been prepared and are posted on the Township website.
- There were a total of seven Adverse Water Quality Incidents and all were resolved following standard operating procedures.
- Future upgrades and improvements to the Township Drinking Water Systems are outlined in both the York Region and King Township Water and Wastewater Masterplans.
- Current operational performance and the on-going implementation of the Drinking Water Quality Management System are effective.

3. PURPOSE:

This report is to inform Council that the Public Works Department has prepared an Annual Report for each of the four municipal drinking water systems as required under Section 11 of O.Reg.170/03 using the standard Ministry of the Environment Conservation and Parks (MECP) templates. Annual Reports will be posted on the Township website and are available to the public at no cost. This report also fulfills the regulatory requirement to provide members of Council with an Annual Summary Report as outlined in Schedule 22 of O.Reg.170/03 of the *Safe Drinking Water Act*.

4. BACKGROUND:

Annual Summary Report for Council

The purpose of the Annual Summary Report is to enable the owner of the water systems

to assess the capability of meeting the existing and planned uses of the systems. The required contents of the Summary Report for municipal Council members are specified in Schedule 22 of O.Reg. 170/03. The requirements are as follows:

The Summary Report must provide the following information to decision makers:

(a) list the requirements of the *Safe Drinking Water Act*, the regulations, the system's approval, drinking water works permit, municipal drinking water license, and any orders applicable to the system **that were not met** at any time during the period covered by the report; and

(b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure.

The Summary Report must also include:

1. 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;

2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's 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), to the flow rates specified in the written agreement.

This Summary Report for council members is made available on the Township website and copies are available free of charge from the Public Works Department.

4.1 Standard of Care Provision of the *Safe Drinking Water Act*

The Standard of Care provisions of the *Safe Drinking Water Act, 2002*, came into force on December 31, 2012. The MECP guideline, **Taking Care of Your Drinking Water (as amended)**, provides members of municipal councils with general information in regards to the Standard of Care provisions.

As per the Section 19 of the *Safe Drinking Water Act*, the owner of the municipal drinking water system 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.

5. ANALYSIS:

5.1 Instances of Regulatory Non-Compliance - 2020

King City Drinking Water System (DWS)

The King City DWS experienced the following Adverse Water Quality Incidents (AWQI):

- Total Coliforms – 08/11/2020 – Presence

Staff responded to this AWQI by flushing and re-sampling upstream and downstream of the adverse location.

Schomberg DWS

The Schomberg DWS experienced the following AWQI's:

- Sodium – 01/20/2020 – 175 mg/L
- Nitrite – 06/25/2020 – 1.11 mg/L
- Nitrite – 09/17/2020 – 1.00 mg/L
- Nitrite – 09/17/2020 – 1.12 mg/L
- Nitrite – 09/19/2020 – 1.16 mg/L

Staff responded to these AWQI's according to Regulatory and Township requirements. There is a notice on the Township website advising users of the Schomberg system of the elevated sodium levels as per York Region Public Health directive. The nitrite adverse incidents were resolved by flushing and re-sampling upstream and downstream of the affected area. The Township continues to work closely with York Region to monitor and manage nitrification challenges within the Schomberg system. The Region has completed filter rehabilitation at the Schomberg WTP and completed construction and commissioning of a re-chlorination facility at the elevated tank. A biofiltration study is currently underway at the WTP. The Township continues to perform annual watermain swabbing.

Nobleton DWS

The Nobleton DWS experienced no AWQI's in 2020.

Ansnorveldt DWS

The Ansnorveldt DWS experienced the following AWQI's:

- Total Coliforms – 07/07/2020 – Presence

Staff responded to this AWQI by flushing and re-sampling upstream and downstream of the adverse location.

5.2 Water Systems Capacity Assessment

The total water consumption for all Township Drinking Water Systems in 2020 was 2,338,057 m^3. This corresponds to an average daily flow of 6,406 m^3.

All four of the Township's Drinking Water Systems are exempt from lead sampling in plumbing systems. The Township must test the distribution system for alkalinity

and pH over two sampling periods each year. Every third-year staff must include lead in the sampling parameters of the distribution system. Staff sampled for lead in 2019 and alkalinity and pH in 2020. All of these samples were within regulatory limits. This exemption remains in place as long as non-adverse results are achieved within the distribution samples.

Ansnorveldt Water System

The Ansnorveldt Distribution system services a population of approximately 170 people and consists of roughly 1.5 kilometers of watermains and approximately 53 connections. The Ansnorveldt system is classified as a Small Municipal Residential System – Class 1.

