

2017 Annual Drinking Water Report

For:

Hamilton Drive Drinking Water System

Rockwood Drinking Water System

-And-

Gazer Mooney Subdivision Distribution System

Prepared by:



February 28, 2018

I. Introduction

Purpose

The purpose of this report is to provide information to stakeholders and to satisfy the regulatory requirements of the Safe Drinking Water Act (SDWA) including the Drinking Water Quality Management Standard (DWQMS), and regulatory reporting required under O.Reg. 170/03 (Section 11 and Schedule 22). The report is a compilation of information that helps to demonstrate the ongoing provision of safe, consistent supply of high quality drinking water to customers located within the Rockwood, Hamilton Drive and the Gazer Mooney Subdivision.

Scope

This Annual & Summary Water Services Report includes information for Rockwood, Hamilton Drive and the Gazer Mooney Subdivision Distribution System for the period of Jan.1 to Dec. 31, 2017

This report satisfies the requirements of both the Safe Drinking Water Act (SDWA) and Ontario Regulation 170/03:

- Section 11, Annual Reports which includes:
 - a brief description of the drinking water systems;
 - a list of water treatment chemicals used;
 - a summary of the most recent water test results required under O. Reg. 170/03 or an approval, Municipal Drinking Water Licence (MDWL) or order;
 - a summary of adverse test results and other issues reported to the Ministry including corrective actions taken;
 - a description of major expenses incurred to install, repair or replace required equipment;
 - the locations where this report is available for inspection.

And;

- Schedule 22, Summary Report which includes:
 - list the requirements of the Safe Drinking Water Act, the regulations, the system's approval, Drinking Water Works Permit (DWWP), Municipal Drinking Water Licence (MDWL), and any orders applicable to the system that were not met at any time during the period covered by the report;
 - for each requirement that was not met, the duration of the failure and the measures that were taken to correct the failure;
 - 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; and

- a comparison of this information to the rated capacity and flow rates approved in the system's approval, DWWP and/or MDWL.

A copy of this report is available for viewing at the Township of Guelph/Eramosa, 8348 Wellington Rd. 124, Rockwood and Online at www.get.on.ca

As per the Accessibility for Ontarians with Disabilities Act (AODA), this document is available in an alternate format by e-mailing the Township Clerk aknight@get.on.ca or by calling 519-856-9596

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1.0 Systems Overview

1.1 Rockwood Drinking Water System

The Rockwood (RWD) Water Supply System is a Class I Water Treatment Subsystem and a Class II Water Distribution Subsystem consisting of three municipal groundwater wells, a water tower and distribution system. Wells #1 and #2 are located at the Station Street Pumphouse and supply water directly to Zone 1 distribution system. Well #3 at the Bernardi Pumphouse supply water to Zone 1 of the distribution system and to the in-distribution standpipe. When the well pumps are running, they deliver water to meet the demand in Zone 1 of the distribution system and any excess water produced is directed to the standpipe and stored there. The water level in the standpipe maintains pressure in Zone 1. A Supervisory Control and Data Acquisition / Programmable Logic Controller (SCADA/PLC) system monitors and controls the operation of the Station Street well pumps and the Bernardi high lift pumps (HLPs) based on the water level in the standpipe.

The booster pumping station draws water from the standpipe and pumps to Zone 2 of the distribution system. The station uses variable frequency drive booster pumps that allow each pump to provide a range of flow rates depending on the system demand. The booster pumps are controlled by the SCADA/PLC to maintain constant pressures in this zone. When the demand for water in Zone 2 rises, the system immediately senses the associated drop in pressure and calls the pump(s) to ramp up to meet the demand. Likewise, when the demand falls, the system senses the associated rise in pressure and calls the pumps to ramp down. At least one pump must run at all times to ensure pressures are maintained in Zone 2. Any excess pressure sensed at the booster pumping station is re-circulated back into the standpipe.

Station Street primary disinfection is achieved using a UV disinfection unit. Secondary disinfection is provided by the addition of sodium hypochlorite solution. The UV disinfection unit and the chemical feed pump that injects sodium hypochlorite solution are activated whenever a well pump is running.

Bernardi Pumphouse primary disinfection is achieved by the addition of sodium hypochlorite and provision of chlorine contact time in the grade-level reservoir. Sodium hypochlorite is injected after the flow control valve and prior to the water meter. Chlorine residual concentrations are maintained in the water leaving the pumphouse, providing secondary disinfection. The facility has duty and standby chemical feed pumps for chlorine dosing. The chemical pump is energized when the well pump is activated.

1.2 Hamilton Drive Drinking Water System

The Hamilton Drive Water Supply System is a Class II Water Distribution and Supply Subsystem located in the Township of Guelph/Eramosa. The system services a residential area bounded by Victoria Road to the east, Conservation Road to the north, Highway 6 to the west and the Speed River to the south. The Hamilton Drive (HD) system obtains its entire water supply from two

groundwater wells (Huntington and Cross Creek) each with its own Pumphouse and grade-level reservoir.

The raw water from each well is chlorinated to protect against microbial contaminants prior to discharge into the reservoir. The raw water is disinfected with a sodium hypochlorite solution (chlorine) for primary and secondary disinfection requirements. The water level in the reservoir starts and stops the well pumps.

The Huntington and Cross Creek Pumphouses supply treated water directly to the distribution system and to the in-distribution standpipe. As the water level in the standpipe drops, the system calls the pumps at the Huntington or Cross Creek Pumphouse to start pumping water into the distribution system. The system alternates successive pump starts between the Huntington and Cross Creek facilities. When the water demand exceeds the capacity being supplied by the Pumphouse, the supply is supplemented with water from the standpipe. When the demand is less than the amount being supplied from the Pumphouse, the excess flow is used to replenish the depleted standpipe reserves.

Water pressures are maintained throughout the distribution system by the water level in the standpipe. This system is a demand/storage system; once the standpipe is full, the high lift pumps shut down until the water level drops in the tower and the pumps are required again.

1.3 Gazer Mooney Subdivision Distribution System

The Gazer Mooney Subdivision Distribution System is a Class 1 Distribution Subsystem that serves approximately 200 people, is owned by the Township of Guelph/Eramosa. The system is operated by the City of Guelph Water Services by a legal agreement that was last signed by representatives of the City of Guelph and the Township of Guelph/Eramosa on July 30, 2009. The terms of the agreement apply until May 31, 2019. All of the water for the Gazer Mooney Subdivision Distribution System is supplied from the Guelph Drinking Water System. All water is treated to provincial standards in the Guelph Drinking Water System and no further treatment chemicals are added to the Gazer Mooney Subdivision Distribution System.

2.0 Summary Water Services Report

a) Incidents of Regulatory Non-Compliance

This section describes all incidents of non-compliance (excluding those defined as “Adverse Water Quality Incidents” (AWQI) reported in Section b) of this report). AWQI’s are required to be reported to the Ministry of the Environment and Climate Change (MOECC) with respect to the following Acts and related regulations: Ontario Water Resources Act (OWRA), Safe Drinking Water Act (SDWA), the Environmental Protection Act (EPA), and the Municipal Drinking Water Licences (MDWL) and Drinking Water Works Permits (DWWP).

Rockwood and Hamilton Drive

There were no incidents of non-compliance associated with Hamilton Drive or Rockwood Drinking Water Systems in 2017 (Jan. 01 to Dec. 31).

The Ministry of Environment and Climate Change (MOECC) performed three (3) Annual Inspections during the period of this report. Rockwood and Hamilton Drive Drinking Water systems which covered from January 1, 2016 to January 31, 2017 resulted in an assessment score of 100 per cent compliance.

The Hamilton Drive Drinking Water System Inspection was performed in November of 2017 and covered the period from February 1st, 2017 to October 20th, 2017 resulting in an assessment score of 96.87 per cent (compliance).

