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**TO:** **GENERAL COMMITTEE**

**SUBJECT:** **WATER OPERATIONS BRANCH 2020 DRINKING WATER SYSTEM REPORTS**

**WARD:** **ALL**

**PREPARED BY AND KEY CONTACT:** **D. MOREAU, MANAGER OF WATER OPERATIONS, EXT. 6158**

**SUBMITTED BY:** **B. ARANIYASUNDARAN, P.ENG., PMP, DIRECTOR OF INFRASTRUCTURE**

**GENERAL MANAGER APPROVAL:** **A. MILLER, RPP, GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT**

**CHIEF ADMINISTRATIVE OFFICER APPROVAL:** **M. PROWSE, CHIEF ADMINISTRATIVE OFFICER**

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**RECOMMENDED MOTION**

1. That Staff Report INF001-21 regarding the City of Barrie's Drinking Water System including the following Schedules A – E, be received for information purposes:
  - a) Schedule A – 2020 Drinking Water System Operations Report;
  - b) Schedule B – 2020 Annual Report, Section 11, Ontario Regulation (O.Reg.) 170/03;
  - c) Schedule C – 2020 Municipal Summary Report, Schedule 22, O.Reg. 170/03;
  - d) Schedule D – Ministry of Environment, Conservation and Parks (MECP) Standard of Care; and
  - e) Schedule E – Quality Management System (QMS) Management Review Meeting Minutes.

**PURPOSE & BACKGROUND**

**Report Overview**

2. The purpose of this Staff Report is:
  - a) To summarize the Drinking Water System (the System) operating year of January 1<sup>st</sup>, 2020 through December 31<sup>st</sup>, 2020; to provide information to City Council on the performance of the System; and to satisfy the regulatory requirements of the Safe Drinking Water Act (SDWA), including the Drinking Water Quality Management Standard (DWQMS) and regulatory reporting requirements under Section 11 and Schedule 22 of O.Reg. 170/03. This Report is a compilation of information that demonstrates the commitment of the Water Operations Branch (the Branch) to providing safe drinking water while being transparent and financially accountable;

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- b) To provide a summary to Council which includes updates, changes and pertinent information in relation to the requirements of the *Safe Drinking Water Act* and the City of Barrie's Quality Management System; and
- c) To solicit from Council an acknowledgement of their receipt of the Annual Report and Municipal Summary Report.

3. The "2020 Drinking Water System Operations Report" summarizes the operating year of January 1<sup>st</sup>, 2020 through to December 31<sup>st</sup>, 2020.

4. There are two (2) specific reporting requirements related to O.Reg. 170/03:

- a) Section 11 requires that an Annual Report be prepared not later than February 28<sup>th</sup> of each year. This Report provides a brief description of the System; chemicals used; a breakdown of monetary expenses related to required equipment; a summary of all test results; and a summary of adverse reports and corrective actions taken. In addition, the Report entitled, "2020 Drinking Water System Annual Report", must be available to the public upon request and be posted for viewing on the City of Barrie website.
- b) Schedule 22 requires a summary report be prepared not later than March 31<sup>st</sup> of each year and a copy forwarded to members of Council to enable the Owner of the System to assess the capability of the System to meet existing and planned uses of the System. This report entitled, "Municipal Summary Report", lists the non-compliances in respect to the SDWA, O.Reg. 170/03, the Municipal Drinking Water License, the Drinking Water Works Permit, orders applicable to the System received, and any corrective measures that were taken in respect of the non-compliances. It also summarizes the quantities of the water supplied during the reporting year, including monthly average and maximum daily flows, along with a comparison to the related capacities.

5. In addition, under the DWQMS, there is an obligation for the Operating Authority to report the results of the management reviews, the identified deficiencies, decisions, and action items to the Owner.

