2024
Annual Drinking Water Report

For:

Hamilton Drive Drinking Water System

Rockwood Drinking Water System

-And-

Gazer Mooney Subdivision Distribution System

Prepared by:

Guelph-Eramosa Township

February 28, 2025

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 Ontario Regulation (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 Rockwood, the Hamlets of Hamilton Drive and Prominade Park (Gazer Mooney Subdivision).

Scope

This Annual & Summary Water Services Report includes information for Rockwood, Hamilton Drive for the period of Jan.1 to Dec. 31, 2024. Gazer Mooney Subdivision Distribution System for this same timeline may be viewed in Appendix A.

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 stutt@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 four municipal groundwater wells, a booster pumping station/standpipe 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 and Well #4 Milne Pumphouse supplies 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 Bernardin and Milne 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 SCADA/PLC controls booster pumps 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 recirculated back into the standpipe.

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

Bernard (Well 3) and Milne (Well 4) Pumphouse(s) primary disinfections are achieved by the addition of sodium hypochlorite and provision of chlorine contact time in a 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 well pumps are activated.

Milne pumphouse primary disinfection is achieved by the addition of sodium hypochlorite and provision of chlorine contact time in a below grade reservoir where contact time is provided for primary disinfection. A high lift pump draws water from the reservoir and pumps to the distribution

system as well as the in-distribution standpipe. Chlorine residual concentrations are maintained in the distributed water to provide secondary disinfection.

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 the Hamilton Drive Hamlet 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 serving the Promenade Park Hamlet located in the Township of Guelph/Eramosa. It has approximately 72 metered water service connections, 1.5 kilometers of underground watermains, six fire hydrants and an approximate population of 216 residents.

All 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.

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 March 1, 2019. The terms of the agreement apply until February 29, 2024, with an automatic renewal extended to February 28, 2029.

For reporting purposes, regulatory water quality monitoring collected in the Gazer Mooney Subdivision Distribution System for the 2024 reporting year is available in Appendix A.

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 (MECP) 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).

Hamilton Drive

On November 18, 2024 the Ministry of the Environment, Conservation and Parks commenced an unannounced focused inspection of the Hamilton Drive Drinking Water System. The inspection period covers **January 1, 2024 – October 31, 2024**. The final inspection report was provided on January 11, 2025 to Water Services, Guelph/Eramosa Township during the preparation of this report to owner.

Documented below is a non-compliance reported within the above noted Inspection Report.

Non-compliance During the inspection, it was observed that the Huntington well cap did not appear to look like the typical vermin proof cap.

Corrective Action Completed: The Township ordered a vermin proof well cap immediately and it was replaced on January 6, 2025. No further action is required.

Recommendations:

1. It is recommended that the Hamilton Drive standpipe overflow pipe screen be replaced with a permanent screen/valve when the standpipe is undergoing maintenance/repairs in 2025.
2. The Cross Creek Pumphouse overflow pipe only has a screen covering it and it is recommended that the screen be replaced with a more permanent solution to prevent surface water from backflowing into the chamber in the event of a flood.

Rockwood

On January 22, 2025, the Ministry of the Environment, Conservation and Parks commenced an unannounced inspection of the Rockwood drinking water system. The inspection is currently

underway and is covering the period from **October 1, 2023 – January 15, 2025.** The results of this inspection will be reported in our next annual report.

Gazer Mooney Subdivision Distribution System

The Gazer Mooney Water System unannounced focused Inspection was performed by the Ministry of the Environment, Conservation and Parks and covered the period from November 01, 2023 to October 31, 2024 resulting in no instances of non-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 (Jan. 01 to Dec. 31, 2024)

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

Incident Date	AWQI #	Location	Parameter / Unit of measure	Corrective Action
May 13, 2024.	164952	Hamilton Drive Distribution System	*Total Coliform 1.0 mg/L	Resample

maximum acceptable concentration = 0 mg/L

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 Conservation and Parks Drinking Water Standards or Municipal Drinking Water licence requirements.

On June 27th, 2024 (AWQI-165375) there was a low chlorine at Milne Pumphouse (PH). After consulting with our Engineers, it was recommended to treat the low chlorine at Milne PH as a reportable AWQI. If the well pump and the HLP had more space between run times (36 min) the water would have met the CT requirement.

We obtained a chlorine distribution sample at the closest fire hydrant to the pumphouse. The Ministry of Health Long Term Care was satisfied with our resolution. The AWQI was closed on the same day.

Staff followed up with a debrief meeting to learn from this abnormal event and revised applicable operational procedures to best eliminate future deviations.

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).

The results of the Risk Assessment are not made available to the public but are made available to Drinking Water System Owners (Council).

In June 2024, Guelph/Eramosa water department conducted the required annual review of risks associated with our Municipal Drinking Water Systems. The updated risk assessment outcomes were provided at a Management Review Meeting on November 27, 2024.

All Operations staff were present along with our source water protection coordinator. During the review, special attention was paid to our water supply and as a result, several risks were adjusted. These changes were noted on a reviewing copy then updated. Outcomes from this review, included updates to QMS 07-01 Hazard Identification, and QMS 07-02 Control Measure Descriptions. These two documents were revised to provide greater detailed descriptions for,

1. Distribution Appurtenance Maintenance Programs (valves, hydrants, meters)
2. Cyber attack penetration testing, SCADA network security, including Network & Server Maintenance (checks with regular password updates), and Corporate IT Cyber Security procedures and testing.

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 are 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.

2024 Internal Audit

Acclaims Environmental Inc. was retained to conduct this years' internal audit of the Guelph/Eramosa Township's quality management system (QMS) on August 14, and 22, 2024 to determine whether it conforms to the requirements of the Drinking Water Quality Management Standard (DWQMS 2.0); and to assess whether the QMS is effectively implemented.

The review period focused on the period between August 25, 2023 to August 22, 2024.

No nonconformities were identified during the audit. Various opportunities for improvement (OFI) noted during the internal audit were discussed at the internal audit closing meeting and are tracked as "action items" to be addressed throughout the year. Guelph/Eramosa Township staff strive to address action items by the next scheduled internal audit.

2024 External Audit

Third party audit off-site system audit was performed on November 13, 2024 by NSF International Inc. Accreditation to the Drinking Water Quality Management Standard Version 2.0 was maintained.

The audit results are summarized as follows; zero major non-conformities, one minor non-conformity and two opportunities for improvement.

The minor non-conformity relates to essential supplies and services, – There is no evidence available to demonstrate that the required *Certificates of Analysis* are consistently received for chemical deliveries.

The root cause for the identified non-conformance was determined and an action plan has been implemented.

The corrective action issued will be reviewed by the third-party auditor at the next on-site audit in November of 2025.

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 to ensure that Water Department and related staff maintains a reasonable readiness to deal with emergencies and abnormal events.

A regulatory low chlorine event took place on June 27th following the incident staff reviewed, and considered,

- What exactly happened.
- Why did it happen.
- What went well.
- What went wrong.
- What did we learn and what would we do differently.
- Do we need to create or update procedures to ensure future best practices (BMP).

As a result of this debrief, staff are better prepared, and any required modifications were made to the emergency response plan and or *EMS SOP ALARM Operational Low Chlorine Event (reservoir stations).*

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 except for Sodium levels which remain outside of the provincial standard.