The lower assessment score is a result of not providing the required Ministry of Environment and Climate Change Director Notification Form. This form is required by a condition of the drinking water works permit within thirty (30) days of the placing into service or completion of any addition, modification, replacement or extension of the drinking water system.

A Director Notification form was submitted to the Approvals and Licencing Branch of the Ministry of Environment and Climate Change. As the required paperwork has now been completed, no further actions are required at this time.

The Ministry of Environment and Climate Change is currently underway inspecting Rockwood Drinking Water System for the period of February 1, 2017 to January 15, 2018. Results will be provided in the 2018 Annual Drinking Water Report.

Gazer Mooney Subdivision Distribution System

There were no incidents of non-compliance associated with the Gazer Mooney Subdivision Distribution System in 2017 (Jan. 01 to Dec. 31).

The most recent Ministry of Environment and Climate Change (MOECC) Annual Inspection results for the Gazer Mooney Subdivision Distribution System (for the period of January 1st, 2017 to November 30th, 2017) resulted in an assessment score of 100 per cent (compliance).

b) Adverse Water Quality Incidents

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. An adverse water quality incident indicates that on at least one occasion, a water quality standard was not met.

The process of water quality sampling and testing can result in false positive results for contaminants; these results can be caused by contaminated sampling containers and equipment, sampling technique, sample handling and transportation, and sample analysis. In almost all cases, mandatory follow-up sampling and analysis confirms that contaminants are not present in the water provided to customers.

Rockwood & Hamilton Drive Drinking Water Systems

Table 1: Summary of Rockwood and Hamilton Drive Water System Adverse Water Quality Incidents

(Jan. 01 to Dec. 31, 2017)

Incident Date	AWQI #	Location	Parameter / Unit of measure	Corrective Action
<p>There were no incidents of non-compliance associated with the Rockwood Drinking Water System or Hamilton Drive Drinking Water System in 2017</p>				

Gazer Mooney Subdivision Distribution System

Table 2: Summary of Gazer Mooney Subdivision Distribution System Adverse Water Quality Incidents

(Jan. 01 to Dec. 31, 2017)

Incident Date	AWQI #	Location	Parameter / Unit of measure	Corrective Action
There were no incidents of non-compliance associated with the Gazer Mooney Subdivision Distribution System in 2017				

c) Deviations from Critical Control Point (CCP) Limits and Response Actions

This section describes any deviation from essential steps or points in the drinking water system at which control can be applied to prevent or eliminate a drinking water hazard or to reduce it to an acceptable level. These essential steps or points in the system are known as critical control points (CCP). The CCPs are used to identify control measures that are in place to address hazards and hazardous events. Critical Control Limits (CCLs) are self-imposed limits and are typically more stringent than Ministry of Environment and Climate Change Drinking Water Standards or Municipal Drinking Water licence requirements.

There were no critical control limit deviations over the period of this report.

d) The Effectiveness of the Risk Assessment Process

A risk assessment must be conducted for all municipal residential drinking water systems, as part of the operational plans for those systems. These operational plans form the basis upon which third party auditors assess conformance to the Drinking Water Quality Management Standard.

This section confirms the occurrence of reviews and re-assessments of the risk assessment process to determine the effectiveness of the process in identifying and appropriately assessing the risk of hazardous events and hazards, and in identifying the appropriate control measures, critical control points (CCPs) and related critical control limits (CCLs).

Normally required every 36 months, the risk assessment was conducted on June 14, 2017 as part of a required update for auditing under Version 2 of the Drinking Water Quality Management Standard.

The following hazardous events were either added or confirmed: Long Term Impacts of Climate Change, Water Supply Shortfall, Extreme Weather Events (e.g., tornado, ice storm), Sustained Extreme Temperatures (e.g., heat wave, deep freeze), Terrorist and Vandalism Actions, Sustained Pressure Loss, Backflow.

e) Internal and Third-Party Audit Results

This section describes any of the audit outcomes identified to date that require follow-up actions.

Internal auditing and third-party auditing is performed to fulfill the mandatory requirements of the Drinking Water Quality Management Standard (DWQMS). The internal audit is completed using trained auditors. The purpose of audits is to evaluate the level of conformance to the DWQMS. Audits identify both conformance and non-conformance with the Standard as well as opportunities for improvement.

The 2017 internal audit was conducted on September 12 and 14, 2017 for the review period February 2016 to September 1, 2017.

One minor non conformance was identified during the internal audit. Various opportunities for improvement (OFI) suggested by the trained auditors are noted within the internal audit report. These OFIs are discussed during the internal audit closing meeting and are tracked as “action items” to be addressed during Management Review. Action items, if possible, are closed or are pending closure by the next scheduled internal audit.

Third party audit (external audit) was performed on November 23, 2017 by NSF International Inc.

One minor non-conformance was identified during the external audit related to the continual improvement process.

The root cause was identified and a corrective action plan was implemented and accepted by the external auditor.

f) Results of Emergency Response Testing

Emergency Response testing, training and review of potential emergencies are conducted regularly as part of the Drinking Water Quality Management System.

Annual training workshops with Wellington Municipalities continue. This year’s training workshop took place on Oct. 26/17.

Topics covered included - Potable water hardness treatment, flood response, tier 3 projects within Wellington County, SCADA communications ending the workshop with an Emergency test exercise related to an adverse water quality event in the distribution system.

g) Operational Performance and Statistics

This section describes the various pieces of information that are used to gauge the performance of the Drinking Water System, including reasoning for changes or observations.

A 100 % rating for microbiological quality indicates that the treatment process effectively removed pathogens at all times. Chemical water quality test results indicate that all water quality meet with the provincial and federal standards for safe drinking water with the exception of Sodium levels which remain outside of the provincial standard.

Assessment of Flow Rates and Quantities of Water Supplied

The following five (5) tables list the quantities and flow rates of the water supplied during the reporting period covered by this report (Jan. 01 to Dec. 31, 2017) including monthly average and maximum daily flows and a comparison to the rated capacity and flow rates specified in the system approval.

Table 3: Summary of Raw Water Flows – Rockwood Well # 1 Station St. (TW# 1-67)

Station St. Well TW# 1- 67 (Rated Capacity 1,964 m³/day) (Rated Daily Peak 1,360 L/min)

MONTH	Avg. Daily Volume	% Of Approved Volume	MAX Daily Volume	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
	m ³		m ³ /d			
JANUARY	3.31	0.17	51.62	2.63	1308.24	95.91%
FEBRUARY	240.10	12.22	798.57	40.64	1221.06	89.52%
MARCH	230.13	11.71	816.36	41.54	1205.31	88.37%
APRIL	232.65	11.84	642.29	32.69	1227.66	90.00%
MAY	392.77	19.99	1158.17	58.94	1211.17	88.80%
JUNE	331.92	16.89	1109.72	56.47	1215.38	89.10%
JULY	305.18	15.53	884.66	45.02	1197.07	87.76%
AUGUST	315.27	16.04	1001.50	50.97	1192.86	87.45%
SEPTEMBER	361.69	18.41	796.36	40.53	1197.25	87.78%
OCTOBER	296.36	15.08	905.58	46.09	1194.32	87.56%
NOVEMBER	318.40	16.20	887.57	45.17	1189.74	87.22%
DECEMBER	487.76	24.82	959.43	48.83	1188.46	87.13%

Table 4: Summary of Raw Water Flows – Rockwood Well # 2 Station St. (TW# 1-76)

Station St. Well TW# 1- 76 (Rated Capacity 1,964 m³/day) (Rated Daily Peak 1,360 L/min)