The maximum daily flow of 138 m^3 occurred on October 16th, 2020 with an average daily flow of 49 m^3, for the reporting period from January 2020 to December 2020 (statistical flow data provided by York Region).

There are no identified necessary improvements in terms of supply and storage for the Ansnorveldt DWS.

Water Quality Sampling Results

Regulatory sampling within the Ansnorveldt DWS met all applicable requirements and as indicated previously, experienced 1 AWQI in 2020.

King City Water System

The King City Distribution system currently services a population of approximately 7,658 people and consists of roughly 55 kilometers of watermains and approximately 2,393 connections. The King City system is classified as a Large Municipal Residential System – Class 1.

The maximum daily flow of 5,767 m^3 occurred on July 17th, 2020 with an average daily flow of 2,526 m^3, for the reporting period from January 2020 to December 2020 (statistical flow data provided by York Region).

The King Township Water and Wastewater Master Plan (2020) recommends several upgrades to the King City DWS. These include looping of existing watermains to eliminate dead-ends and expansion of the existing water network to support future development.

The York Region Water and Wastewater Master Plan Update (2016) indicates a need for new watermains, storage and pumping station(s) to meet the growing needs of the King City community. The plan further recommends de-commissioning the King City wells. York Region has determined that it is appropriate to maintain the wells as a back-up supply source, and has not decommissioned the wells. The lake-based water from the City of Toronto and Peel Region is conveyed and connected to the King City water distribution system through a York Region 600 mm diameter feeder main that was installed/constructed along Dufferin Street and King Road. The implementation of a second feed into King City has been identified in the Regional 2016 Water and Wastewater Master Plan Update. The next update to the York Region Water and Wastewater Master Plan will be presented to York Region Council in 2021.

Water Quality Sampling Results

Regulatory sampling within the King City DWS met all applicable requirements and as indicated previously, experienced 1 AWQI in 2020.

Nobleton Water System

The Nobleton Distribution system currently services a population of approximately 6,342 people and consists of approximately 39 kilometers of watermains with approximately 1,982 connections. The Nobleton system is classified as a Large Municipal Residential System – Class 1.

The maximum daily flow of 4,472 m^3 occurred on July 4th, 2020 with an average daily flow of 2,006 m^3, for the reporting period from January 2020 to December 2020 (statistical flow data provided by York Region).

The King Township Water and Wastewater Master Plan (2020) recommends extension of the Crestview Road watermain to the South to support future development and eliminate the dead-end at this location.

The York Region Water and Wastewater Master Plan Update (2016) indicates the need for a new well or a revision to the current Permit to Take Water limit to facilitate the proposed growth in the Nobleton community.

Water Quality Sampling Results

Regulatory sampling within the Nobleton DWS met all applicable requirements and there were no AWQI's in the Nobleton DWS in 2020.

Schomberg Water System

The Schomberg Distribution system services a population of approximately 2,704 people and consists of approximately 16 kilometers of watermains and approximately 845 connections. The Schomberg system is classified as a Large Municipal Residential System – Class 1.

There are 6 residential service connections within the Schomberg Drinking Water System that service residents of the Town of New Tecumseth on the north side of Highway 9. As indicated in the Recommendations section, staff will forward a copy of the Annual Water Quality Report for Schomberg to the Town of New Tecumseth.

The maximum daily flow of 2,791 m^3 occurred on November 19th, 2020 with an average daily flow of 1,802 m^3, for the reporting period from January 2020 to December 2020 (statistical flow data provided by York Region).

The King Township Water and Wastewater Master Plan (2020) recommends construction of a new watermain from the West end of Roselena Drive to Church Street. This will provide additional looping and water supply to the Southern portion of the Schomberg DWS. In 2020, the Township received a grant from the Ontario Community Infrastructure Fund to help support repair and upgrade costs in the Schomberg DWS.

The York Region Water and Wastewater Master Plan Update (2016) does not indicate a need for upgrades to the region-owned portions of the drinking water system in Schomberg; however, capital works are proceeding in 2021 to design and replace several watermains in Schomberg to address the on-going water quality challenges in this DWS.

Water Quality Sampling Results

Regulatory sampling within the Schomberg DWS met all applicable requirements. The Schomberg DWS experienced 5 AWQI's in 2020.

There is an enhanced monitoring plan in place for the operations departments of both the Township and York Region to monitor and manage the nitrification challenges within this system. York Region is currently investigating opportunities to revise the current treatment processes/technologies in place within the Schomberg system to better address the on-going nitrification. Various upgrades were completed at the Schomberg water treatment plant in 2019. These include: filter rehabilitation, upgrades to the potassium permanganate system, and replacement of filter influent and effluent valves. York Region has commissioned a biological filtration pilot program at the treatment plant that was initiated in 2020. York Region also implemented "***chloramine boosting"*** at the Elevated Tank in Schomberg. The Township continues to perform annual watermain swabbing throughout the Schomberg DWS. Township and Regional staff continue meet regularly to address these challenges.