Assessment of Flow Rates and Quantities of Water Supplied

The following six (6) tables list the quantities and flow rates of the water supplied during the reporting period covered by this report (Jan. 01 to Dec. 31, 2024) including monthly average and maximum daily flows and a comparison to the rated capacity and flow rates specified in the system approval.

Table 2: Summary of Raw Water Flows – Rockwood Well # 1 Station St. (TW# 1-67)

Station St. Well TW# 1- 67 (Rated Capacity 1,964 m^3/day) (Rated Daily Peak 1,360 L/min)

MONTH	Avg. Daily Volume **m^3**	% Of Approved Volume	MAX Daily Volume **m^3**/day	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
JANUARY	114.34	6%	316.51	16%	1212.27	89%
FEBRUARY	170.72	9%	484.78	25%	1220.33	89%
MARCH	168.58	9%	384.55	20%	1224.91	90%
APRIL	185.12	9%	491.58	25%	1238.64	91%
MAY	162.19	8%	609.03	31%	1282.05	94%
JUNE	108.45	6%	537.28	27%	1221.06	90%
JULY	265.03	13%	614.62	31%	1263.19	93%
AUGUST	184.78	9%	479.19	24%	1245.42	91%
SEPTEMBER	237.25	12%	611.57	31%	1250.00	92%
OCTOBER	200.04	10%	430.37	22%	1211.72	89%
NOVEMBER	166.71	8%	506.44	26%	1206.04	88%
DECEMBER	147.82	8%	428.50	22%	1250.18	92%

Table 3: Summary of Raw Water Flows – Rockwood Well # 2 Station St. (TW# 1-76)

Station St. Well TW# 1- 76 (Rated Capacity 1,964 m^3/day) (Rated Daily Peak 1,360 L/min)

MONTH	Avg. Daily Volume **m^3**	% Of Approved Volume	MAX Daily Volume **m^3**/day	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
JANUARY	167.38	9%	470.34	24%	1263.92	93%
FEBRUARY	101.51	5%	339.36	17%	1264.65	93%
MARCH	161.42	8%	424.81	22%	1272.53	93%
APRIL	158.18	8%	501.00	25%	1280.59	94%
MAY	264.70	13%	601.85	31%	1270.51	93%
JUNE	175.51	9%	372.04	19%	1270.88	93%
JULY	160.78	8%	435.33	22%	1273.26	93%
AUGUST	197.30	10%	648.13	33%	1272.71	93%
SEPTEMBER	204.20	10%	564.77	29%	1270.51	93%
OCTOBER	120.64	6%	262.99	13%	1274.73	93%
NOVEMBER	183.31	9%	525.14	27%	1273.26	93%
DECEMBER	189.16	10%	472.02	24%	1280.59	94%

Table 4: Summary of Raw Water Flows – Rockwood Well # 3 Bernardi Pumphouse

Bernardi Well 3 **(Rated Capacity 1310 m^3/day)** **(Rated Daily Peak 1100 L/min)**

MONTH	Avg. Daily Volume **m^3**	% Of Approved Volume	MAX Daily Volume **m^3**/day	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
JANUARY	357.01	27%	589.66	45%	600.76	46%
FEBRUARY	336.16	26%	515.21	39%	596.54	46%
MARCH	293.80	22%	517.76	40%	653.58	50%
APRIL	354.20	27%	598.13	46%	594.62	45%
MAY	377.21	29%	616.65	47%	592.15	45%
JUNE	409.05	31%	759.27	58%	587.76	45%
JULY	343.81	26%	593.14	45%	614.67	47%
AUGUST	372.17	28%	608.48	46%	697.62	53%
SEPTEMBER	418.21	32%	670.12	51%	658.16	50%
OCTOBER	413.62	32%	770.39	59%	663.74	51%
NOVEMBER	328.93	25%	670.54	51%	667.68	51%
DECEMBER	390.59	30%	628.14	48%	667.22	51%

Table 5: Summary of Raw Water Flows – Rockwood Well # 4 Milne

Milne Well # 4 **(Rated Capacity 1310 m^3/day)** **(Rated Daily Peak 1100 L/min)**

MONTH	Avg. Daily Volume **m^3**	% Of Approved Volume	MAX Daily Volume **m^3**/day	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
JANUARY	356.23	27%	625.11	48%	1085.36	83%
FEBRUARY	313.68	24%	643.80	49%	1073.63	82%
MARCH	327.86	25%	599.86	46%	1089.06	83%
APRIL	299.88	23%	788.12	60%	1065.92	81%
MAY	390.91	30%	878.94	67%	1063.15	81%
JUNE	447.15	34%	816.66	62%	1093.80	83%
JULY	358.90	27%	861.20	66%	1059.64	81%
AUGUST	384.74	29%	626.83	48%	1086.66	83%
SEPTEMBER	280.25	21%	595.34	45%	1086.22	83%
OCTOBER	332.10	25%	769.11	59%	1097.18	84%
NOVEMBER	367.55	28%	681.65	52%	1051.57	80%
DECEMBER	401.56	31%	807.35	62%	1049.48	80%

Table 6: Summary of Raw Water Flows – Hamilton Drive Well # 3 Cross Creek

Cross Creek Well # 3 (Rated Capacity 812 m^3/day) (Rated Daily Peak 725 L/min)

MONTH	Avg. Daily Volume **m^3**	% Of Approved Volume	MAX Daily Volume **m^3**/day	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
JANUARY	59.5	7%	113.7	14%	540.74	75%
FEBRUARY	61.9	8%	112.6	14%	532.66	73%
MARCH	53.9	7%	111.8	14%	533.17	74%
APRIL	58.5	7%	196.2	24%	636.86	88%
MAY	108.9	13%	214.7	26%	533.78	74%
JUNE	110.2	14%	237.6	29%	533.39	74%
JULY	97.2	12%	188.2	23%	537.73	74%
AUGUST	100.1	12%	221.8	27%	534.17	74%
SEPTEMBER	81.4	10%	166.2	20%	533.96	74%
OCTOBER	61.2	8%	113.5	14%	534.17	74%
NOVEMBER	59.0	7%	171.4	21%	636.86	88%
DECEMBER	65.2	8%	104.6	13%	636.86	88%

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

Huntington Well # 2 (Rated Capacity 916 m^3/day) (Rated Daily Peak 636L/min)

MONTH	Avg. Daily Volume **m^3**	% Of Approved Volume	MAX Daily Volume **m^3**/day	% Of Approved Volume	Peak Flow Rate L/min	% Of Approved Flow Rate
JANUARY	68.5	7%	123.5	13%	636.00	100%
FEBRUARY	61.8	7%	104.0	11%	636.00	100%
MARCH	63.2	7%	118.6	13%	636.00	100%
APRIL	68.4	7%	239.3	26%	636.00	100%
MAY	56.7	6%	133.6	15%	636.00	100%
JUNE	63.6	7%	184.5	20%	636.00	100%
JULY	83.3	9%	189.6	21%	636.00	100%
AUGUST	102.7	11%	254.7	28%	636.00	100%
SEPTEMBER	117.5	13%	345.4	38%	636.00	100%
OCTOBER	77.0	8%	122.6	13%	636.00	100%
NOVEMBER	62.1	7%	164.0	18%	636.00	100%
DECEMBER	58.8	6%	169.4	18%	636.00	100%

i. Water Production vs. Water Consumption

Water production vs water consumption for 2024 shows an overall percentage loss of 4% for both Rockwood, and Hamilton Drive.