## **ANALYSIS**

- 6. The System consists of a Surface Water Treatment Plant (SWTP) and associated Low Lift Pumping Station (LLPS), 12 groundwater wells, three (3) in-ground storage facilities, three (3) elevated storage reservoirs and seven (7) booster stations, distribution watermains and associated hydrants, valves, and appurtenances in five (5) major pressure zones throughout the City of Barrie (City). Source water for the SWTP is drawn from Kempenfelt Bay of Lake Simcoe. Water supplied from the groundwater system relies on wells drilled into a deep aquifer that is not under the direct influence of surface water. The distribution system consists of approximately 3,854 hydrants and 644 km of watermain and transmission main serving approximately 44,591 services providing water to approximately 151,043 residents.
- 7. The total annual production for 2020 was 13,509 ML with an average daily flow of 37 ML and a maximum daily flow of 100 ML.
- 8. The total 2020 cost to operate the System was approximately \$1,633.05/ML. Of that total, the cost of production and treatment amounted to approximately \$496.50/ML. The proportion of the total attributable to distribution system operating costs amounted to approximately \$4,047.53/km of watermain.

The raw and calculated data associated with these costs can be found in Table 1.

Table 1 Raw and Calculated Costs

Raw Data			Calculated Data			
	Expenses	Total Volume Produced in 2020 (ML)	Total km of Watermain	Cost to Operate per ML	Total Cost of Production and Treatment Services	Total Distribution Costs per km
GWS + SWS	\$6,707,263.63	13,509	644	Total Expense /Total Volume= \$1,633.05/ML	GWS+SWS expenses/volume produced= \$496.50/ML	WDS Expenses / km of watermain= \$4047.53/km
	\$2,607,823.17					
Other	\$12,745,790.61					
	\$22,060,877.41					

\*Note: "Other" expenses include Water Customer Services, Compliance and Technical Support, and Water Operations Administration

GWS = Groundwater Supply

SWS = Surface Water Supply

WDS = Water Distribution Services

9. Approximately 84% of the projected operating budget was expended in 2020.
10. More than 2,900 samples were collected for independent laboratory analysis under the regulatory sampling program for chemical and microbiological parameters in 2020. The analytical results are used to assess and optimize system performance, develop corrective actions, ensure safe water for consumption and to meet legislative requirements.
11. Eight (8) Adverse Water Quality Incidents (AWQIs) were reported in 2020. Each were promptly resolved to the satisfaction of the MECP and Simcoe Muskoka District Health Unit (SMDHU).
12. The MECP conducted two (2) focused inspections of the System. The first (1<sup>st</sup>) inspection was from January 2019 to January 2020 and the second (2<sup>nd</sup>) inspection was from January 2020 to September 2020. Following each System inspection, the MECP issued a report summarizing the findings, including regulatory non-compliances. Two (2) non-compliances with regulatory requirements and one (1) recommendation were reported in the 2019 MECP Inspection Report issued on February 13, 2020. One (1) non-compliance with regulatory requirements and zero (0) recommendations were reported in the 2020 MECP Inspection Report issued on October 14, 2020. All incidents of non-compliance, as well as any recommendations were promptly responded to by the Branch.
13. The QMS was subject to an external audit in November 2020. The surveillance audit consisted of an off-site desktop audit of the Operational Plan. There were zero (0) non-conformances or opportunities for improvement identified by the external auditor and accreditation was maintained.

#### **ENVIRONMENTAL AND CLIMATE CHANGE IMPACT MATTERS**

14. There are no environmental and/ climate change impact matters related to the recommendation.

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### **ALTERNATIVES**

15. As this Staff Report is being presented as a legislative requirement, and for information purposes only, no alternatives are presented.

### **FINANCIAL**

16. There are no financial implications for The Corporation resulting from the proposed recommendation.

### **LINKAGE TO 2018–2022 STRATEGIC PLAN**

17. The recommendation(s) included in this Staff Report support the following goals identified in the 2018-2022 Strategic Plan:

☒ Fostering a Safe and Healthy City

18. The Staff Report is a compilation of information that demonstrates the commitment of the Branch in providing safe drinking water thereby ensuring the health and safety of the residents of the City of Barrie.