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Staff Report

Infrastructure & Public Works

Report To: **Committee of The Whole**
Meeting Date: June 5, 2017
Report Number: CSPW.17.061
Subject: Water Section Operations Update – January to April 2017
Prepared by: Meg Boyd, Compliance & Efficiency Coordinator

A. Recommendations

THAT Council receive Staff Report CSPW.17.061 entitled "Water Section Operations Update – January to April 2017" for their information.

B. Overview

This report provides an overview of the Town's drinking water system for the period of January to April 2017. The Town continues to provide quality drinking water to Town residents and visitors in compliance with regulatory requirements.

C. Background

Ensuring the safety and quality of the Town's drinking water is not only the responsibility of the Water Operators who operate and maintain the system but also the Members of Municipal Council and Municipal Officials who exercise decision-making authority regarding the system. Town Council has requested regular updates. This Report continues to provide the information requested.

As mentioned in previous Reports, the purpose of Attachment # 1 – Water Operations Update is to provide regular up-to-date information with regards to the status and operation of the Town's drinking water system and to report on water quality issues for the period of January to April 2017.

Topics such as an overview of the Town's drinking water system were provided in the initial report, and as such will only be included intermittently to remind Council of the drinking water system components.

This report addresses:

- Raw, Treated and Distribution Water Quality Data
- Staff Training
- Water Treatment Plant and Water Booster Station Maintenance Summary

- Distribution System Summary
- Summary of Plant Flows
- Watermain Break Summary
- Incidents of Adverse Water Quality
- Water Quality Concerns / Resident Complaints

D. Analysis

Attachment # 1 demonstrates that Water Operators continue to provide quality drinking water to its residents while ensuring long-term sustainability of the system through regular preventative maintenance programs.

E. The Blue Mountains Strategic Plan

Goal #5: Ensure Our Infrastructure is Sustainable

F. Environmental Impacts

None

G. Financial Impact

None

H. In consultation with

None

I. Attached

1. Attachment # 1 – Water Section Operations Update – January to April 2017

Respectfully submitted,

Meg Boyd
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Compliance & Efficiency Coordinator

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Town of The Blue Mountains

Water Section Operations Update January to April 2017

Introduction

Ensuring the safety and quality of the Town's drinking water system is not only the responsibility of the Water Operators who operate and maintain the system but also the Members of Municipal Council and Municipal Officials who exercise decision-making authority regarding the system.

The purpose of this report is to provide Council with a brief overview of the Town's drinking water system and to report on water quality issues for the period of January to April 2017.

This report will address the following:

- Raw, Treated and Distribution Water Quality Data
- Staff Training
- Water Treatment Plant and Water Booster Station Maintenance Summary
- Distribution System Summary
- Summary of Plant Flows
- Watermain Break Summary
- Incidents of Adverse Water Quality
- Water Quality Concerns / Resident Complaints

System Information

Drinking Water System Number:	220001762
Drinking Water System Name:	The Blue Mountains Drinking Water System
Drinking Water System Owner:	Town of The Blue Mountains
Drinking Water System Category:	Large Municipal Residential
Water Treatment Subsystem Class:	Class 2 Certificate No. 1758
Water Distribution Subsystem Class:	Class 3 Certificate No. 1759
Municipal Drinking Water License:	111-101
Municipal Drinking Water Permit:	111-201

Raw, Treated and Distribution Water Quality Data

Ontario Regulation 170/03 specifies guidelines for the number of samples to be taken, the frequency of sampling and the actions to be taken if any of the sample results indicate adverse water quality.

Schedule 10 of Ontario Regulation 170/03 requires weekly sampling and testing for E.Coli, Total Coliform and Heterotrophic Plate Count (HPC).

Weekly samples are collected for raw and treated water from the Thornbury Water Treatment Plant (WTP) and analyzed by an accredited laboratory.

Overviews of the raw and treated sampling data for the period of January to April 30, 2017 are presented in Tables 1 and 2 respectively.

Table 1 – Raw Water

Parameter	Result Range (Min – Max)	Parameter Limit
E.Coli	0 to 1	N/A
Total Coliform	0 to 84	N/A

Table 2 – Treated Water

Parameter	Result Range (Min – Max)	Parameter Limit
E.Coli	0	0
Total Coliform	0	0
HPC	0 to 1	

Drinking water quality is further monitored throughout the distribution system by a comprehensive sampling and analysis program involving weekly sampling at designated sampling stations as well as reservoirs and booster stations.