There are 2,350 municipal water users in Rockwood, 227 in Hamilton Drive and 71 in the Gazer Mooney subdivision.

Our water meter replacement program is moving forward at a slow and steady pace with another 69 water meters replaced in 2024. Water meter upgrades result in water usage being measured more accurately and provides the ability to identify leaks and losses within the system before they become a larger issue.

Considerations for non-revenue water loss are unauthorized water use, customer meter inaccuracies, distribution watermain breaks/repairs, construction, and service connection leaks.

Rockwood Conservation Area was our highest consumer of water in 2024 at a rate of 21.45m3 /day based on a May to October (183 days) operational season and a total consumption of 3927 m3.

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 Drinking Water System(s) 2024 Maintenance Activity

Rockwood (RWD) / Hamilton Drive (HD)	
Major Maintenance Activity / Expenditure	Location
Ongoing upgrades of the Supervisory Control and Data Acquisition (SCADA) system	RWD
Valve Turner repair/maintenance	RWD / HD – distribution system
Treatment system maintenance and parts replacement	RWD /HD
Rebuilding of Booster Pumps	RWD
Ultra-Violet (UV) system parts, repairs and maintenance	RWD-Station Street Pumphouse
Water Service replacements	RWD-Distribution system
Water meter program	RWD / HD
New Generator	HD Standpipe
Generator repairs and maintenance	RWD / HD - All facilities
Pressure switches	RWD Booster Station/Standpipe
Watermain valve maintenance	RWD / HD - Distribution
Fire hydrant rebuilding and maintenance	RWD / HD - Distribution
Watermain flushing program	RWD / HD - Distribution

h) Water Quality – Rockwood, Hamilton Drive Drinking Water System

This section describes the water quality monitoring, both regulatory and operational, that has been completed in 2024 (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 except for Rockwood Station Street location. Here ultraviolet light (UV) 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 7 of O. Reg.170/03 Rockwood

(Jan. 01 to Dec. 31, 2024)

Location	Parameter	Criteria	Number of Grab Samples	Range of Results
Station St. Well 1	Turbidity	**1.0	51	0.13– 0.44 NTUs
Station St. Well 2			50	0.12 – 0.67 NTUs
Milne Well 4			52	0.09 – 0.42 NTUs
Bernardi Well 3		n/a	52	0.06 – 0.53 NTUs
Station St. Treated	Free Chlorine Residual	Alarm set points	8760	0.70– 2.47 mg/L
Milne Treated			8760	0.23 – 2.10 mg/L
Bernardi Treated			8760	0.23 – 2.52 mg/L
Operational Distribution		*0.05 – 4.0	416	0.58 -1.93 mg/L

**** MDWL= Municipal Drinking Water Licence requirement**

Table 10: Operational testing done under Schedule 7 of O. Reg.170/03 Hamilton Drive

(Jan. 01 to Dec. 31, 2024)

Location	Parameter	Criteria	Number of Grab Samples	Range of Results
Huntington Well 2	Turbidity	n/a	50	0.13 - 0.47 NTUs
Cross Creek Well 3			50	0.10 - 0.49 NTUs
Huntington Treated	Free Chlorine Residual	Alarm set points	8760	0.80 – 1.84 mg/L
Cross Creek Treated			8760	0.82 – 1.78 mg/L
Operational Distribution		*0.05 – 4.0	142	0.65 -1.55 mg/L

NTUs = Nephelometric **Turbidity** Units *__ODWQS=Ontario Municipal Drinking Water Quality Standards__

Table 11 summarizes raw sampling test results required by the Guelph/Eramosa's Municipal Drinking Water Licence (MDWL) Schedule E for three (3) provisional ground water wells located in Rockwood for the period of January 1, 2024, to December 31, 2024.

Table 11: Raw sampling test results as per Schedule E of the MDWL

(Jan. 01 to Dec. 31, 2024)

Location	Parameter / Unit of measure	Criteria	Number of Grab Samples	Range of Results mg/L
Station St Well 1	F. Specific Coliphage	one positive detection in any running year	8	0-3
Station St Well 2			8	0-3
Milne Well 4			8	0-2
Milne Well 4	Dissolved Organic Carbon	conducted quarterly	4	0.46-0.59
	Nitrate		4	<0.010
	Conductivity different unit per measure (µmhos/cm)		4	650-660 (µmhos/cm)

Table 12: O. Reg. 170/03 Schedule 10 - Rockwood / Hamilton Drive Microbiological Testing

(Jan. 01 to Dec. 31, 2024)

Drinking Water System	Parameter	# Of Samples	E. coli (min –max)	Total Coliform (min – max)	HPC (min – max)
			Units = CFU/mL		
Rockwood	Raw	212	0-0	0-0	N/A
	Treated	159	0-0	0-0	0-41
	Distribution	217	0-0	0-0	0-2
Hamilton Drive	Raw	107	0-0	0-15	N/A
	Treated	106	0-0	0-0	0-2
	Distribution	162	0-0	0-0	0-19

Table 13: O. Reg. 170/03 Schedule 13-2 13-4 Chemical testing results – Rockwood Well Supply

Rockwood Well Supply – Provisional Ground Water Annual Organic/Inorganic parameters for reporting period (Jan. 01 to Dec. 31, 2024)

LEGEND				Project Name	ROCKWOOD WELL SUPPLY
Bold & Red = Exceedance					TREATED WATER
*DL = Laboratory Detection Limit				Sample Date	8-Jan-24
* MAC = Maximum Acceptable Concentration as per Reg 170 & Reg 169 DW - MAC			ND = No Detection	STATION ST. PUMPHOUSE	MILNE PUMPHOUSE
Parameter Name	***Units***	**** MAC***	****DL***	***Result***	***Result***
Diquat	ug/L	70	7	<7.0	<7.0
Paraquat	ug/L	10	1	<1.0	<1.0
2,3,4,6-Tetrachlorophenol	ug/L	100	0.5	<0.50	<0.50
2,4,6-Trichlorophenol	ug/L	5	0.5	<0.50	<0.50
2,4-D	ug/L	100	1	<1.0	<1.0
2,4-Dichlorophenol	ug/L	900	0.25	<0.25	<0.25
Alachlor	ug/L	5	0.5	<0.50	<0.50
Atrazine	ug/L		0.5	<0.50	<0.50
Des-ethyl atrazine	ug/L		0.5	<0.50	<0.50
Atrazine + Desethyl-atrazine	ug/L	5	1	<1.0	<1.0
Bromoxynil	ug/L	5	0.5	<0.50	<0.50
Carbaryl	ug/L	90	5	<5.0	<5.0
Carbofuran	ug/L	90	5	<5.0	<5.0
Chlorpyrifos (Dursban)	ug/L	90	1	<1.0	<1.0
Diazinon	ug/L	20	1	<1.0	<1.0
Dicamba	ug/L	120	1	<1.0	<1.0
Diclofop-methyl	ug/L	9	0.9	<0.90	<0.90
Dimethoate	ug/L	20	2.5	<2.5	<2.5
Malathion	ug/L	190	5	<5.0	<5.0
MCPA	ug/L	100	10	<10	<10
Metolachlor	ug/L	50	0.5	<0.50	<0.50
Metribuzin (Sencor)	ug/L	80	5	<5.0	<5.0
Pentachlorophenol	ug/L	60	0.5	<0.50	<0.50
Phorate	ug/L	2	0.5	<0.50	<0.50
Picloram	ug/L	190	5	<5.0	<5.0
Prometryne	ug/L	1	0.25	<0.25	<0.25
Simazine	ug/L	10	1	<1.0	<1.0
Terbufos	ug/L	1	0.5	<0.50	<0.50
Triallate	ug/L	230	1	<1.0	<1.0
Trifluralin	ug/L	45	1	<1.0	<1.0
Benzo(a)pyrene	ug/L	0.01	0.005	<0.0050	<0.0050
Aroclor 1016	ug/L		0.05	<0.05	<0.05
Aroclor 1221	ug/L		0.05	<0.05	<0.05