MONTH	Avg. Daily Volume m ³	% Of Approved Volume	MAX Daily Volume m ³ /d	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
JANUARY	279.64	14.23	862.35	43.89	1338.00	98.09%
FEBRUARY	3.89	0.20	57.10	2.91	1348.20	98.84%
MARCH	205.83	10.47	553.90	28.19	1339.20	98.18%
APRIL	257.76	13.12	793.04	40.36	1338.64	98.14%
MAY	237.49	12.09	697.55	35.50	1327.11	97.30%
JUNE	325.94	16.59	993.97	50.58	1340.48	98.28%
JULY	303.58	15.45	1106.32	56.30	1338.28	98.11%
AUGUST	277.26	14.11	610.50	31.07	1324.91	97.13%
SEPTEMBER	333.69	16.98	1233.12	62.75	1336.20	97.96%
OCTOBER	292.67	14.89	861.26	43.83	1332.78	97.71%
NOVEMBER	230.56	11.73	461.21	23.47	1329.60	97.48%
DECEMBER	107.84	5.49	526.00	26.77	1329.00	97.43%

Table 5: Summary of Raw Water Flows – Rockwood Well # 3 Bernardi

Bernardi Well # 3 (Rated Capacity 1,310 m³/day) (Rated Daily Peak 1100 L/min)

MONTH	Avg. Daily Volume m ³	% Of Approved Volume	MAX Daily Volume m ³ /d	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
JANUARY	617.10	47.11	1048.56	80.04	883.28	80.30%
FEBRUARY	625.08	47.72	1045.65	79.82	890.24	80.93%
MARCH	370.23	28.26	768.27	58.65	900.40	81.85%
APRIL	355.13	27.11	1068.24	81.54	903.06	82.10%
MAY	382.15	29.17	1098.93	83.89	904.89	82.26%
JUNE	335.65	25.62	1013.23	77.35	903.15	82.10%
JULY	337.81	25.79	840.84	64.19	889.96	80.91%
AUGUST	312.42	23.85	1070.22	81.70	895.09	81.37%
SEPTEMBER	285.63	21.80	881.05	67.26	893.44	81.22%
OCTOBER	294.04	22.45	922.13	70.39	889.32	80.85%
NOVEMBER	307.56	23.48	744.31	56.82	881.36	80.12%
DECEMBER	343.77	26.24	886.71	67.69	879.71	79.97%

Table 6: Summary of Raw Water Flows – Hamilton Drive Well # 1 Cross Creek

Cross Creek Well # 1 (Rated Capacity 812 m³/19 hours) (Rated Daily Peak 725 L/min)

MONTH	Avg. Daily Volume m ³	% Of Approved Volume	MAX Daily Volume m ³ /d	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
JANUARY	54.90	6.76	111.50	13.73	704.80	97.21%
FEBRUARY	74.62	9.19	182.00	22.41	700.39	96.61%
MARCH	74.95	9.23	203.00	25.00	708.00	97.66%
APRIL	64.27	7.92	198.00	24.38	707.26	97.55%
MAY	90.11	11.10	266.00	32.76	708.12	97.67%
JUNE	108.75	13.39	246.00	30.30	704.67	97.20%
JULY	83.76	10.32	264.00	32.51	697.39	96.19%
AUGUST	77.16	9.50	231.00	28.45	702.53	96.90%
SEPTEMBER	63.31	7.80	253.00	31.16	697.45	96.20%
OCTOBER	41.90	5.16	214.00	26.35	694.97	95.86%
NOVEMBER	42.88	5.28	126.00	15.52	693.73	95.69%
DECEMBER	60.88	7.50	129.00	15.89	693.44	95.65%

Table 7: Summary of Raw Water Flows – Hamilton Drive Well # 2 Huntington

Huntington Well # 2		(Rated Capacity 916 m ³ /day)		(Rated Daily Peak 452 L/min)		
MONTH	Avg. Daily Volume	% Of Approved Volume	MAX Daily Volume	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
	m ³		m ³ /d			
JANUARY	68.33	7.46	189.02	20.64	607.46	95.51%
FEBRUARY	41.11	4.49	141.00	15.39	607.14	95.46%
MARCH	47.31	5.16	134.00	14.63	603.25	94.85%
APRIL	64.39	7.03	151.00	16.48	603.39	94.87%
MAY	80.49	8.79	325.76	35.56	602.54	94.74%
JUNE	57.04	6.23	256.00	27.95	600.91	94.48%
JULY	111.78	12.20	310.79	33.93	599.51	94.26%
AUGUST	98.23	10.72	260.00	28.38	599.41	94.25%
SEPTEMBER	90.49	9.88	249.00	27.18	601.04	94.50%
OCTOBER	72.77	7.94	258.00	28.17	602.87	94.79%
NOVEMBER	71.57	7.81	153.00	16.70	607.46	95.51%
DECEMBER	73.50	8.02	152.00	16.59	605.50	95.20%

i. Water Production vs. Water Consumption

Water Production vs. Water Consumption for 2017 shows an overall percentage loss of 4.5 % for Rockwood up by 1.5% from 2016. Hamilton Drive shows a loss of 1.6% up by 1% from 2016.

Considerations for non revenue water loss are unauthorized water use, customer meter inaccuracies, distribution and service connection piping leaks.

The Grand River Conservation Authority remains our highest consumer of water in 2017 at an average rate of 14,150 L/day over their 7 month (April to October) operational season.

ii. Other Operational Performance Data

The following table provides a brief description of expenses incurred within Rockwood and Hamilton Drive Drinking Water Systems

Table 8: Rockwood and Hamilton Drive 2017 Maintenance Activity

Major Maintenance Activity / Expenditure	Location
Cla Valve Repair	HD - Huntington Pumphouse
Well Head Repairs	RWD - Station St. Pumphouse
UV Ballast Repair	RWD - Station St. Pumphouse
Emergency Pump Repair	RWD - Booster Station
Chemical Feed Board and Chemical Pumps Replacement	RWD – Bernardi Pumphouse
Sampling Station Replacement	HD – Huntington Pumphouse
Valley at Richardson Watermain Extension	RWD - Distribution
Municipal Service Line Breaks	RWD - Distribution
Supervisory Control and Data Acquisition Upgrades	RWD / HD - All facilities
Flow Meter Repairs	RWD / HD - All facilities
Water Meter Program	RWD / HD - All facilities
Generator Repairs and Maintenance	RWD / HD - All facilities
Fire Hydrant Repair and Maintenance	RWD / HD - Distribution
Watermain Valve Maintenance	RWD / HD - Distribution
Watermain Flushing Program	RWD / HD - Distribution

* RWD: Rockwood Drinking Water System * HD: Hamilton Drive Drinking Water System

h) Raw and Treated Water Quality – Rockwood, Hamilton Drive and Gazer Mooney Drinking Water System

This section describes the water quality monitoring, both regulatory and operational, that has been completed in 2017 (Jan. 01 to Dec. 31).

Under the Safe Drinking Water Act (SDWA), municipalities are required to monitor both the raw and treated quality of the source water supplied. This monitoring is performed for both regulatory compliance and due diligence and is expected to identify any changes within the treated water as well as in raw source waters.

Both Rockwood and Hamilton Drive Drinking Water Systems use 12 per cent Sodium Hypochlorite (that is NSF 61 certified) for both primary and secondary disinfection at all facility locations with the exception of the Rockwood Station Street location. Here ultraviolet light is also applied as part of multi-barrier primary disinfection. Additionally, NSF 60-certified sodium silicate is used for aesthetic purposes to sequester dissolved iron and manganese.