An overview of the distribution sampling data for the period of January to April 30, 2017 is presented in Table 3:

Table 3 – Distribution

Parameter	Number of Samples	Result Range (Min – Max)	Parameter Limit
E.Coli	170	0	0
Total Coliform	170	0	0
HPC	130	0 to 11	N/A

Staff Training

In accordance with Ontario Regulation 128/04, all Water Treatment and Distribution Operators possess operating licenses appropriate to the class of the facility where they are employed. As the Town's distribution system is a Class 3 subsystem, Operators are required to complete a minimum of 26 hours of on the job practical training and 14 hours of formal Continuing Education Units (CEU) training per year.

A summary of the courses attended from January to April 30, 2017 by Operators is provided in Table 4:

Table 4 – Training Overview

Operator Name	Training Course Attended
Stephanie Cole	• Exam Preparation Water Distribution & Supply Levels 3 & 4 • Water Distribution System Operation & Maintenance • Working at Heights • Control of Hazardous Energy
Rob Gilchrist	• Working at Heights • Assessing your Distribution System for Rehabilitation • Control of Hazardous Energy
Scott Hill	• Utility Management • Working at Heights • Control of Hazardous Energy • Georgian Bay Waterworks Spring Conference
Scott Marritt	• Control of Hazardous Energy
Don McArthur	• Working at Heights • Control of Hazardous Energy
Kevin McGuire	• Working at Heights • Control of Hazardous Energy
Darren Shilvock	• Working at Heights • Control of Hazardous Energy • Georgian Bay Waterworks Spring Conference

Water Treatment Plant and Water Booster Station Maintenance Summary

The following table provides a breakdown of the maintenance performed at the Water Treatment Plant from January to April 30, 2017.

Table 5 – Water Treatment Plant and Booster Station Maintenance Summary

Maintenance Performed	Number Completed
Disassembled flow control valve on High lift pump 3 at Arrowhead Road Booster Station to inspect	1
New kit installed in control valve on High lift pump 1 at Arrowhead Road Booster Station	1
SCADA Integrator resolved raw water reporting issues at WTP	1
New mixer installed at Swiss Meadows Standpipe	1
New plumbing on Sodium Hypochlorite suction lines at Thornbury Reservoir	1
Installed new speed control valves on fill valve at Thornbury Reservoir	1
Camperdown Reservoir transducer replacement on Cell 2	1
New air release on raw water feed to Racks	1
New mechanical seal on Booster Pump 2 at 10th Line Water Booster Station	1

Repaired air releases on all racks at WTP	1
Diesel generator maintenance at WTP and all stations	1
Highlift 1 pump removed, repaired and reinstalled	1
New internal parts and preventative maintenance kit installed in flow control valve on High Lift pump 2 at Arrowhead Road Booster Station	1
Monthly Maintenance at all Stations	4
Bi-annual service on air compressors and UV at WTP	1
Cell booster installed at WTP	1
Base of High lift pump at Happy Valley Booster Station welded and repaired	1
New ballast fan installed on UV 2 at WTP	1
SCADA Integrator programming valves to open/close on waste filter to creek and waste tanks when in an EFM or CIP	1
New gauges on suction and discharge of High lifts at Happy Valley Booster Station	1

Distribution System Summary

The following table provides a breakdown of the Water Meter Field Service calls for January to April 30, 2017:

Table 6 – Water Meter Field Services Summary

Nature of Call	Number of Calls
Frozen Meter repairs	6
Replace/Repair Jammed Meter	19
Replace/Repair Remote Touchpads	9
Repair Meter Other (leaks, reversed, etc.)	8
Meter Inspections (re-inspections, renovations, new construction)	46
Billing Verification, Hand Deliveries (notices, bills)	237
Install/Repair Radio Units	18
Customer Meetings (usage, pressure, complaints, etc.)	8
Closing Readings	115
Water Turn On	4
Plumbing Inspections – not meter related	3
Meetings with contractors, business owners, site management (backflow requirements, unauthorized connections, losses etc.)	19

The following table provides a breakdown of the Water Distribution Work Orders completed for January to April 30, 2017