LEGEND				Project Name	ROCKWOOD WELL SUPPLY	
Bold & Red = Exceedance					TREATED WATER	
*DL = Laboratory Detection Limit				Sample Date	8-Jan-24	
* MAC = Maximum Acceptable Concentration as per Reg 170 & Reg 169 DW - MAC			ND = No Detection		STATION ST. PUMPHOUSE	MILNE PUMPHOUSE
Aroclor 1232	ug/L		0.05		<0.05	<0.05
Aroclor 1242	ug/L		0.05		<0.05	<0.05
Aroclor 1248	ug/L		0.05		<0.05	<0.05
Aroclor 1254	ug/L		0.05		<0.05	<0.05
Aroclor 1260	ug/L		0.05		<0.05	<0.05
Total PCB	ug/L	3	0.05		<0.05	<0.05
Diuron	ug/L	150	10		<10	<10
Guthion (Azinphos-methyl)	ug/L	20	2		<2.0	<2.0
Antimony (Sb)	ug/L	6	0.5		<0.50	<0.50
Arsenic (As)	ug/L	10	1		<1.0	<1.0
Barium (Ba)	ug/L	1000	2		89	81
Boron (B)	ug/L	5000	10		25	12
Cadmium (Cd)	ug/L	5	0.09		<0.090	<0.090
Chromium (Cr)	ug/L	50	5		<5.0	<5.0
Lead (Pb)	ug/L	10	0.5		<0.50	<0.50
Selenium (Se)	ug/L	50	2		<2.0	<2.0
Sodium (Na)	ug/L	20000	100		**150000**	6500
Uranium (U)	ug/L	20	0.1		1.1	0.13
Mercury (Hg)	mg/L	0.001	0.0001		<0.00010	<0.00010
1,1-Dichloroethylene	ug/L	14	0.1		<0.10	<0.10
1,2-Dichlorobenzene	ug/L	200	0.2		<0.20	<0.20
1,2-Dichloroethane	ug/L	5	0.2		<0.20	<0.20
1,4-Dichlorobenzene	ug/L	5	0.2		<0.20	<0.20
Benzene	ug/L	1	0.1		<0.10	<0.10
Carbon Tetrachloride	ug/L	2	0.1		<0.10	<0.10
Chlorobenzene	ug/L	80	0.1		<0.10	<0.10
Methylene Chloride(Dichloromethane)	ug/L	50	0.5		<0.50	<0.50
Ethylbenzene	ug/L	140	0.1		<0.10	<0.10
Tetrachloroethylene	ug/L	10	0.1		<0.10	<0.10
Toluene	ug/L	60	0.2		<0.20	<0.20
Trichloroethylene	ug/L	5	0.1		<0.10	<0.10
Vinyl Chloride	ug/L	1	0.2		<0.20	<0.20
o-Xylene	ug/L		0.1		<0.10	<0.10
p+m-Xylene	ug/L		0.1		<0.10	<0.10
Total Trihalomethanes	ug/L		0.2		0.69	3.77
Glyphosate	ug/L	280	10		<10	<10

Table 14 summarizes treated and distribution samples taken at the Rockwood and Hamilton Drive Drinking Water Systems for the period of Jan. 01 to Dec. 31, 2024.

Table 14: O. Reg. 170/03 Schedule 13-6, 13-7 Rockwood and Hamilton Drive quarterly results

(Based on 4 sample results)

Location Type	Test Parameter	MAC mg/L	Rockwood mg/L	Hamilton Drive mg/L
Distribution (Expressed as running average)	Trihalomethanes	0.100	0.016	0.013
	Haloacetic Acids	0.08	0.005	0.005
Treated	Nitrate (N03)	10.0	<0.10 – <0.10	<0.10 – <0.10
	Nitrite (N02)	1.0	<0.010 - <0.012	<0.010 - <0.010
	N03 +N02 (as nitrogen)	-	<0.10 - <0.10	<0.10 - <0.10

MAC: Maximum Acceptable Concentration

Table 15 summaries the 5-year (60 month) requirement for Sodium and Fluoride testing. The results below were taken in 2023. The next required sampling date will be 2028.

Table 15: O. Reg. 170/03 Schedule 13-8 Fluoride and Schedule 15-5 Sodium.

Location Type	Test Parameter	MAC mg/L	Rockwood mg/L	Hamilton Drive mg/L
Treated	Fluoride	1.5	0.95 – 1.3	0.14 – 0.16
	Sodium	20.0	3.0 – 210	7.0 – 39

MAC: Maximum Acceptable Concentration

Table 16 summaries result for schedule 15.1 of Ontario Regulation 170/03.

Rockwood and Hamilton Drive Drinking Water Systems are required to sample from the distribution systems as follows:

- Sample for pH and alkalinity every “winter” and “summer” period each year.
- Sample for lead once every three years, both “winter” and “summer” periods.

2024 is NO **Lead** sampling year, therefore is not included with pH and alkalinity for the period of Jan. 1 to Dec. 31, 2024

Table 16: O. Reg. 170/03 Schedule 15.1 Rockwood/Hamilton Testing Summary 2024

Location	Location Type	Number of Samples	Lead Range (mg/L)	pH Range	Alkalinity Range (mg/L)
Rockwood	Distribution	11	no test year	7.13– 7.53	250 - 310
Hamilton Drive	Distribution	4		7.51 – 7.54	230- 230

Table 17 and Table 18: Summaries non regulatory Water Hardness completed in 2024.

Key points about hard water:

- Naturally occurring (sedimentary rock erosion and seepage, runoff from soils); levels generally higher in groundwater
- Although hardness may have significant aesthetic effects, a guideline has not been established because public acceptance of hardness may vary considerably according to the local conditions; major contributors to hardness (calcium and magnesium) are not of direct public health concern.
- Where a water softener is used, a separate unsoftened supply for cooking and drinking purposes is recommended.