Table 9: Operational testing done under Schedule 8 of O. Reg.170/03 Rockwood

Parameter	Number of Grab Samples	Range of Results (min #)-(max #)
Raw Water		
Turbidity (Station Street; Well 1-67)	24	0.10-0.87 NTU's
Turbidity (Station Street; Well 1-76)	24	0.15-0.78 NTU's
Turbidity (Bernardi)	24	0.09-0.36 NTU's
Treated Water		
Free Chlorine Residual (Station St)	8760	0.28-2.84 mg/L
Free Chlorine Residual (Bernardi)	8760	0.49-1.93 mg/L
Distribution System		
Free Chlorine Residual	1982	0.12-3.29 mg/L

Table 10: Operational testing done under Schedule 8 of O. Reg.170/03 Hamilton Drive

Parameter	Number of Grab Samples	Range of Results (min #)-(max #)
Raw Water		
Turbidity (Cross Creek Well 1)	24	0.10-0.48 NTU's
Turbidity (Huntington Well 2)	24	0.23-0.67 NTU's
Treated Water		
Free Chlorine Residual (Cross Creek)	8760	0.49-2.11 mg/L
Free Chlorine Residual (Huntington)	8760	0.68-3.06 mg/L
Distribution System		
Free Chlorine Residual	1522	0.16-4.09 mg/L

* **NTUs** = Nephelometric **Turbidity** Units

Table 11: O. Reg. 170/03 Schedule 10 - Rockwood / Hamilton Drive Microbiological Testing

(Jan. 01 to Dec. 31, 2017)

Drinking Water System	Parameter	# of Samples	E.Coli (min –max)	Total Coliform (min – max)	# of HPC Samples	HPC (min – max)
			Units = Cfu/100 mL			
Rockwood	Raw	156	0-0	0-0	N/A	N/A
	Treated	104	0-0	0-0	104	0-2
	Distribution	218	0-0	0-0	212	0-3
Hamilton Drive	Raw	104	0-2	0-11	N/A	N/A
	Treated	104	0-0	0-0	104	0-1
	Distribution	156	0-0	0-0	156	0-9

Table 12: O. Reg. 170/03 Schedule 13-2 13-4 Chemical testing results

Rockwood Well Supply – Station Street Pumpouse was the only required sampling location for Organic/Inorganic parameters during this reporting period Jan. 01 to Dec. 31, 2017.

LEGEND Bold & Red = Exceedance * MAC = Maximum Acceptable Concentration			Project Name		ROCKWOOD WELL SUPPLY
			Sample ID		STATION ST.PH-TREATED
			Sampling Date		9-Jan-17
Parameter Name	*MAC	Lab Detection limit	Units	Result	
1,1-Dichloroethylene	14	0.1	ug/L	<0.10	
1,2-Dichlorobenzene	200	0.2	ug/L	<0.20	
1,2-Dichloroethane	5	0.2	ug/L	<0.20	
1,4-Dichlorobenzene	5	0.2	ug/L	<0.20	
Benzene	1	0.1	ug/L	<0.10	
Carbon Tetrachloride	2	0.1	ug/L	<0.10	
Chlorobenzene	80	0.1	ug/L	<0.10	
Methylene	50	0.5	ug/L	<0.50	
Tetrachloroethylene	10	0.1	ug/L	<0.10	
Toluene	60	0.2	ug/L	<0.20	
Trichloroethylene	5	0.1	ug/L	0.1	
Vinyl Chloride	1	0.2	ug/L	<0.20	
2,3,4,6-Tetrachlorophenol	100	0.5	ug/L	<0.50	
2,4,6-Trichlorophenol	5	0.5	ug/L	<0.50	
2,4-D	100	1	ug/L	<1.0	

LEGEND Bold & Red = Exceedance * MAC = Maximum Acceptable Concentration		Project Name		ROCKWOOD WELL SUPPLY
		Sample ID		STATION ST.PH-TREATED
		Sampling Date		9-Jan-17
		Parameter Name	*MAC	Lab Detection limit
2,4-Dichlorophenol	900	0.25	ug/L	<0.25
Alachlor	5	0.5	ug/L	<0.50
Atrazine		0.5	ug/L	<0.50
Des-ethyl atrazine		0.5	ug/L	<0.50
Atrazine + Desethyl-atrazine	5	1	ug/L	<1.0
Bromoxynil	5	0.5	ug/L	<0.50
Carbaryl	90	5	ug/L	<5.0
Carbofuran	90	5	ug/L	<5.0
Chlorpyrifos (Dursban)	90	1	ug/L	<1.0
Diazinon	20	1	ug/L	<1.0
Dicamba	120	1	ug/L	<1.0
Diclofop-methyl	9	0.9	ug/L	<0.90
Dimethoate	20	2.5	ug/L	<2.5
Malathion	190	5	ug/L	<5.0
MCPA	100	10	ug/L	<10
Metolachlor	50	0.5	ug/L	<0.50
Metribuzin (Sencor)	80	5	ug/L	<5.0
Pentachlorophenol	60	0.5	ug/L	<0.50
Phorate	2	0.5	ug/L	<0.50
Picloram	190	5	ug/L	<5.0
Prometryne	1	0.25	ug/L	<0.25
Simazine	10	1	ug/L	<1.0
Terbufos	1	0.5	ug/L	<0.50
Triallate	230	1	ug/L	<1.0
Trifluralin	45	1	ug/L	<1.0
Benzo(a)pyrene	0.01	0.009	ug/L	<0.0090
Aroclor 1016		0.05	ug/L	<0.05
Aroclor 1221		0.05	ug/L	<0.05
Aroclor 1232		0.05	ug/L	<0.05
Aroclor 1242		0.05	ug/L	<0.05
Aroclor 1248		0.05	ug/L	<0.05
Aroclor 1254		0.05	ug/L	<0.05

LEGEND Bold & Red = Exceedance * MAC = Maximum Acceptable Concentration		Project Name		ROCKWOOD WELL SUPPLY
		Sample ID		STATION ST.PH-TREATED
		Sampling Date		9-Jan-17
		Parameter Name	*MAC	Lab Detection limit
Aroclor 1260		0.05	ug/L	<0.05
Total PCB	3	0.05	ug/L	<0.05
Diuron	150	10	ug/L	<10
Guthion (Azinphos-methyl)	20	2	ug/L	<2.0
Diquat	70	7	ug/L	<7.0
Paraquat	10	1	ug/L	<1.0
Glyphosate	280	10	ug/L	<10
Mercury (Hg)	0	0.0001	mg/L	<0.0001
Antimony (Sb)	6	0.5	ug/L	<0.50
Arsenic (As)	10	1	ug/L	<1.0
Barium (Ba)	1000	2	ug/L	88
Boron (B)	5000	10	ug/L	29
Cadmium (Cd)	5	0.1	ug/L	<0.10
Chromium (Cr)	50	5	ug/L	<5.0
Lead (Pb)	10	0.5	ug/L	<0.50
Selenium (Se)	50	2	ug/L	<2.0
Sodium (Na)	20000	100	ug/L	130000
Uranium (U)	20	0.1	ug/L	0.96
Bromodichloromethane		0.1	ug/L	0.13
Bromoform		0.2	ug/L	<0.20
Chloroform		0.1	ug/L	0.28
Dibromochloromethane		0.2	ug/L	<0.20
Total Trihalomethanes		0.2	ug/L	0.41

Table 13 summarizes treated and distribution samples taken at the Rockwood and Hamilton Drive Drinking Water Systems for the period of Jan. 01 to Dec. 31, 2017.

Table 13: O. Reg. 170/03 Schedule 13-6, 13-7 Rockwood and Hamilton Drive quarterly results

Results based on 4 sample dates in 2017	Nitrate (as nitrogen)	Nitrite (as nitrogen)	Nitrate +Nitrite (as nitrogen)	Haloacetic Acids	Trihalomethanes
	*MAC 10.0 mg/L			*MAC 0.08 ¹ mg/L	*MAC 0.10 ² mg/L
Drinking Water System	TREATED – Range			DISTRIBUTION (annual average)	
Rockwood (8 results)	<0.10 – 0.31	<0.010 - <0.010	<0.10 – 0.31	0.008	0.0198
Hamilton Drive (6 results)	<0.10 – 0.10	<0.010 - <0.010	<0.10 – 0.10	0.005	0.0072

* MAC: Maximum Acceptable Concentration

Table 14 presents summary results for lead sampling in the Rockwood and Hamilton Drive Drinking Water Systems for the period of Jan. 1 to Dec. 31, 2017

Table 14: O. Reg. 170/03 Schedule 15.1 Rockwood/Hamilton Lead Testing Summary 2017

Location	Location Type	Number of Samples	Lead Range (mg/L)	pH Range	Alkalinity Range (mg/L)
Rockwood	Distribution	6	0.0000 – 0.0021	7.8 – 8.1	260 - 270
Hamilton Drive	Distribution	4	0.0000 – 0.0005	7.6 – 7.7	220 - 220

Treated Water Quality Review– Gazer Mooney Subdivision Distribution System

This section describes the Regulatory water quality monitoring that has been collected in the Gazer Mooney Subdivision Distribution System in 2017 (Jan. 01 to Dec. 31, 2017). For regulatory sampling schedules that do not occur in 2017 related to the Gazer Mooney System, the most recent historical data is listed.