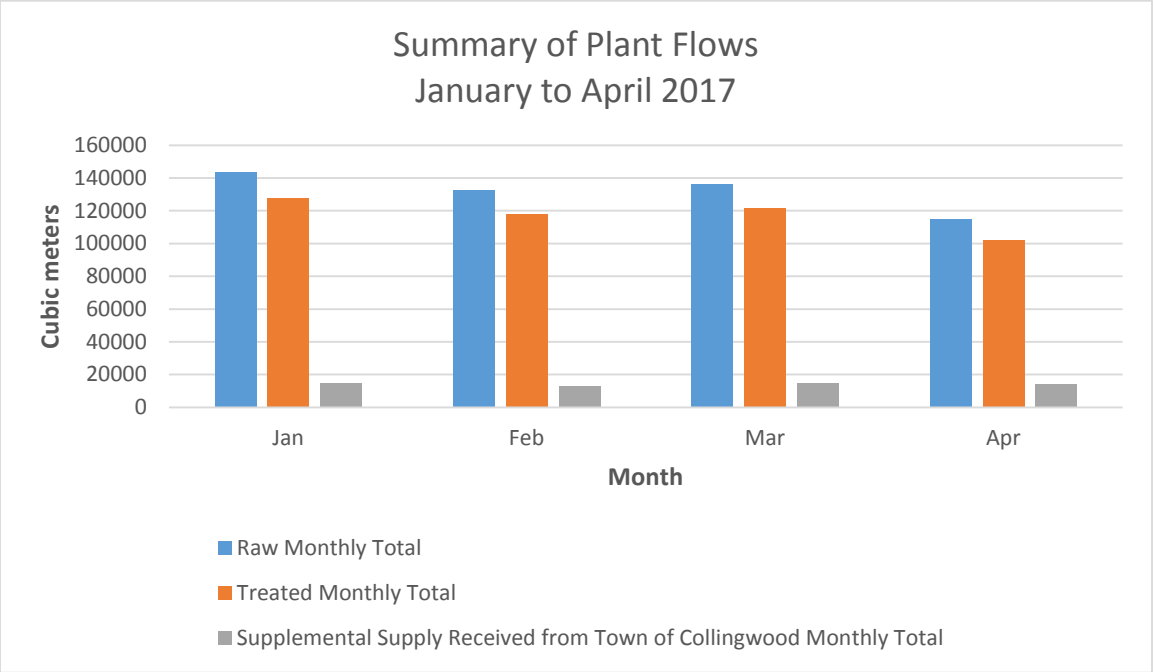
Table 7 – Distribution Work Orders

Work Order Description	Number Completed
Watermain service repairs	1
Main Valves operated	24
Curb Stop Valves operated	32
Valves repaired	1
Service connection repairs completed	28
Service connection repairs outstanding	17
Service connection installations	1
Pressure reducing valve inspections	1
Air relief valve inspections	78
Dead End Flushing Program – Number of Fire Hydrants Flushed	208
Water and Sewer locates completed	155
Automatic Flushing Stations – Weekly check of chlorine residuals	320
Auto Flusher Repair	4
Auto Flusher Installation	2
Valve/Meter Chamber Inspections	21
Days with GPS Unit	7 days
Service line inspections for leaks	2
Double Drain Chambers	9
PRV Removal – Margaret Drive	1

Summary of Plant Flows

A summary of the WTP Raw, Treated and supplemental flow supply received from the Town of Collingwood is presented in Graph 1:

Graph 1:

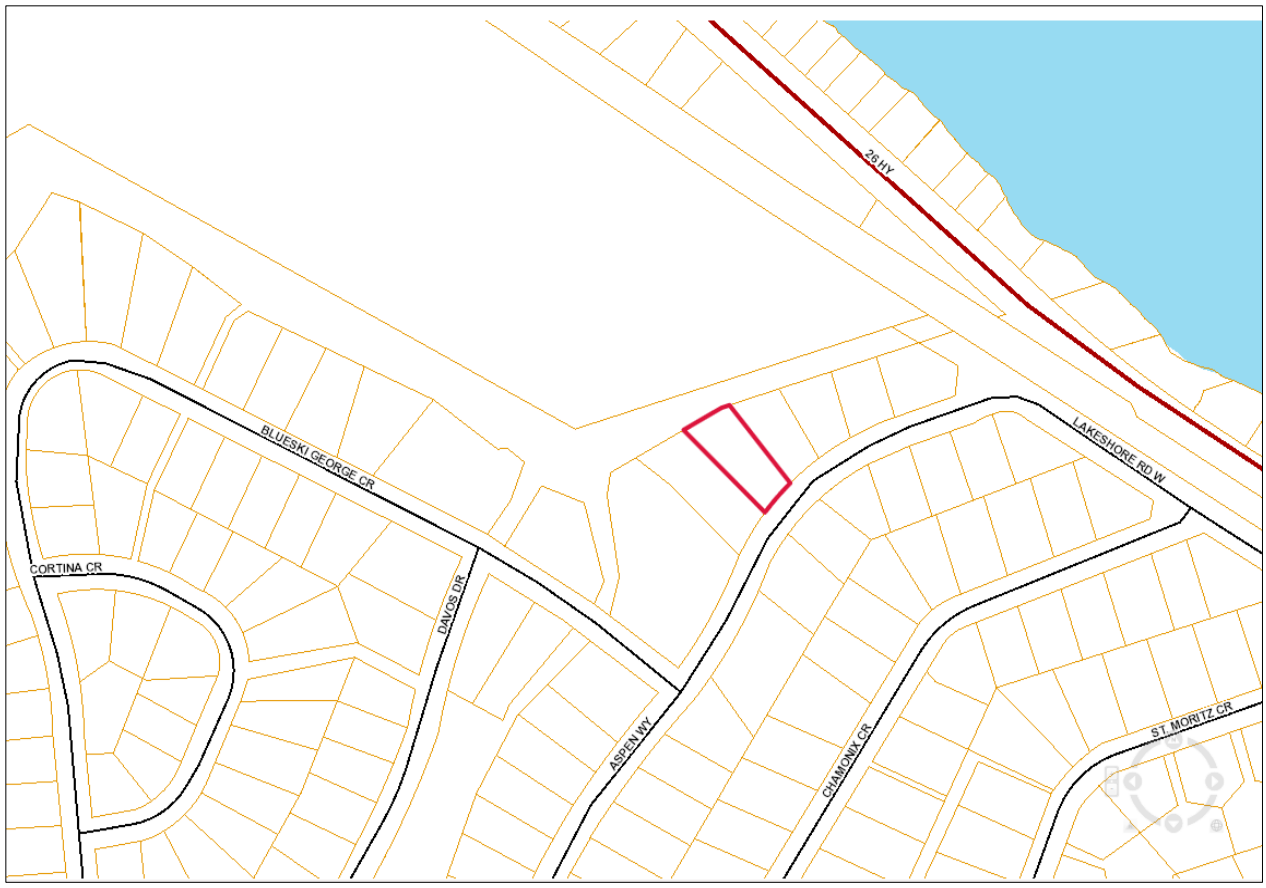


Watermain Break Summary

Watermain breaks are typically reported by the public, Town Staff or discovered during visual inspections by Operators. In most instances, watermain breaks are repaired by Operators and, at times, with the assistance of outside contractors or Staff from the Town's Roads Department.

For the period of January 1 to April 30, 2017, there was one watermain break as summarized below:

On February 13, 2017, the On-Call Operator received a call from a resident that water was running out of the ditch on Aspen Water between Blueski George and Lakeshore Road. There was a split in the watermain. Operators repaired the watermain the same day.



Incidents of Adverse Water Quality

This section describes all Adverse Water Quality Incidents (AWQI). This term refers to any treated water test result that does not meet a provincial water quality standard or a situation where disinfection of the Town's drinking water may be compromised. A single AWQI does not necessarily mean that the system's drinking water is unsafe – it indicates that, on at least one occasion, a water quality standard was not met.

The Town's drinking water system is operated in accordance with Ontario Regulation 170/03 and Operators follow the direction of this regulation when dealing with incidents of adverse drinking water. There were no incidents of adverse drinking water quality for the period of January to April 30, 2017.

Water Quality Concerns / Resident Complaints

Staff record information relating to the water quality issues on the Resident Water Quality Concern Form. If required, Operators attend the location of concern to collect samples or assess the nature of the concern.

The ongoing analysis of the water quality data is useful in determining if the water quality is changing throughout the distribution system over time. As an example, taste and odour complaints may indicate that the watermain in a particular area is deteriorating.

A summary of the water quality concerns received during the January to April 30, 2017 period is included in Table 8 below:

Table 8 – Water Quality Concerns

Water Quality Concern	Dates (2017)	Number of Occurrences
Water Hardness	January 23	1
Low Water Pressure	January 25	1
High Water Pressure	February 2, 16	2
Odour	April 7	1
Cloudy Water	May 5	1