Table 17: Water Hardness Testing 2024 - Rockwood Drinking Water System

Test Parameter	A/O	Raw mg/L	Treated mg/L	Distribution mg/L
Calculated Total Dissolved Solids	500	400-900	410-910	630-690
Calcium	n/a	-	-	2.2-170
Magnesium	n/a	-	-	0.058-41
Water Hardness	80:100	330-600	360-570	430-510

A/O: Chemical/Physical Objectives - Not health related, respectively

Table 18: Water Hardness Testing 2024 – Hamilton Drive Drinking Water System

Test Parameter	A/O	Treated mg/L
Calcium	n/a	69-74
Magnesium	n/a	25-27
Water Hardness	80:100	270-300

A/O: Chemical/Physical Objectives - Not health related, respectively

i) Follow up on Action Items from previous management reviews.

Management review was held on November 27, 2024 and covers the period between November 21, 2024, to November 22, 2024. Below is a summary of action items discussed.

Action Items

- Status of Municipal Bylaw 21-2000 – and 22/2000 is not yet ready for review by upper management and legal.
- In addition to the already existing corporate policies, the Water/Wastewater department plans to implement their own SOP which will include a reference to the GET corporate one and will respond to cyber security procedures specific to our Municipal Drinking Water System.

j) Status of Management action items identified between reviews

Water staff are committed to improving the drinking water system including improving on existing programs and processes. Throughout the year, continual improvement items (action items) may be generated throughout many different activities, such as: audits, debrief sessions, root-cause analysis meetings, etc. An ongoing list of action items are available to staff. Tracking action items are generally a group effort but are sometimes assigned. Once an action item is completed it is documented and acknowledged within the continual improvement tracking spreadsheet.

2024 OFI – Element 21 Continual Improvement; progress was made in addressing outstanding action items.

- Update EMS SOPs for Critical Equipment
- Working on providing fillable documents for WM connection requirements, meanwhile the Building Department has current .pdf document to distribute as required.
- Working on secondary communication throughout Rockwood with Radio Frequency (RF) ethernet technology.
- Reviewed and updated all but one facility Operations and Maintenance Manuals. Rockwood Booster Station remains outstanding.
- GIS Watermain valves for use in infrastructure mapping remains in process as part of the Asset Management Plan.

Source Water Protection Plan Reporting

For reporting purposes, Guelph / Eramosa Township is subject to one Source Protection Plan (based on watershed or Conservation Authority boundaries): Grand River Plan. In 2024, all Source Protection Plans were in effect. The 2024 Risk Management Official Annual Report is available at the end of this report.

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

Backup Power

- Power generation upgrades to our Hamilton Drive Drinking Water System. One installed in 2024 and one pending the receipt of a government grant at our Huntington Pumphouse facility.

Up-to-date distribution maps

- Requirement under DWWP condition 3.5 identify valve and sample collection point locations.

l) Consumer Feedback

Complaints regarding brown water following incidents such as valve repairs/replacements and annual flushing.

m) The Resources Needed to Maintain the QMS

Resources required to support the implementation of the continual improvement process under the DWQMS involve,

- Requirement under DWWP condition 3.5 identify valve and sample collection point locations.
- Financial Plan update ahead of Municipal Drinking Water Licences (MDWL) and Drinking Water Works Permit (DWWP). The application must be submitted by June 17th, 2025.
- Resources to tackle “action items” between management reviews.
- As recommended by our Internal Auditor, additional or backup Quality Management Representative

n) Infrastructure Review

To satisfy the current and pending requirements of the Drinking Water Quality Management Standard, the Director of Public Works and Operations Manager conducted 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 communicated to the owner through the annual budget process. Copies of budget presentations are available through the Municipal Website.

o) Operational Plan currency, content, and updates

Guelph/Eramosa’s Operational Plan was updated August 2024. There have been no significant updates since this date.

Operation and Maintenance Manual(s) updates took place in 2024. Rockwood Booster Station O&M manual remains incomplete. We hope to complete this by the end of 2025.

The third-party verification audit for licence renewal was completed successfully and preparations are underway for our Drinking Water Licence renewal application(s) by May 17 (Hamilton Drive) and June 17, 2025 (Rockwood and Gazer Mooney), expiry on December 17, 2025.

p) Staff suggestions

Staff suggestions are discussed during staff and operational tailgate meetings and considered during annual budget process.

3.0 Appendix A The Gazer Mooney Subdivision Distribution System Annual Report

Appendix A - City of Guelph report

4.0 Appendix B Guelph/Eramosa Township 2024 Risk Management Official and Municipal Annual Report.

Appendix B - Clean Water Act Annual Report

3.0 Appendix A

Water Services' Annual Report

January 1 to December 31, 2024

Guelph Drinking Water System

Corporation of the City of Guelph

Gazer Mooney Subdivision Distribution System

Township of Guelph/Eramosa

Water Services
Environmental Services Department

Last Revision:0

This document is a Province of Ontario form.
To request the information on this form in an accessible format, please contact (add the waterservices@guelph.ca or by calling 519-837-5627; TTY: 519-837-5688 or text 226-821-2132.as the information is our info, not belonging to the province.)

Guelph Distribution System Annual Report

Drinking Water System Number: 220000095
Drinking Water System Name: Guelph Drinking Water System
Drinking Water System Owner: The Corporation of the City of Guelph
Drinking Water System Category: Large Municipal Residential
Period being reported: January 1, 2024, through December 31, 2024

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking Water System serve more than 10,000 people?
Yes.

Is your annual report available to the public at no charge on a web site on the Internet?
Yes.

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.
An electronic copy of the Summary Report will be provided to MECP upon request.

Complete for all other Categories

Number of Designated Facilities served:
Not applicable.

Did you provide a copy of your annual report to all Designated Facilities you serve?
Not applicable.

Number of Interested Authorities you report to:
Not applicable.

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Not applicable.

List all Drinking Water Systems (if any), which receive all their drinking water from your system:
Drinking Water System Name: Gazer Mooney Subdivision Distribution System (Guelph Eramosa Township).
Drinking Water System Number: 260057967

Did you provide a copy of your annual report to all Drinking Water System owners that are connected to you and to whom you provide all drinking water?
Yes.

Indicate how you notified system users that your annual report is available and is free of charge.

Public access/notice via the web: Yes.
Public access/notice via Government Office: Yes.
Public access/notice via a newspaper: No.
Public access/notice via Public Request: Yes.
Public access/notice via a Public Library: No.
Public access/notice via other: No.

City of Guelph Drinking Water System Description:

All water provided to the Guelph Drinking Water System was treated via Water Services' 12 active water treatment Facilities for: primary disinfection using chlorine solution (10 sites) or ultraviolet irradiation (2 sites); secondary disinfection using chlorine solution for a free chlorine residual (12 sites); sequestration using sodium silicate for dissolved iron (2 sites); and manganese removal using green-sand filtration (1 site).

The City of Guelph has 15 active pumping stations; three (3) elevated storage tanks; four (4) major underground storage reservoirs; approximately 564 Kilometres of underground watermains, and a population of approximately 148,200.

List all water treatment chemicals used over this reporting period:

Sodium Hypochlorite (chlorine solution for disinfection).
Sodium Silicate (for iron sequestration).

Were any significant expenses incurred to?

Install required equipment: No.
Repair required equipment: No.
Replace required equipment: No.

Please provide a brief description and a breakdown of monetary expenses incurred:

Capital Projects: The following amounts relate to projects completed in 2024. These numbers do not include the normal operating and maintenance costs.

