

**STAFF REPORT:      ENGINEERING AND PUBLIC WORKS DEPARTMENT**

**REPORT TO:**                    **Committee of the Whole**  
**MEETING DATE:**           **February 3, 2014**  
**REPORT NO.:**                **EPW.14.007**  
**SUBJECT:**                    **Water Section Operations**  
   **Update – September to**  
   **December 2013**

**PREPARED BY:**            **Liz Saunders, Acting Compliance &**  
   **Efficiency Coordinator**

**A.      Recommendations**

THAT Council receives Report EPW.14.007 entitled “Water Section Operations Update – September to December 2013” for their information.

**B.      Background**

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.

As mentioned in previous Reports, the purpose of Attachment # 1 – Water Operations Update is to provide 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 September to December 2013.

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 and Treated Water Quality Data
- Staff Training
- Distribution System Summary
- Summary of Plant Flows
- Watermain Break Summary
- Incidents of Adverse Water Quality
- Water Quality Concerns / Resident Complaints

The Thornbury WTP and associated distribution system continue to operate within Ministry of the Environment Guidelines and Provincial Legislation.

The attached report 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.

**C. The Blue Mountains' Strategic Plan**

The acceptance of this Report by Council furthers the Town Strategic Plan Goal # 6 "Providing a Strong, Well-Managed Municipal Government."

**D. Environmental Impacts**

None

**E. Financial Impact**

None

**F. In Consultation With**

None

**G. Attached**

- Attachment # 1 – Water Section Operations Update – September to December 2013

Respectfully submitted,

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# Water Section Operations Update

September to December 2013



## 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 September to December 2013.

This report will address the following:

- Raw, Treated and Distribution Water Quality Data
- Staff Training
- 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.

Weekly samples are collected for raw and treated water from the Thornbury WTP and analyzed by an accredited laboratory.

An overview of the raw water sampling data for the period of September to December 2013 is presented in Table 1.

Table 1: Raw Water

Parameter	Result Range (Min – Max)
<b>E.Coli</b>	0 to 4
<b>Total Coliform</b>	0 to 201

An overview of the treated water sampling data for the period of September to December 2013 is presented in Table 2.

Table 2: Treated Water

Parameter	Result Range (Min – Max)	Limit
<b>E.Coli</b>	0	0
<b>Total Coliform</b>	0	0
<b>HPC<sup>1</sup></b>	0 to 1	N/A

1. Schedule 10 of Ontario Regulation 170/03 requires testing for general bacteria population expressed as colony counts on a heterotrophic plate count (HPC). There are no reporting or corrective action requirements specified in O. Reg 170/03 following HPC test results. HPC's are a good indicator of overall drinking water quality but not water safety.

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 September to December 2013 is presented in Table 3.

Table 3: Distribution

Parameter	Number of Samples	Result Range (Min – Max)	Limit
<b>E.Coli</b>	209	0	0
<b>Total Coliform</b>	209	0	0
<b>HPC<sup>1</sup></b>	85	0 to 6	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 facility where they are employed. As the Town's distribution system is a Class 3 subsystem, Operators are required to complete, at a minimum, 26 hours of on the job practical training and 14 hours of formal Continuing Education Units (CEU) training per year. The majority of Staff training occurs during the first quarter and was reported in previous Operations update.

With the exception of one Operator, all Water Staff completed Confined Space Entry Training, facilitated by the Town's Water and Wastewater Staff.

## Distribution System Summary

The following table provides a breakdown of the Water Meter Field Service calls for September to December 2013.

Table 4: Water Meter Field Services Summary

<b>Nature of Call</b>	<b>No. of Calls</b>
Frozen meters	3
Replace/Repair jammed meter	8
Replace/Repair remote touchpads	9
Repair meter other (leaks, reversed, etc.)	5
Meter Inspections	17
Billing verification, hand deliveries (notices, bills)	297
Install radio	3
Backflow inspections	1
Thermal Expansion calls	1
Customer meetings (usage, complaints, etc.)	35
Closing readings	129
Commercial meter change outs	1

The following table provides a breakdown of the Water Distribution Work Orders completed for September to December 2013.