5.3 Municipal Drinking Water License Program

Municipal Drinking Water License

The Township received full accreditation in 2013 and SAI Global conducted an on-site re-accreditation audit in 2019. This Audit Report identified no non-conformances and provided two Opportunities for Improvement that staff has responded to accordingly. As such, the Township received its reaccreditation.

The Township successfully renewed all four of their Municipal Drinking Water Licenses in 2020. The Township Licenses have to be renewed every five (5) years.

Drinking Water Works Permits

The Drinking Water Works Permits for Ansnorveldt, King City, Nobleton, and Schomberg water distribution systems were issued by the Ministry of the Environment, Climate, and Parks (MECP) on December 16th 2010. These permits outline the conditions and requirements that the Township must adhere to during the operation of the water distribution systems. Each permit includes schedules that address the drinking water system description, alterations to drinking water system, and watermains additions, modifications, replacements, and extensions. Under the Drinking Water Works Permits, the Township is now responsible for review and approval of all extensions and alterations to the drinking water systems and the former MOE Certificate of Approval process no longer applies. Staff have successfully implemented the revised approval process involving an engineering review and modeling of the proposed works successfully. These permits are made available on the Township website.

The MECP implemented the Watermain Disinfection Procedure for Ontario in 2017. This necessitated a change in all four of the Township's Drinking Water Works Permits. The updated documents have been received by the Township and are posted on the website.

5.4 Proposed Regulatory Changes and Changes to the Drinking Water Quality Management Standards

- In 2020, The Ministry of the Environment, Conservation and Parks did not implement any changes to Ontario Regulation 170/03 that are applicable to the Township Drinking Water Systems.

- On January 1st, 2020, a new standard for Haloacetic Acids (HAAs) came into effect for Ontario Regulation 169/03. Water system owners and operators were made aware of this amendment in 2015 and Township staff has revised the applicable Standard Operating Procedures (SOPs) accordingly.

- In 2019, Health Canada announced an update to the Guidelines for Canadian Drinking Water Quality, reducing the guideline for the maximum acceptable concentration of lead in drinking water from ten to five micrograms per litre. Ontario's standard for lead in drinking water is currently ten micrograms per litre. The MECP expects to begin a consultation process on whether and/or how to adopt this reduced guideline in early 2021.

- Current research suggests that properly disinfected drinking water does not transmit the COVID-19 virus and infectious virus particles have not been detected in drinking water. The Government of Ontario supports research on COVID-19 detection technologies and Township staff will continue to follow provincial public health directives.

6. FINANCIAL CONSIDERATIONS:

There are no immediate financials related to this report. All costs associated with water and wastewater are to be fully recoverable from the rates. As part of updating the Township's long-term Water and Wastewater Financial Plan, the terms of reference will be clearly aligned with long-term infrastructure needs, as well as ensuring that Township water and wastewater reserve balances are planned and projected to support the long-term sustainability of the associated systems.

7. CONCLUSION:

The Township of King continues to provide safe municipal drinking water to all residents, businesses, and visitors through the Ansnorveldt, King City, Nobleton, and Schomberg water distribution systems.

Current operational performance and the on-going implementation of the Drinking Water Quality Management System are effective.

8. ALIGNMENT TO STRATEGIC PLAN:

The 2019-2022 Corporate Strategic Plan was formally adopted by Council on September 21, 2020 which emphasizes all of the ICSP Pillars (Financial, Economic, Socio-Cultural and Environmental) and is also aligned with the long-term vision defined in the Official Plan. The 2019-2022 Corporate Strategic Plan aims to ensure staff initiatives focus on current Term of Council priorities in support of the Township's long-term vision to 2031.

Priority Area*:* Cultivating Safe, Healthy and Resilient Communities
Objective: Promoting Public Safety.

The annual summary report provides reassurance of compliant operation of the Township's four Drinking Water Systems, ensuring appropriate service levels and security to our residents and communicating the systems' performance to Council.

9. ATTACHMENTS

Appendix 'A' – 2020 Ansnorveldt Annual Quality Report
Appendix 'B' – 2020 King City Annual Quality Report
Appendix 'C' – 2020 Nobleton Annual Quality Report
Appendix 'D' – 2020 Schomberg Annual Quality Report

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