Project Name: Helmar Station
Description: Decommissioning of equipment at Helmar Station
Monetary Expense: $33K

Project Name: FM Woods Valve Replacement
Description: FM Woods Valve Replacement in Reservoirs
Monetary Expense: $530K

Project Name: Burke Station Pipe Replacement

Description: Replacement of piping at Burke Station due to corrosion issues
Monetary Expense: $300K

Project Name: Watermain Replacement
Description: 2,747.07 meter of watermain replaced
Monetary Expense: $2.588 M (approximately)

Provide details on the notices submitted in accordance with subsection 18 (1) of the Safe Drinking Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre:

In 2024, there were 4 (four) incidents of Adverse Water Quality Incidents (AWQIs).

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2024-03-07	Sodium	Dean -160 University-140 Downey -61 Burkes -64	mg/L	Re-sampled and reported results to MECP and Wellington Dufferin and Guelph Public Health (WDGPH) unit as required under O.reg 170/03	2024-03-13
2024-03-07	Sodium	Paisley -78 Membro -180 Water St -140	mg/L	Re-sampled and reported results to MECP and Wellington Dufferin and Guelph Public Health (WDGPH) unit as required under O.reg 170/03	2024-03-13
2024-06-18	Total Coliform (TC)	5	CFU	Re-sampled and reported results to MECP and Wellington Dufferin and Guelph	2024-06-18

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
				Public Health (WDGPH) unit as required under O.reg 170/03	
2024-09-26	Chlorine residual (as a precaution)	Hydrant H46-077 1.31 Hydrant H46-077 1.39	 mg/L mg/L	A contractor damaged and replaced a water service on Keating St without a MECP certified drinking water operator on site. City became aware on October 1,2024. Reported to MECP and WDGPH as required under O.reg 170/03. The city had the contractor remove the water service and had it re-installed to city standards in presence of city's MECP's certified drinking water operator	2024-10-03

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period:

	Number of Samples	Range of E. Coli Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	891	0-2	0-120	0	Not applicable.
Treated	513	0-0	0-0	513	0-410
Distribution	1655	0 - 0	0 - 5	779	0-560

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report:

	Number of Grab Samples	Range of Results (min #)-(max #)	Unit of Measure
Turbidity	900	0.05-1.84	NTU
Chlorine	832	0.30-1.69	mg/L
Fluoride (If the DWS provides fluoridation)	Not applicable.	Not applicable.	Not applicable.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument:

The Micro Particulate Analysis (MPA) below was an ongoing assessment/confirmation of the water quality at the Arkell Collectors shallow groundwater infiltration system. The data was used to confirm adequate disinfection of this source water at F.M. Woods. In April 2024 the Arkell Collector source water was fully disinfected and sampled/analyzed as per the Municipal Drinking Water Licence (MDWL 017-101 – 2021/07/06). The MPA sampling requirements were removed from the Municipal Drinking Water Licence (MDWL 017-101 Issue Number:18 – 2024/06/27)

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
MDWL 017-101 2022/07/15	cryptosporidium	24/04/11	0	**Relative Risk Factor is 0 (low risk).**
	giardia	24/04/11	0	
	diatoms	24/04/11	0	
	other algae (pigment bearing)	24/04/11	0	
	rotifers, eggs	24/04/11	0	

Summary of Inorganic parameters tested during this reporting period or the most recent sample results:

The required three year sampling for ground water sources was done in 2022 and are due for re-sample in 2025, is included in the results in the table below. The table also includes the annual 2024 sampling for surface water sources.

NOTE: A result of zero indicates that the result obtained was below the method detection/reporting limit.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2022-2024	0 – 0	mg/L	No
Arsenic	2022-2024	0 – 0	mg/L	No
Barium	2022-2024	0.034 – 0.045	mg/L	No
Boron	2022-2024	0.013 – 0.014	mg/L	No
Cadmium	2022-2024	0 – 0.00011	mg/L	No
Chromium	2022-2024	0 – 0	mg/L	No
Mercury	2022-2024	0 - 0	mg/L	No
Lead	2022-2024	0 – 0	mg/L	No
Selenium	2022-2024	0 - 0	mg/L	No
Sodium	2024 (next sample in 2029)	28 - 180	mg/L	Yes
Uranium	2022-2024	0.00037 – 0.00057	mg/L	No
Fluoride	2024	0 – 0.77	mg/L	No
Nitrite	2024	0 – 0.015	mg/L	No
Nitrate	2024	0 – 2.22	mg/L	No

Summary of lead testing under MDWL 017-101 – Lead Regulatory Relief during this reporting period.

The table below includes all samples/analysis required by the MDWL 017-101, Lead Reduction Plan.

Number of Locations	Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
11	Private Plumbing	52	0 – 0.17	mg/L	7
10	Distribution	10	0 - 0	mg/L	0

Summary of Organic parameters sampled during this reporting period or the most recent sample results:

Under O.Reg. 170/03; Schedule 13-4, treated groundwater sources are assessed on a 3-year sampling schedule and last sampled in 2022; treated GUDI sources are on an annual schedule and last sampled in 2024. Sampling/analysis occurred as required with value results covering both source characterizations, below.

NOTE: A result of zero indicates that the result obtained was below the method detection/reporting limit.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2024	0 - 0	mg/L	No
Atrazine + N-dealkylated metobolites	2024	0 - 0	mg/L	No
Azinphos-methyl	2024	0 - 0	mg/L	No
Benzene	2024	0 - 0	mg/L	No
Benzo(a)pyrene	2024	0 - 0	mg/L	No
Bromoxynil	2024	0 - 0	mg/L	No
Carbaryl	2024	0 - 0	mg/L	No
Carbofuran	2024	0 - 0	mg/L	No
Carbon Tetrachloride	2024	0 - 0	mg/L	No
Chlorobenzene	2024	0 - 0	mg/L	No
Chlorpyrifos	2024	0 - 0	mg/L	No
Diazinon	2024	0 - 0	mg/L	No
Dicamba	2024	0 - 0	mg/L	No
1,2-Dichlorobenzene	2024	0 - 0	mg/L	No
1,4-Dichlorobenzene	2024	0 - 0	mg/L	No
1,2-Dichloroethane	2024	0 - 0	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2024	0 - 0	mg/L	No
Dichloromethane	2024	0 - 0	mg/L	No
2-4 Dichlorophenol	2024	0 - 0	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2024	0 - 0	mg/L	No
Diclofop-methyl	2024	0 - 0	mg/L	No
Dimethoate	2024	0 - 0	mg/L	No
Diquat	2024	0 - 0	mg/L	No
Diuron	2024	0 - 0	mg/L	No
Glyphosate	2024	0 - 0	mg/L	No
HAAs (*Note*: shows latest running annual average)	2024	0.021	mg/L	No
Malathion	2024	0 - 0	mg/L	No
2-methyl-4-chlorophenoxyacetic acid / MCPA	2024	0 - 0	mg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Metolachlor	2024	0 - 0	mg/L	No
Metribuzin	2024	0 - 0	mg/L	No
Paraquat	2024	0 - 0	mg/L	No
Pentachlorophenol	2024	0 - 0	mg/L	No
Phorate	2024	0 - 0	mg/L	No
Picloram	2024	0 - 0	mg/L	No
Polychlorinated Biphenyls(PCB)	2024	0 - 0	mg/L	No
Prometryne	2024	0 - 0	mg/L	No
Simazine	2024	0 - 0	mg/L	No
Terbufos	2024	0 - 0	mg/L	No
Tetrachloroethylene (perchloroethylene)	2024	0 – 0	mg/L	No
2,3,4,6-Tetrachlorophenol	2024	0 - 0	mg/L	No
THMs (*Note:* shows latest running annual average)	2024	0.028	mg/L	No
Triallate	2024	0 - 0	mg/L	No
Trichloroethylene	2024	0 – 0.00184	mg/L	No
2,4,6-Trichlorophenol	2024	0 - 0	mg/L	No
Trifluralin	2024	0 - 0	mg/L	No
Vinyl Chloride	2024	0 - 0	mg/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards

There were no instances of organic or inorganic parameter sample results exceeding half the standard from January 2024 through December 2024.