¹ This standard expressed as annual running average

² This standard expressed as annual running average

The following section summarizes daily Distribution free chlorine residual test results required by O. Reg. 170/03 for the period of Jan. 01 to Dec. 31, 2017 are summarized in table 16. There was no instance of an adverse result in 2017 between Jan. 01 and Dec. 31.

Table 15: O. Reg. 170/03 Schedule 7-2, Gazer Mooney - Distribution Manual Free Chlorine Residual Summary

Parameter	Number of Grab Samples	Range of Results (min # - (max #))
Free Chlorine Residual	365	0.27 - 1.24 mg/L

Table 16 summarizes bacteriological sampling and test results required by O. Reg. 170/03 Schedule 10 for the period of Jan. 01 to Dec. 31, 2017. There was no instance of an exceedance for a Regulatory microbiological parameter in 2017 between Jan. 01 and Dec. 31.

Table 16: O. Reg. 170/03 Schedule 10-2, Gazer Mooney Microbiological Testing Summary

Drinking Water System	Parameter	# of Samples	E.Coli (min – max)	Total Coliform (min – max)	# of HPC Samples	HPC (min – max)
			Units = Cfu/100 mL			
Gazer Mooney Subdivision	Distribution only	52	0-0	0-0	51	0-5

Table 17: O. Reg. 170/03 Schedule 13-7, Gazer Mooney - Quarterly Sampling Results Summary

Test Parameter	Units	MAC	Range of Results (based on 4 sample results) (min # - (max #))
Trihalomethanes	mg/L	0.100 ³	0.0143 – 0.0533
Haloacetic Acids	mg/L	0.08 ⁴	<0.005 - <0.005

MAC: Maximum acceptable concentration

In addition to the Regulatory sampling and analysis required for the operation of the Gazer Mooney Subdivision, the City of Guelph samples for parameters as listed in table 19 in order to gather additional data and answer common inquiries from the public.

Table 18: O. Reg. 170/03 Schedule 15.1 Gazer Mooney Lead Testing Summary 2017

Number of Locations	Location Type	Number of Samples	Lead Range (mg/L)	pH Range	Alkalinity Range (mg/L)
2	Distribution	3	0.0000 – 0.0021	7.8 – 8.11	260 - 270

³ This standard is expressed as a running annual average.

⁴ This standard is expressed as a running annual average.

i) Follow up on Action Items from previous management reviews

Management review was held on October 2, 2017. Below is a summary of action items from the 2017 management review.

The MOECC has not provided any further communication related to the GUDI Terms of Reference. Guelph/Eramosa Water Operations will remain diligent in monitoring status of Terms of Reference (TOR) release.

A backflow bylaw is currently under development to provide the Township with required information related to which types of buildings are required to test their backflow systems, what the testing requirements are, how long building owners have to address any issues identified during the testing, and what penalties will be levied for untested or non-compliant systems.

Completion of this by-law will enhance Backflow Prevention Regulations and provide staff with the ability to enforce compliance.

j) Status of Ongoing and Emerging Water Quality, Supply and Distribution Initiatives

Source Water Protection Plan Reporting

In 2017, progress continued in the implementation of source protection in the municipality.

A summary of key aspects of the Risk Management Official Report and Municipal Report are provided in Appendix A

k) Expected Future Changes That Could Affect the DWS or the QMS

Please view **3.0 Legal and other Requirements update**

Outstanding from last year;

- 1. Ontario's GUDI (Groundwater Under the Direct Influence of Surface Water) Terms of Reference** are under review and may result in classification changes to source waters. The revised GUDI Terms of Reference are expected shortly and may impact disinfection requirements for the Station Street wells.
- 2. Ontario's updated Drinking Water Quality Management Standard (DWQMS)**
Guelph/Eramosa Township has implemented the updated DWQMS (Version 2.0 – June 2017) in the Quality Management System Operational Plan. Edits to the DWQMS are:
 - Throughout: added definition for "Calendar Year" and revised previous language of "once every year" and "once every 12 months" throughout the Standard to read "once every "Calendar Year".

- **Element 7:** Addition of new PLAN a) that requires consideration of potential hazardous events and associated hazards identified by the ministry. These hazardous events are identified in the document titled “Potential Hazardous Events for Municipal Residential Drinking Water Systems.”
- **Element 12:** Revised PLAN c) to require that suppliers identified by an Operating Authority under PLAN a) of Element 13 should be considered in the procedure for communications.
- **Element 14:** Addition of new PLAN a) requiring the outcomes of the risk assessment documented under Element 8 to be considered in the procedure for reviewing the adequacy of the infrastructure necessary to operate and maintain the Subject System.
- **Element 15:** Addition of new PLAN b) requiring the inclusion of a long term forecast of major infrastructure maintenance, rehabilitation and renewal activities.
- **Element 21:** Addition of a PLAN requirement that includes:
 - A requirement to consider BMP's in the context of continual improvement;
 - A requirement to document a process for identification &
 - management of corrective actions;
 - Implementation of preventive actions.

3. Municipal Drinking Water Licence Renewal

Guelph/Eramosa Township moved our year 1 surveillance audit from June to November, 2017. The year 2 surveillance audit scheduled in November 2018 now becomes our re-accreditation audit because our licence renewal application is due in July of 2020. This is so there would be no gap in between accreditation certificate expiry (which would normally be Aug. 2019) and our new annual timeline (Nov. 2018).

4. Treatment Facility Construction

Milne Well # 4 (formally known as Seaton) has been developed and included as part of an amalgamated Permit To Take Water for all of the Rockwood Wells. The design for the new pump house has been fully initiated and construction is scheduled to begin in early 2018.

5. New Regulation under Safe Drinking Water Act.

The MOECC is proposing to develop a Regulation under subsection 168(2) of the Safe Drinking Water Act. The Regulation would require that vulnerable zones (WHPAs, IPZs) and vulnerability scores be delineated, and endorsed by municipal council, before a municipality could apply for a Drinking Water Works Permit (DWWP) for a new or expanded municipal residential drinking water system. The work would not need to be in an approved Source Protection Plan prior to permit application. However, the delineations and any new policies would need to be in the public consultation process in order for the permit to be issued. It is understood that the Council endorsement only applies to the owner of the drinking water system.

l) Consumer Feedback

Consumer feedback for 2017 was minimal. Most were not even related to water quality but were related to flooding from neighbouring properties or issues within resident's private plumbing. One Facebook comment was asking why we flush our distribution system instead of providing filtration at our treatment plants.

m) The Resources Needed to Maintain the QMS

Ongoing dedication by staff and council are needed to support the Drinking Water Quality Management System. Efforts are ongoing to address succession planning requirements.

n) Infrastructure Review

In order to satisfy the current and pending requirements of the Drinking Water Quality Management Standard, the Director of Public Works and Operations Manager conduct an annual review of its water treatment, pumping, storage and watermain infrastructure. Taken into consideration is long term forecasting of major infrastructure renewal. The program is communicated verbally identifying needs on an on-going basis (e.g. maintenance inspections) or periodic (e.g. site specific risk assessments). Based on the information collected, needs are assessed, prioritized and is communicated to the owner through the annual budget process.

o) Staff Suggestions

Staff suggestions are discussed during staff and operational tailgate meetings and taken into account during annual budget process.

