

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



**REPORT TO:**                    **Committee of the Whole**  
**MEETING DATE:**            **September 29, 2014**  
**REPORT NO.:**                **EPW.14.070**  
**SUBJECT:**                    **Water Section Operations**  
   **Update – May to August 2014**  
**PREPARED BY:**            **Liz Saunders, Acting Compliance &**  
   **Efficiency Coordinator**

**A.      Recommendations**

THAT Council receives Report EPW.14.070 entitled “Water Section Operations Update – May to August 2014” 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. 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 May to August 2014.

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 – May to August 2014

Respectfully submitted,

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# Water Section Operations Update

May to August 2014



## 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 May to August 2014.

This report will address the following:

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

## System Information

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

## 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 water sampling data for the period of May to August 2014 are presented in Tables 1 and 2 respectively.

**Table 1 – Raw Water**

Parameter	Result Range (Min – Max)	Parameter Limit
E.Coli	0 to 3	N/A
Total Coliform	0 to 25	N/A

**Table 2 – Treated Water**

Parameter	Result Range (Min – Max)	Parameter Limit
E.Coli	0	0
Total Coliform	0	0
HPC <sup>1</sup>	0 to 2	N/A

<sup>1</sup> Schedule 10 of Ontario Regulation 170/03 requires testing for general bacteria population expressed as colony counts on HPC. There are no reporting or corrective action requirements specified in Ontario Regulation 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 May to August 2014 is presented in Table 3:

**Table 3 – Distribution**

Parameter	Number of Samples	Result Range (Min – Max)	Parameter Limit
E.Coli	182	0	0
Total Coliform	182	0	0
HPC <sup>1</sup>	137	0 to 89	N/A

## Staff Training

In accordance with Ontario Regulation 128/04, all Water Treatment and Distribution Operators possess operating licences 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 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 May to August 2014 by Operators is provided in Table 4:

**Table 4 – Training Overview**

<b>Operator Name</b>	<b>Training Course Attended</b>
Scott Marritt	Leak Detection and Flow Measurement

### **Water Treatment Plant Maintenance Summary**

The following table provides a breakdown of the maintenance performed at the Water Treatment Plant from May to August 2014.

**Table 5 – Water Treatment Plant Maintenance Summary**

<b>Maintenance Performed</b>	<b>Number Completed</b>
Changed Power Indicator Light on Chlorine Equipment	1
Generator UPS Repairs	1
Intake Line Inspection	1
Calibration of Flow Meters and Chlorine Analyzer Equipment	1
New Lines Added to Raw Turbidity Analyzer	1
Changed Power Indication Light on Pre-Screens	1
Enhanced Flux Maintenance Performed on Filter Racks	1
Repaired Waste Tank Pump	1

## Distribution System Summary

The following table provides a breakdown of the Water Meter Field Service calls for May to August 2014:

**Table 6 – Water Meter Field Services Summary**

<b>Nature of Call</b>	<b>Number of Calls</b>
Frozen Meters	12
Replace/Repair Jammed Meter	21
Replace/Repair Remote Touchpads	16
Repair Meter Other (leaks, reversed, etc.)	6
Meter Inspections (re-inspections, renovations, new construction)	20
Billing Verification, Hand Deliveries (notices, bills)	240
Install Radio Units	11
Backflow Inspections	8
Thermal Expansion Calls	2
Customer Meetings (usage, complaints, etc.)	18
Closing Readings	112
Commercial Meter Changes (including mag meter service)	30
Water Turn Ons	2

The following table provides a breakdown of the Water Distribution Work Orders completed for May to August 2014:

**Table 7 – Distribution Work Orders**

<b>Work Order Description</b>	<b>Number Completed</b>
Watermain Repairs	3
Valves Operated	496
Outstanding Deficiencies Arising from Hydrant Inspections (including painting)	12
Service Connection Repairs Complete	39
Service Connection Repairs Outstanding	2
Service Connection Installations	3
Pressure Reducing Valve Inspections	17
Air Relief Valve Inspections	79
Valve Chamber Inspections	16
Spring and Private Hydrant Flushing Program	517
Dead End Flushing Program (to maintain distribution residuals)	288
Water and Sewer Locates Performed	208
Automatic Flushing Stations (weekly check of chlorine residuals)	237
Auto Flushers Installations	2
Final Inspections	1
Days Spent GPS Curb Stops	8
Hydrants Painted	45



## 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 8:

**Table 8:**

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	104,635	3,375	8,764	1,217	93,464	3,015	4,715	1,165	26,126	843	1,011	108
February	96,252	3,438	5,829	1,828	90,080	3,217	5,388	1,724	22,024	787	885	1
March	97,686	3,151	5,420	1,202	91,176	2,941	5,087	1,143	26,746	863	868	828
April	70,246	2,342	3,372	1,147	64,901	1,074	3,124	2,163	25,937	861	878	865
May	100,189	3,232	5,735	1,651	93,538	3,017	5,366	1,536	26,683	861	893	779
June	4,166	5,778	2,903	2,903	116,223	3,874	5,354	2,686	25,437	848	874	548
July	4,628	6,431	2,406	2,406	133,270	4,299	5,900	2,271	26,331	849	866	584
August	158,151	5,102	6,913	3,700	142,163	4,586	6,172	3,326	26,649	860	864	833
<b>Total</b>	<b>895,606</b>				<b>824,815</b>				<b>205,933</b>			
<b>Max</b>	<b>158,151</b>		<b>8,764</b>		<b>142,163</b>		<b>6,172</b>		<b>26,746</b>		<b>1,011</b>	
<b>Min</b>	<b>70,246</b>			<b>1,147</b>	<b>64,901</b>			<b>1,143</b>	<b>22,024</b>			<b>1</b>

## 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 May 1 to August 31<sup>st</sup>, 2014, there were no watermain breaks.