The Gazer Mooney Subdivision Distribution System
ANNUAL REPORT

Drinking Water System Number: 260057967
Drinking Water System Name: Gazer Mooney Subdivision Distribution System
Drinking Water System Owner: The Corporation of the Township of Guelph/Eramosa
Drinking Water System Category: Small Municipal Residential
Period being reported: January 1, 2024, through December 31, 2024

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking Water System serve more than 10,000 people?
No.

Is your annual report available to the public at no charge on a web site on the Internet?
Yes.

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.
An electronic copy of the Summary Report will be provided to MECP upon request.

Complete for all other Categories

Number of Designated Facilities served:
Not applicable.

Did you provide a copy of your annual report to all Designated Facilities you serve?
Not applicable.

Number of Interested Authorities you report to:
Not applicable.

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Not applicable.

List all Drinking Water Systems (if any), which receive all their drinking water from your system:
Drinking Water System Name: Not applicable.
Drinking Water System Number: Not applicable.

Did you provide a copy of your annual report to all Drinking Water System owners that are connected to you and to whom you provide all drinking water?
Yes.

Indicate how you notified system users that your annual report is available and is free of charge.

Public access/notice via the web: Yes.
Public access/notice via Government Office: Yes.
Public access/notice via a newspaper: No.
Public access/notice via Public Request: Yes.
Public access/notice via a Public Library: No.
Public access/notice via other: No.

Gazer-Mooney Subdivision Drinking Water System

The Gazer Mooney Subdivision has approximately 72 fully metered water service connections; 2 kilometres of underground watermains, and an approximate population of 209 people.

All water provided to the Gazer Mooney Subdivision Distribution System is supplied by the Guelph Drinking Water System.

List all water treatment chemicals used over this reporting period:

Treated drinking water was supplied in its entirety from the Guelph Drinking Water System. Please refer to the Guelph Drinking Water System Annual Report for a list of water treatment chemicals used in the drinking water treatment process.

Were any significant expenses incurred to?

Install required equipment: No.
Repair required equipment: No.
Replace required equipment: No.

Please provide a brief description and a breakdown of monetary expenses incurred:

No significant capital expenses were incurred in 2024 to maintain the Gazer Mooney Subdivision Distribution System.

Provide details on the notices submitted in accordance with subsection 18 (1) of the Safe Drinking Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre:

In 2024, there was one incident of Adverse Water Quality Incident (AWQI) in the Gazer Mooney Subdivision Distribution System, this AWQI was for Sodium results of

33 mg/L and reported to Spills Action Centre on March 12,2024. The resolution was filed March 19,2024.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
March 8,2024	Sodium	33	mg/l	Re-sampled as required under O.Reg 170/03	March 13,2024

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period:

	Number of Samples	Range of E. Coli Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.
Treated	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.
Distribution	53	0 - 0	0 - 0	53	0 - 5

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report:

	Number of Grab Samples	Range of Results (min #)-(max #)	Unit of Measure
Turbidity	Not applicable.	Not applicable.	Not applicable.
Chlorine	96	0.33 – 1.57	mg/L
Fluoride (If the DWS provides fluoridation)	Not applicable.	Not applicable.	Not applicable.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument:

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.

Summary of Inorganic parameters tested during this reporting period or the most recent sample results:
Please refer to the Guelph Drinking Water System Annual Report for treated drinking water summary inorganic water quality results.

Summary of lead testing under "Approved Relief" during this reporting period:

NOTE: A result of zero indicates that the result obtained was below the method detection/reporting limit.

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Distribution	2	0 - 0	mg/L	0

Summary of Organic parameters sampled during this reporting period or the most recent sample results:

NOTE: A result of zero indicates that the result obtained was below the method detection/reporting limit.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
HAAs - Haloacetic acids (Note: show latest running annual average)	Jan - Dec 2024	0.0073	mg/L	0
THMs - trihalomethanes (Note: show latest running annual average)	Jan - Dec 2024	0.0216	mg/L	0

The above table are sample results from the Gazer Mooney Subdivision Distribution System. For organic water quality results from the Guelph Drinking Water System, please refer to the Guelph Drinking Water System Annual Report; in 2024, there were no exceedances related to organic parameters in the Guelph Drinking Water System.

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards:

There were no instances of organic parameter sample results exceeding half the standard in 2024 in the Gazer Mooney Subdivision System or the Guelph Drinking Water System.

February 24, 2025

Subject: Guelph / Eramosa Township 2024 Risk Management Official and Municipal Annual Reports

For reporting purposes, Guelph / Eramosa Township is subject to the Grand River Source Protection Plan (based on watershed or Conservation Authority boundaries). 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 and provide a municipal annual report by February 1st of each year. For Guelph / Eramosa Township, the Risk Management Official and Municipal Annual Reports for 2024 were submitted to the Grand River Source Protection Authority by February 1, 2025. This Council report summarizes the contents of the submitted reports.

Summary of Key Aspects

The Wellington County municipalities continue to implement source protection under the Wellington Source Water Protection partnership, www.wellingtonwater.ca In 2024, 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.

Development Review

In 2024, there were 65 development applications reviewed by source protection staff. This included 11 development review notices issued per Section 59 of the Clean Water Act within the municipality and staff comments on an additional 54 applications. There were 495 development applications (notices and comments) reviewed County wide in 2024. This included 85 Section 59 notices issued and staff comments on an additional 410 development applications, County wide. This includes 144 comment memos including 63 requests for drinking water threat disclosure reports and / or management plans. This represents a Township and County wide increase in the total number of development applications reviewed from the five-year average of 52 in the Township and 416 development applications in the County. The review of development applications within wellhead protection areas is a key component of implementing the Clean Water Act as this ensures the municipality is in compliance with requirements relating to future activities that may pose a risk to municipal drinking water. In addition to the notices and comments provided, other applications were screened out by building or planning staff following Risk Management Official Written Direction provided by Wellington Source Water Protection.

As part of the review process, 13 Drinking Water Threat Disclosure Reports and Management Plans were required and 5 were received pursuant to the County Official Plan for primarily industrial and commercial site plan or subdivision agreements. These documents provide disclosure of activities proposed on properties related to chemical, fuel, waste and / or winter maintenance activities. Where required these activities are managed through Risk Management Plans or other Management Plans to ensure protection of groundwater and municipal drinking water.