3.0 Legal and other Requirements update

Date - 2017	Source of Posting / Reference	Title of Legal & Other Requirement Highlights of posting	Action and Status Update
Jan. 14	OMWA newswire	<p><u>Drinking Water Committee Reports on Lead in Drinking Water</u></p> <p>The Government of Canada's Federal-Provincial-Territorial Committee on Drinking Water has released a report for public consultation on lead in drinking water for the purposes of updating the drinking water guideline. The report has recommended that the maximum acceptable concentration (MAC) be changed from 0.01 mg/L of weekly intake, as per</p>	No action required.

Date - 2017	Source of Posting / Reference	Title of Legal & Other Requirement Highlights of posting	Action and Status Update
		the World Health Organization standard, to the MAC of 0.005mg/L.	
Jan. 18	Canadian Environmental Law Association Blog	<p>Source Water Protection 2.0: Strengthening Ontario's Drinking Water Safety Net</p> <p>The <u>Auditor General of Ontario</u> notes that:</p> <p>"An estimated 1.6 million people in Ontario rely on private wells for their drinking water supply. For them, protecting source water is the only line of defence. In 2013, over a third of the water samples from private wells tested positive for bacteria, including E. coli."</p> <p>Accordingly, the Auditor General recommended in 2014 that "to strengthen source water protection, the Ministry of the Environment and Climate Change should consider the feasibility of requiring source protection plans to identify and address threats to sources of water that supply private wells and intakes." However, in her <u>2016 report</u>, the Auditor General found that the provincial government has made "little or no progress" on this important recommendation.</p>	No action required
Jan. 19	MOECC e-mail	<p>Ontario Taking Next Step to Protect Water Resources</p> <p>As part of Ontario's plan to protect water resources, the province is proposing a new fee for water bottling companies that take groundwater.</p> <p>Currently, water bottlers are charged \$3.71 for every million litres of groundwater they take. Ontario is proposing water bottlers pay an additional \$500 fee, which would bring the cost up to \$503.71 for every million litres of groundwater taken.</p> <p>People across Ontario are encouraged to provide their input on the proposed new fee for water bottlers through the <u>Environmental Registry</u>, available until March 20, 2017</p>	No action required
Jan. 23	OMWA newswire	<p><u>Town of Ingersoll fined \$80K for violating water law</u></p> <p>The town of Ingersoll has been slapped with an \$80,000 fine after pleading guilty to violating the Ontario Water Resources Act. The town failed to comply with the terms contained in a ministry issued permit. In the spring of 2014, sediment was</p>	No action required.

Date - 2017	Source of Posting / Reference	Title of Legal & Other Requirement Highlights of posting	Action and Status Update
		discharged into a storm sewer that flows into Whiting Creek, and town officials failed to notify the ministry.	
Feb. 8	Ontario News	<p><u>Toronto Business fined \$120,000 for Ontario Water Resources Act Violations in Eastern Region</u></p> <p>Aecon Construction and Materials Ltd. pleaded guilty to two offences and were fined \$120,000 for discharging a material into water that may impair the quality of the water and failing to report the discharge, contrary to the Ontario Water Resources Act (OWRA). The company was also issued a Court Order requiring that a fish habitat embayment is constructed within the Rideau River watershed.</p>	No action required.
Feb. 17	MOECC Email	The <u>2016/17 Winter Operator Certification Bulletin</u> has just been launched.	Link provided to staff
Apr. 3	OMWA newswire	<p><u>Flint residents were poisoned. Now, they're being billed for it</u></p> <p>Flint is invoicing people for lead-contaminated water. Says one: "We just don't want to pay to have ourselves killed." These same state departments also told Flint residents their water was fine when it was actually poison. Their trust in government is gone now, maybe forever.</p>	No action required.
Apr. 10	Guelph Today	<p><u>Results of Guelph and Guelph/Eramosa Tier 3 Water Budget and Local Area Risk Assessment study released</u></p> <p>The Lake Erie Source Protection Region released the results of the Guelph and Guelph/Eramosa Tier 3 Water Budget and Local Area Risk Assessment study at the Lake Erie Region Source Protection Committee meeting on April 6th. The Tier 3 Study began in 2008, and the County and Townships' participation began in 2014 after the Grand River Conservation Authority and the City of Guelph identified to the County that the Wellhead Protection Area, with respect to quantity (WHPA-Q), would likely extend past the City of Guelph boundaries.</p>	Email sent by Manager of Technical Services to Technical Staff. No action required.
Apr. 21	EBR	<p><u>Bottled Water Technical Guidance Document</u></p> <p>The guidance document is intended to provide guidance for renewal applications of existing permits that authorize the</p>	No action required.

Date - 2017	Source of Posting / Reference	Title of Legal & Other Requirement Highlights of posting	Action and Status Update
		taking of groundwater for the purpose of producing bottled water from the same location, for the same purpose, and for the same or lesser amount as currently permitted, all in accordance with the requirements imposed by O. Reg. 463/16 (Taking Groundwater to Produce Bottled Water), made under the <i>Ontario Water Resources Act</i> . A decision has been made to proceed with the policy proposal; the guidance document has been updated to reflect the considerations of comments received during public consultation.	
Apr. 21	OMWA newswire	<p><u>Wellington expresses concern over drinking water study that urges expanded protection of wellheads</u></p> <p>Wellington County officials are expressing concern about possible impacts of a major technical study into protecting Guelph's drinking water supply. The townships of Puslinch and Guelph/Eramosa and the Town of Erin "all have considerable area and employment land contained within" the wellhead protection area that has been identified to ensure Guelph has an adequate quantity of water into the future, says a county news release.</p>	No action required.
Apr. 21	OMWA newswire	<p><u>Erin council votes to accept Nestlé Waters' voluntary levy</u></p> <p>ERIN - Council here has voted 4-1 in favour of accepting an annual contribution from Nestlé Waters Canada, despite strong opposition from many at the meeting. Nestlé Waters proposed in February an annual voluntary levy of \$0.50 per 1,000 litres, with a minimum payment of \$25,000 per year.</p>	No action required.
Apr. 27	MOECC email	<p><u>Revisions to Ontario's Drinking Water Quality Management Standard</u></p> <p>The Minister of the Environment and Climate Change has approved the revisions to Ontario's Drinking Water Quality Management Standard (DWQMS). The revisions are based largely on feedback received from stakeholders and extensive stakeholder consultation was undertaken to both identify and validate the changes. A policy decision notice with the final <i>Drinking Water Quality Management Standard</i> and supplementary document, <i>Potential Hazardous Events for Municipal Residential Drinking Water Systems</i>, was posted to the Environmental Registry as registry number <u>012-5530</u> on</p>	Revise QMS Plan to reflect changes within. Completed a full Risk Assessment which included the impacts of Climate Change.

Date - 2017	Source of Posting / Reference	Title of Legal & Other Requirement Highlights of posting	Action and Status Update
		Thursday April 6 th 2017.	
May 15	OMWA newswire	<p><u>In Flint, Overdue Bills for Unsafe Water Could Lead to Foreclosures</u></p> <p>Following a water crisis that saw sky-high levels of lead contamination in Flint, Mich., many homes in the city still do not have access to safe tap water. The city has mailed 8,002 letters to residents in an effort to collect about \$5.8 million in unpaid bills for water and sewer services. If homeowners do not pay by May 19, property liens are transferred to tax bills, which begins a process that can end with residents losing their homes unless they pay their outstanding bills before March 2018.</p>	No action required.
May 19	MOECC Email	<p><u>A NEW Notice of Adverse Tests Results and Issues Resolution Form</u> (Schedule 16), formally the Notice of Adverse Test Results and Other Problems and Notice of Issue Resolution at Drinking Water Systems, is available to help make adverse drinking water quality incident reporting easier and faster. The form can be completed and submitted electronically.</p>	Provided notification to Operations Manager. Future use once new Operations centre is up and running.
May 25	Environmental Registry (EBR)	<p><u>Proposed Municipal Asset Management Regulation</u></p> <p>The purpose of the proposed regulation is to implement best practices throughout the municipal sector and provide a degree of consistency to support collaboration between municipalities, and among municipalities and the province. The regulation would balance valuable consistency with appropriate flexibility, and would include phased implementation. The regulation would provide certainty around future provincial asset management planning requirements, and would be supported by the collection of selected data to capture the key aspects of municipal asset management: resilience and sustainability. 60 Day comment period, until July 24/17.</p>	Top Management aware.
June 8	Ontario News	<p><u>Province Charging New Water Bottling Fee to Better Protect Water for Future Generations</u></p> <p>As part of the province's plan to strengthen groundwater</p>	No action required.