## 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 AWQI.

During the May to August 2014 period, there were no AWQI to report.

## 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 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 May to August 2014 period is included in Table 8 below.

**Table 9 – Water Quality Concerns**

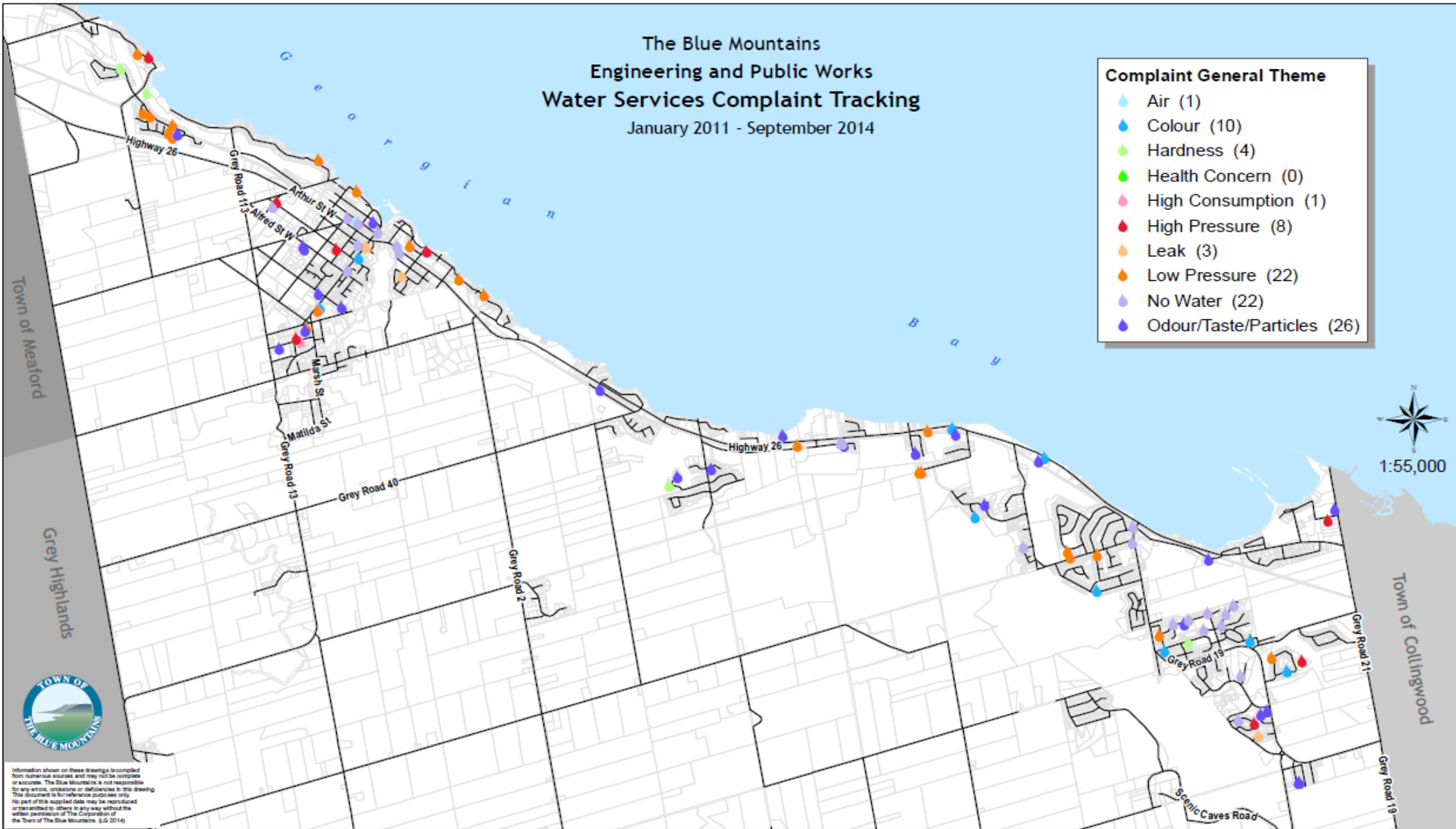
Water Quality Concern	Dates	Number of Occurrences
High Water Pressure	June 16	1
Chlorine Odour	August 8	1

A map detailing the water quality concerns received from January 2011 to August 2014 is included on page 11 of this report.

The Blue Mountains  
 Engineering and Public Works  
 Water Services Complaint Tracking  
 January 2011 - September 2014

**Complaint General Theme**

Light Blue Diamond	Air (1)
Blue Diamond	Colour (10)
Light Green Diamond	Hardness (4)
Green Diamond	Health Concern (0)
Pink Diamond	High Consumption (1)
Red Diamond	High Pressure (8)
Orange Diamond	Leak (3)
Dark Orange Diamond	Low Pressure (22)
Purple Diamond	No Water (22)
Dark Purple Diamond	Odour/Taste/Particles (26)



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