Threat Verification and Inspections

Analysis continued the threat verification data collected in previous years on residential, agricultural, industrial, commercial and institutional activities identified as potential significant drinking water threats in the approved Assessment Report. Staff complete a variety of tasks to remove or confirm and then mitigate activities identified as potential significant drinking water threats in the approved Assessment Reports. These threat activities are existing and the analysis can involve desk top interpretation of air photos or GIS data, phone calls, review of municipal records, windshield surveys, site inspections by Risk Management staff and if confirmed, then mitigation through septic inspection, prohibition and / or negotiation of risk management plans. The percentage of threat activities that still require action to either remove or confirm / mitigate the threat activities is 39%. The remaining threat activities in the municipality are a mixture of agricultural, commercial and industrial and the large overall numbers of threats are a function of having both City of Guelph and Township wellhead protection areas present in the Township.

To support this threats analysis and to determine compliance, 99 inspections were conducted in the Township in the reporting year. There were 98 inspections were conducted for compliance purposes (prohibition) with no contraventions found. There was 1 inspection conducted for threat verification purposes in the Township in the reporting year with no contraventions found. County wide, 309 inspections were conducted in the reporting year with 94% of inspections (292) being prohibition compliance inspections, 1% (3) being RMP compliance inspections and 5% (14) of inspections conducted for threat activity verification or risk management plan negotiation purposes. Overall, the inspections were generally related to manure application and storage prohibitions, to verify compliance for winter maintenance activities or related to chemical / fuel handling and storage.

Risk Management Plans

One Risk Management Plan was agreed to in 2024 and 2 are in the process of negotiation for the municipality. Cumulatively, there are 6 Risk Management Plans (RMPs) complete in the

Township and 94 Risk Management Plans complete within the County wide. County wide, the number of Risk Management Plans in progress is 23.

Education and Outreach

The following is a summary of the Education and Outreach results, County wide, for 2024. In total, 56 education and outreach daily events were completed this reporting year. Sixteen of the events were internal training sessions for municipal staff on general source protection topics and more detailed training on how it relates to municipal planning, building, sewage, spills, roads and risk management operations. There were over 100 attendees cumulatively at the training. Six of the events were external training sessions including training other Risk Management Officials / Inspectors in the Province and industry groups such as property managers. Eleven events supported a variety of community events including Erin septic social, Environmental Assessment and municipal open houses, Aberfoyle Fall Fair and large community events such as Party in the Park, Mount Forest Fireworks Festival, Centre Wellington Home Show and Puslinch Showcase. Staff also presented at four professional conferences in this reporting year.

There were thirteen school events including classroom visits, participation in Palmerston Agricultural Awareness Day and Grand River Agricultural Society's Pizza Perfect. School programming included elementary, Grade 8 and college students. Wellington Source Water Protection / County of Wellington is a sponsor for the Waterloo-Wellington Children's Groundwater Festival. For the second year in a row, the Festival was held in Wellington County, this year at Guelph / Eramosa's Marden Park and 74 staff from our municipalities participated to ensure the Festival was a success. The Festival ran for 5 days plus a sixth day as a virtual Festival. Links to the virtual Festival content are available here https://www.youtube.com/@watereducation4640 . 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. Registration for both virtual and in-person Festival was over 6,000 students and teachers with many County schools participating. Staff continue to participate on the organizing committee and various sub-committees including serving as co-chairs.

In addition to events, development reviews and inspections continued and included educational material being provided directly to the proponents generally regarding the threats present, the process (development review, RMP negotiations, prohibition etc.), property specific mapping, and general Source Water information. Where necessary, stickers and metal tags were provided to proponents listing the Spills Action Centre number and that their location is located within a vulnerable area for municipal wells. Updates were made to the Wellington Source Water Protection website www.wellingtonwater.ca , and staff continue to

update and maintain ten fact sheets on specific topics and other print media (i.e. post cards to direct applicants to mapping). Throughout the year, social media posts on a variety of topics were either posted or re-shared by our municipalities' corporate channels. Often the content of these posts was from the Conservation Ontario social media calendar or in partnership with the local Conservation Authorities. Four newspaper ads were also run during the year.

Policy Updates

In 2024, the Grand River Source Protection Plan was undergoing amendment. Staff reviewed, provided comments and in some cases assisted Conservation Authority staff in authoring portions of the amendments. Specifically, staff were heavily involved in authoring policy amendments for the Grand River Source Protection Plan. This is a provincial requirement under Section 36 of the Clean Water Act and involved review of all Grand River Source Protection Plan policies applicable within the County and, where necessary, amendments. The work is required to bring the Wellington County Chapter of the Grand River Source Protection Plan in compliance with updated Provincial requirements that came into effect in 2021. Policy updates continued for the Guelph – Guelph / Eramosa Tier 3 water quantity policies. These policies have been in progress for a number of years and are awaiting provincial comments related to Aggregate Resources Act policies. Other work included finalizing for pre-consultation, Tier 3 policies related to other provincial instruments, planning, monitoring, education, risk management plans and other topics.

In 2023, agreements were reached with the City of Guelph and Region of Waterloo related to cost recovery for County and Townships related costs to protect the City and Region's municipal water supply. As required by the agreement, the City of Guelph annual report for 2024 was submitted by March 1, 2025 to the City of Guelph.

Technical Updates

Staff represented the County, Township of Puslinch and Guelph / Eramosa Township in City of Guelph and Region of Waterloo projects related to a number of new well locations located within or adjacent to the County. This included addressing resident concerns during the Logan / Fleming wells pumping tests in Guelph / Eramosa Township. Other technical work included an assessment of multi-aquifer penetrating wells and potential transport pathways within the County. This work was completed by the Township of Puslinch hydrogeologists and the next steps will be implemented in 2025. Work was also completed to assess Eramosa River flows in the vicinity of reported groundwater loss from the river to the bedrock. This work is still being reviewed and will be provided to the City of Guelph and Grand River Conservation Authority to assist in updating groundwater models and delineating wellhead protection areas.

Sewage Projects

Staff continued to provide support for the implementation of the municipal Consolidated Linear Environmental Compliance Approval for both wastewater and stormwater for all Wellington County municipalities. There are annual assessments required for these approvals that assess source water protection implications and requirements for wastewater and / or stormwater projects within wellhead protection areas. These assessments are required every 12 months and Source Protection staff completed 13 assessments in 2024 as required. The Township assessments were not required in 2024.

The septic inspection program occurs on a five-year cycle. In the Township, 413 septic systems require a septic inspection every five years pursuant to both the Ontario Building Code and the Clean Water Act. In 2024, 33 septic inspections were completed with 380 properties exempt in 2024. Five properties had major remedial actions required and 9 properties had minor remedial actions required from the septic inspections completed in 2024. Between 2023 and 2024, 100% of the required septic inspections were completed in collaboration with the Township Building Department and the inspection consultant. Follow-up will continue in 2025 on remedial actions identified in 2023 and 2024.

For further information, please contact Kyle Davis, Risk Management Official, 519-846-9691 ext 362 or kdavis@centrewellington.ca

Respectfully submitted,

Kyle Davis
Risk Management Official