Table 5: Distribution Work Orders

<b>Work Order Description</b>	<b>No. Completed</b>
<b>Watermain Repairs</b>	3
<b>Valves Operated</b>	345
<b>Valves Replaced / New</b>	0
<b>Outstanding Deficiencies Arising from Fire Hydrant Inspections (including painting)</b>	22
<b>Service Connection Repairs Complete</b>	7
<b>Service Connection Repairs Outstanding</b>	0
<b>Service Connection Installations</b>	0
<b>Pressure Reducing Valve Inspections</b>	45
<b>Air Relief Valve Inspections</b>	41
<b>Fall and Private Hydrant Flushing Program</b>	327
<b>Dead End Flushing Program (Hydrants flushed to maintain residuals in the distribution system)</b>	238
<b>Water and Sewer Locates</b>	125
<b>Automatic Flushing Stations – weekly check of chlorine residuals</b>	332
<b>Winterizing Hydrants (Pumping Out)</b>	2
<b>Auto Flusher Repairs</b>	4
<b>Service Box Repairs</b>	1
<b>GPS Data Collection</b>	18
<b>Chamber / Meter Pit Inspections</b>	16
<b>Winterize Sample Stations</b>	35
<b>Remove Automatic Flusher Stations</b>	3
<b>Pump Out / Hydrant Checks</b>	93

## Summary of Plant Flows

A summary of the WTP Raw, Treated and supplemental flow supply received from the Town of Collingwood is presented in Table 7.

Table 7

Month	Town of The Blue Mountains Raw Water Flows				Town of The Blue Mountains Treated Water Flows				Supplemental Flows Received from the Town of Collingwood			
	Monthly Total (m <sup>3</sup> )	Daily Average (m <sup>3</sup> )	Maximum Day (m <sup>3</sup> )	Minimum Day (m <sup>3</sup> )	Monthly Total (m <sup>3</sup> )	Daily Average (m <sup>3</sup> )	Maximum Day (m <sup>3</sup> )	Minimum Day (m <sup>3</sup> )	Monthly Total (m <sup>3</sup> )	Daily Average (m <sup>3</sup> )	Maximum Day (m <sup>3</sup> )	Minimum Day (m <sup>3</sup> )
January	53,525	1,727	2,438	998	46,468	1,499	2,166	875	69,666	2,247	4,014	873
February	52,966	1,892	4,351	764	44,891	1,603	3,867	648	65,868	2,352	3,730	732
March	48,942	1,579	2,356	522	42,390	1,367	1,986	416	68,527	2,211	3,733	1,084
April	44,352	1,478	2,181	785	38,618	1,287	1,950	697	46,685	1,556	2,221	730
May	56,683	1,828	2,516	1,159	50,083	1,616	2,317	1,043	63,342	2,043	4,019	1,099
June	63,488	2,116	5,143	1,146	56,053	1,868	4,553	985	74,785	2,493	4,020	0
July	64,289	2,074	3,936	732	56,146	1,811	3,505	643	106,535	3,437	4,021	2,230
August	89,588	2,890	9,917	1,114	79,122	2,552	8,704	987	98,435	3,175	4,017	0
September	47,307	1,577	2,192	1,234	41,845	1,395	1,969	1,044	80,514	2,684	4,018	1,756
October	46,657	1,505	2,448	599	40,992	1,322	2,185	539	69,411	2,239	3,337	1,363
November	42,287	1,410	1,971	900	37,480	1,249	1,764	806	49,476	1,649	2,441	864
December	46,171	1,489	2,725	867	41,416	1,336	2,456	772	69,787	2,251	3,966	1,070
<b>Total</b>	<b>656,255</b>				<b>575,504</b>				<b>863,031</b>			
<b>Max</b>	<b>89,588</b>		<b>9,917</b>		<b>79,122</b>		<b>8,704</b>		<b>106,535</b>		<b>4,021</b>	
<b>Min</b>	<b>42,287</b>		<b>522</b>		<b>37,480</b>		<b>416</b>		<b>46,685</b>			<b>0</b>



## **Watermain Break Summary**

Watermain breaks are typically reported by the public, other 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. There were no watermain breaks for the September 1 to December 31, 2013 reporting period.

## **Incidents of Adverse Water Quality**

This section describes all Adverse Water Quality Incidents (AWQI). This term refers to any unusual test result from treated water that does not meet a provincial water quality standard or situation where disinfection of the water may be compromised. A single adverse water quality incident does not necessarily mean that drinking water from the system 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 in the period of September 1 to December 31, 2013.

## **Water Quality Concerns/ Resident Complaints**

Staff record information relating to water quality issues on the Resident Water Quality Concern Form and then forward data to the GIS Coordinator for tracking. If required, Operators attend the location of concern to collect samples or access 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 map detailing the water quality concerns received from January 2010 to December 2013 is included in Figure 1.

Figure 1: Water Quality concerns received from January 2010 to December 2013