Date - 2017	Source of Posting / Reference	Title of Legal & Other Requirement Highlights of posting	Action and Status Update
		<p>protection for future generations, Ontario will be charging water bottling companies an additional \$500 fee to take groundwater.</p> <p>Beginning Aug. 1, 2017, water bottlers will pay \$503.71 for every million litres of groundwater taken. The new fee will help recover costs associated with managing groundwater taken by water bottlers, including supporting scientific research on the environmental impacts as well as enhanced data analysis on groundwater taken for water bottling.</p>	
June 16	Ontario News	<p><u>Excavation Company fined \$50,000 for Ontario Water Resources Act (OWRA) Violations</u></p> <p>J-AAR Excavating pleaded guilty to one charge and was fined \$50,000 for discharging sediment into a municipal storm sewer, which proceeded to enter Whiting Creek and impaired the waters, contrary to the Ontario Water Resources Act (OWRA).</p>	No action required.
June 21	OMWA newswire	<p><u>Michigan Officials Charged With Manslaughter For Role In Flint Crisis</u></p> <p>Michigan Attorney General Bill Schuette announced last week that he has charged five public officials with involuntary manslaughter related to their alleged failure to act in the Flint water crisis. The charge is punishable by up to 15 years in prison.</p>	No action required.
June 22	Ontario News	<p><u>The Kinsmen Club fined \$2,000 for Safe Drinking Water Act Violations</u></p> <p>The Kinsmen Club of Stratford Incorporated pleaded guilty to one offence and was fined \$2,000 for failing to ensure that no drinking water was supplied after a shutdown period of seven or more consecutive days until samples were taken and tested, contrary to the Safe Drinking Water Act (SDWA).</p>	No action required.
June 22	Ontario News	<p><u>Golf Course fined \$6,000 for Water Resources Act Violations</u></p> <p>Caradoc Sands Golf Course Ltd. pleaded guilty to one offence and was fined \$6,000 for taking greater than 50,000 litres of</p>	No action required.

Date - 2017	Source of Posting / Reference	Title of Legal & Other Requirement Highlights of posting	Action and Status Update
		water per day without a Permit to Take Water (PTTW), contrary to the Ontario Water Resources Act. The company operates a golf course located on Saxton Road in Strathroy.	
June 24	Ontario Gazette	<p><u>ONTARIO REGULATION 176/17 made under the <i>ONTARIO WATER RESOURCES ACT</i></u></p> <p>O. Reg. 176/17: CHARGES FOR TAKING GROUND WATER TO PRODUCE BOTTLED WATER</p> <p>The purpose of this Regulation is to recover the costs the Government of Ontario incurs to,</p> <p>(a) regulate water bottling facilities under the Act;</p> <p>(b) study the impact water bottling facilities have on the ground water resources in watersheds from which a water bottling facility takes water; and</p> <p>(c) review the regulatory framework that governs ground water takings related to water bottling facilities.</p>	No action required.
July 5	OMWA newswire	<p><u>Door-to-Door Water Treatment Sales Venture Leads to Conviction</u></p> <p>An Ontario Government news release last week reports a Guelph man pleaded guilty and was convicted of one count under the Consumer Protection Act for misleading consumers in relation to door-to-door sales of water treatment equipment in Kingston. Danny Shamon was ordered to pay a fine of \$4,000, placed on probation for two years and ordered to pay a \$1,000 victim fine surcharge. He was also required to pay approximately \$11,000 in restitution to three consumers, including some seniors.</p>	No action required.
July 10	OMWA Newswire	<p><u>Flint Sued For Failure To Approve Water Source</u></p> <p>Flint is coming under legal fire from the state of Michigan for delaying a decision on its drinking water source. "The Michigan Department of Environmental Quality [DEQ] sued the City of Flint over the city council's foot-dragging in approving Detroit's Great Lakes Water Authority (GLWA) as its long-term drinking water source," the Detroit Free Press reported.</p>	No action required.

Date - 2017	Source of Posting / Reference	Title of Legal & Other Requirement Highlights of posting	Action and Status Update
Aug. 1	Guelph Mercury	<p><u>Construction site theft leads to water overflow on Guelph street</u></p> <p>Water was flowing on to Ontario Street, near Neeve Street, last week after a curb stop valve was stolen from the exposed pipe. The project manager for the construction there says theft is a common problem for construction sites in Guelph.</p>	No action required.
Oct. 6	MOECC email	<p><u>Chief Drinking Water Inspector Annual Report</u></p> <p>The 2016-2017 annual drinking water report for Ontario highlights efforts to keep our drinking water clean and among the best protected in the world. Ontario uses a multi-barrier approach of strong legislation, stringent health-based standards, regular and reliable testing, highly trained operators, regular inspections and a source water protection program to protect the province's drinking water.</p>	No action required.
Oct. 12	MOECC	New <u>Organizational chart</u> issued by the MOECC.	No action required.
Oct. 16	Ontario News	<p><u>Laboratory fined \$15,000 for Failing to Report Adverse Drinking Water Results</u></p> <p>SGS Canada Inc. was convicted of one offence under the Safe Drinking Water Act (SDWA), was fined \$15,000 plus a victim fine surcharge of \$3,750 and was given 120 days to pay the fine.</p>	No action required.
Oct. 31	Ontario News	<p><u>Drinking Water System Owner fined \$2,000 For Submitting False Information to the Ministry</u></p> <p>Carl Douglas Dressel was convicted of one offence under the Safe Drinking Water Act (SDWA), was fined \$2,000 plus a victim fine surcharge (VFS) of \$500 and was given 30 days to pay the fine.</p>	No action required.
Nov. 22	MOECC	<u>Minister of the Environment and Climate Change Annual Report on Drinking Water 2017</u>	No action required
Dec. 14	Environmental Registry (EBR)	<u>MOECC Policy Decision Notice: Consideration of Climate Change in Environmental Assessment in Ontario</u>	Ensure applicable people have been made aware of

Date - 2017	Source of Posting / Reference	Title of Legal & Other Requirement Highlights of posting	Action and Status Update
		On September 12, 2016, the ministry posted a proposed guide called Consideration of Climate Change in Environmental Assessment in Ontario (guide) for public comment. The ministry has reviewed the comments and has reflected recommendations and suggested changes where appropriate in the final guide, available at the link in this decision notice. With the publishing of this decision notice, the guide is now in effect in Ontario's Environmental Assessment (EA) program.	the decision notice.
Dec. 22	MOECC Email	<u>Proposed Amendments to a regulation under the Clean Water Act</u> and establish a new regulation under the Safe Drinking Water Act have been posted on the Environmental Registry. The proposed regulation under the Safe Drinking Water Act is intended to ensure that source protection plan policies can be put into place for new or expanded drinking water systems prior to drinking water being provided.	Comments regarding proposed amendments will be forthcoming from the Risk Management Official.

4.0 Appendix A - 2017 Clean Water Act Annual Report

Appendix A



February 1, 2018

Martin Keller, Source Protection Program Manager
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Via E-mail Only

Subject: Guelph / Eramosa Township 2017 Risk Management Official and Municipal Annual Reports

For reporting purposes, Guelph / Eramosa Township is subject to one Source Protection Plan (based on watershed or Conservation Authority boundaries): Grand River Plan. In 2017, all Source Protection Plans were in effect.

Under Section 81 of the Clean Water Act and Section 65 of O. Reg. 287/07, an annual report must be prepared by a Risk Management Official and submitted to the appropriate Source Protection Authority (Conservation Authority) by February 1st of each year. Under Section 45 of the *Clean Water Act*, a public body, including a municipality, must comply with monitoring and reporting policies designated by a Source Protection Plan. The attached annual municipal reports are provided in accordance with above sections of the *Clean Water Act* and the monitoring policies outlined in the effective Source Protection Plans for this municipality. These attached reports have been provided electronically as the report templates are formatted for data management purposes. The Wellington County municipalities continue to implement source protection under the Wellington Source Water Protection partnership, www.wellingtonwater.ca

In 2017, progress continued in the implementation of source protection in the municipality. A summary of key aspects of the Risk Management Official Report and Municipal Report are provided below.

In 2017, 25 development review notices were issued per Section 59 of the Clean Water Act within the municipality. Additionally, comments were provided on an additional 25 applications that did not require development review notices. There were 132 Section 59 notices issued County wide and comments on 137 additional development applications County wide. The County Official Plan was amended in 2016 to conform to the five Source Protection Plans in the County and in 2017, work began on the conformity exercise for the Township's zoning by-law. County wide, six training sessions were run for municipal staff and consultants (engineers, surveyors, planners). Overall, feedback from the training sessions were positive and we are planning more training sessions in 2018.

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In 2017, approval was provided by six municipalities (Townships of Centre Wellington, Guelph / Eramosa, Mapleton, Puslinch and Wellington North and the Town of Erin) to hire a shared services position, on a three year contract, to support source protection implementation. This position is the designated Risk Management Inspector and alternate Risk Management Official for these municipalities and also acts as the Source Protection Coordinator for all the municipalities in Wellington County. The position reports to the shared Risk Management Official and is located at the Wellington Source Water Protection Risk Management Office in Elora. County wide this brings our source protection, staffing complement to 2.3 full time equivalents as the Town of Minto's Risk Management Inspectors / alternate Risk Management Official are staff members in the Town Building Department. All municipalities have, at a minimum, two staff members appointed as Risk Management Officials and Inspectors. These staff are well supported by the internal Wellington Source Protection Working Group which is comprised of other departmental staff from all eight Wellington municipalities including building officials, planners, water compliance staff, public works staff and Chief Administrative Officers.

Analysis continued on the threat verification data collected in previous years on agricultural, industrial, commercial and institutional properties identified as potential significant drinking water threats in the approved Assessment Reports. Five inspections were conducted in the Township in 2017 for prohibitions and risk management plans. Thirty three inspections were conducted County wide in 2017. Two Risk Management Plans were agreed to in 2017 and one is in the process of negotiation for the municipality. County wide, there were five Risk Management Plans agreed to in 2017 with 23 in progress. These numbers are expected to increase in 2018 and beyond as the focus shifts from education, outreach and threat verification to negotiating risk management plans. One Chemical Management Plan under Official Plan Section 4.9.5 was completed in 2017.

In 2017, County wide there was a focus on the development and implementation of the source protection education and outreach program as required by the applicable Source Protection Plans. The Wellington Source Water Protection website was upgraded to make it more user friendly, create a more useable back end and to achieve easier integration with the County online mapping portal. Five new fact sheets were created for the following topics: Development Applications, Water Quantity, Residential Fuel Oil, Fertilizer, and Chemical Handling. Three newspaper ads were run in the Wellington Advertiser during the year on topics related to planning and building applications, mapping and DNAPL / hazardous waste disposal. Postcards were created to advertise the online mapping tool that helps development applicants determine if they are in a vulnerable area. Postcards were distributed via all eight municipal offices (upper and lower tier) and through all County libraries (14 locations) to target both development review applicants and the general public.

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Staff participate in, and Wellington Source Water Protection is a sponsor for, the Waterloo-Wellington Children's Groundwater Festival. Staff participate on the organizing committee as well as during the Festival to deliver presentations. The Children's Groundwater Festival is an excellent way to reach Grade 2 to 5 and high school children (and their parents) and deliver water protection messages including source protection. The Festival attracts 5,000 elementary children and 500 high school / adult volunteers. In 2017, approximately 600 children attended from the County of Wellington as well as participation from a County high school and companies / municipalities as volunteers. In 2017, a presentation was also made to a County High School environmental program on source protection.

During inspections, education material was provided directly to the proponents generally regarding the threats present, the process (RMP, prohibition etc.) and property specific mapping. This material was generally well received and found to be useful by the proponents. Similarly, material is provided to every applicant who receives a Section 59 notice, this includes fact sheets and property specific mapping. In 2017, the mandatory fuel oil education and outreach program began. It was focused in the Town of Erin for 2017 and 16 properties received mail outs with educational materials (letter, fact sheets) and a sticker with the Spills Action Centre number. Metal tags for fuel oil fill pipes were also made available, if it was confirmed that the property was on fuel oil. This program will be rolled out in other County municipalities in 2018 and beyond.

In 2017, staff also participated in a number of provincial working groups and commented on proposed amendments on four of the five Source Protection Plans applicable in the County.

In 2015 through 2017, 415 of 421 mandatory septic inspections (99%) were completed within the Township. Eleven inspections were completed in 2017. There are 640 septic inspections required County wide. If a septic system is present within well head protection area with a vulnerability score of 10 or within an issues contributing area for nitrates, a septic inspection is required every 5 years. In total, there were 106 remedial actions identified in the municipality with 79 requiring minor maintenance (i.e. pump outs or lid replacements) and 27 requiring major maintenance work (tank or leaching bed replacements). There are six outstanding septic inspections in the Township where property owners have refused the inspection.

Tier 3 (water quantity) technical studies continue for the City of Guelph and Guelph / Eramosa Township. Staff and consultants continued to participate in meetings and review for these studies in 2017. Since April 2017, a further technical study (Risk Management Measures Evaluation Process) has been ongoing to support development of policies in the Grand River Source Protection Plan. This project is led by the Grand River Source Protection Authority

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(GRCA) and funded by the Ontario Ministry of the Environment and Climate Change. Staff from the Townships, Town and County participate on the project team along with other affected municipalities, the Source Protection Authority staff and the Province. The study area includes the City of Guelph, as well as parts of the Townships of Guelph/Eramosa and Puslinch, and parts of the Towns of Erin, Halton Hills and Milton.

The 2017 technical work involved closely reviewing the identified significant drinking water threat activities and using the hydrogeological model to assist in determining the most appropriate risk management measure to manage categories of threat activities. Threat activities for water quantity include water taking and activities that reduce groundwater recharge such as the creation of impervious surfaces. The Risk Management Measures Evaluation Process results have not been released publicly at this time as work is still ongoing by the project consultant.

Consultation with municipalities within the study area and public consultation has commenced. Municipal consultation is occurring, at a staff level, through Implementing Municipal workshops organized by the GRCA. Workshops began in Fall 2017 and are ongoing. The Township's Director of Public Works, RMO and / or RMI attend these meetings on behalf of the Township. County and Puslinch staff also attend the meetings.

Attached for your reference is summary table of source protection implementation for all municipalities in Wellington County (the County and seven, local municipalities). Further detail can also be found in the County of Wellington municipal reports submitted separately. For further information on the attached reports, please contact the undersigned at 519-846-9691 ext 362.

Respectfully submitted,

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Risk Management Official

C.C.

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Attachments (electronically)

1. Source Protection Annual Reporting Summary 2017 – Wellington County municipalities
2. Lake Erie RMO Template
3. Lake Erie Municipal Template