Water Services' Summary Report

January 1, 2024 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

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Water Services' Summary Report

Purpose

This report is intended to provide Guelph City Council, as "Owners" of the drinking water system, an understanding of the status of the City of Guelph's Drinking Water System for the reporting period of January 1, 2024, to December 31, 2024.

Second, the Safe Drinking Water Act (SDWA) (2002) mandates that it is the responsibility of the municipality to:

- Recognize that the people of Ontario are entitled to expect their drinking water to be safe; and,
- Provide for the protection of human health and the prevention of drinking water health hazards through the control and regulation of drinking water systems and drinking water testing.

Finally, this report has also been prepared to satisfy the requirements of Schedule 22, O. Reg. 170/03 (Summary Reports for Municipalities).

For the 2024 reporting period, a separate Annual Report, which contains data related to annual testing and sampling parameters, was prepared to fulfill Section 11 of O. Reg. 170/03. This report will be posted on the City's website by February 28, 2025.

Scope

This Water Services Summary Report includes information from both the **Guelph Drinking Water System** and the **Gazer Mooney Subdivision Distribution System** for the period of January 1, 2024, to December 31, 2024, unless otherwise noted. The information is required to be reported to the following:

- the Drinking Water System Owners:
  - Guelph City Council
  - Township of Guelph/Eramosa (Council and CAO).
- Senior officials of Guelph Environmental Services and Township of Guelph/Eramosa; and
- the general public and interested stakeholders.

A copy of this report is available for viewing at:

- **Online** at guelph.ca/water-testing
- https://guelph.ca/plans-and-strategies/performance-reporting/

"Please consider the environment - review the digital copy of the report, instead of printing it.

Any inquiries can be made to:

- City of Guelph Water Services by e-mailing waterservices@guelph.ca or by calling 519-837-5627.
- Township of Guelph/Eramosa Public Works – Water/Wastewater by e-mailing general@get.on.ca or by calling 519-856-9596.

Notice

Please note that every reasonable effort is made to ensure the accuracy of this report. This report is published with the best available information at the time of publication. In the event that errors or omissions occur, the online report will be updated. Please refer to the online version of the report for the most current version.

Systems Overview

Guelph Drinking Water System

Water Services at the City of Guelph is committed to providing consumers with a safe, consistent supply of high-quality drinking water while meeting or exceeding, and continually improving on legal, operational, and quality management system requirements. Water Services strives to provide reliable and cost-effective water treatment and distribution systems for the safe production and delivery of high-quality water. Established in 1879, Water Services is a municipally owned and operated water utility.

The Guelph Drinking Water System is classified as a Class II Water Treatment Subsystem and a Class IV Water Distribution Subsystem. All necessary licences have been obtained by staff to operate the Guelph Drinking Water System. As of December 31, 2024, 22 team members held drinking water certificates to operate and maintain the water system.

Water Services continues to maintain full accreditation to the Drinking Water Quality Management Standards (DWQMS) Version 2.0 after a successful on-site verification audit, conducted by the third-party accreditation body - NSF International Strategic Registrations. This accreditation satisfies part of the requirements under the Municipal Drinking Water Licensing Program, the accreditation certification is valid through January 3, 2027.

Water Distribution System

The distribution system (including watermains, valves, fire hydrants, water services, and meters) serves a population of approximately 148,200[1] within the City of Guelph. All new system components meet NSF 61[2] and NSF 372[3] requirements, or approved equivalents, and are installed and maintained in accordance with approved industry standards. Water system customers are fully metered and billed in accordance with the Water and Wastewater Customer Rates and Charges by-law. For more information on water rates, please refer to My water bill and rates on the City of Guelph website.

The Guelph Drinking Water System distribution system is comprised of the following infrastructure:

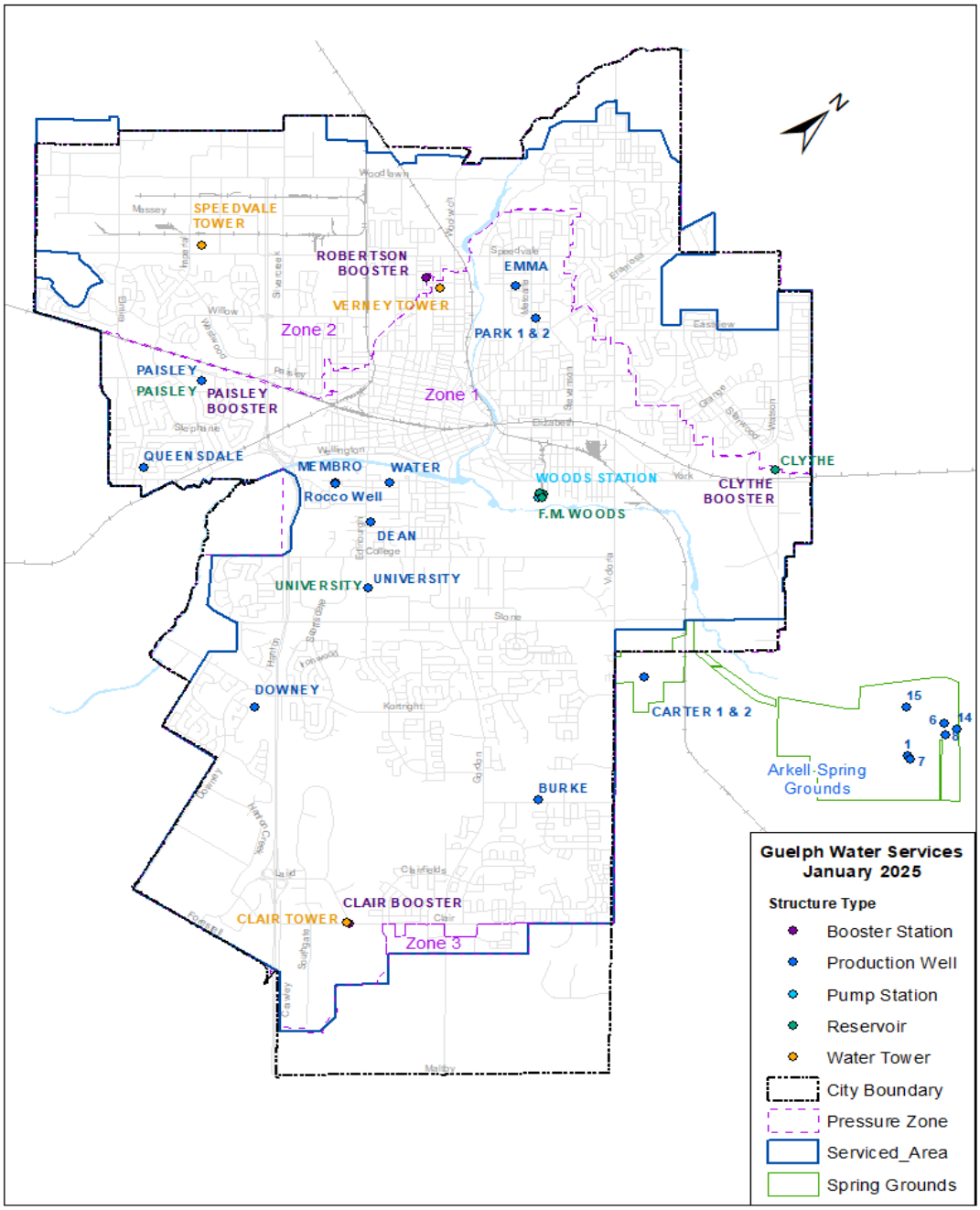
- 6.47 kilometres of a 900-1,050 mm diameter water supply aqueduct,
- five underground storage reservoirs with a combined approximate capacity of 48,000 cubic metres (48 million litres),
- three water towers with a combined approximate capacity of 11,200 cubic metres (11.2 million litres),
- approximately 564.0 kilometres of in service buried watermain with a diameter < 900 mm,
- 4,387 watermain valves,
- 2,876 fire hydrants; and
- approximately 49,118 water services connections and water meters.

Guelph Source Water and Treatment Facilities

The source of Guelph's drinking water is a series of 21 operational groundwater wells and a shallow groundwater collector system. The drinking water sources consist primarily of true groundwater, with some "groundwater under the direct influence of surface water with effective in-situ filtration" (GUDI-WEF) sources. The GUDI-WEF sources include Carter Well 1 and 2; Arkell 1; Arkell 15; and the Arkell Springs Glen Collector System.

[1] City of Guelph census equivalent population estimate
[2] NSF/ANSI Standard 61: Drinking Water System Components – Health Effects
[3] NSF/ANSI Standard 372: Drinking Water System Components – Lead Content

Figure 1: Guelph Drinking Water System shows the locations of the Guelph Drinking Water System facilities as of January 2025.



Gazer Mooney Subdivision Distribution System

The Gazer Mooney Subdivision Distribution System is a Class 1 Distribution Subsystem that serves approximately 209[4] people and is owned by the Township of Guelph/Eramosa. The system is operated by Guelph Water Services through a legal agreement that was signed by representatives of the City of Guelph and the Township of Guelph/Eramosa. The current agreement came into effect on March 1, 2019 is renewed and extended to February 28, 2029, unless terminated earlier.

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.

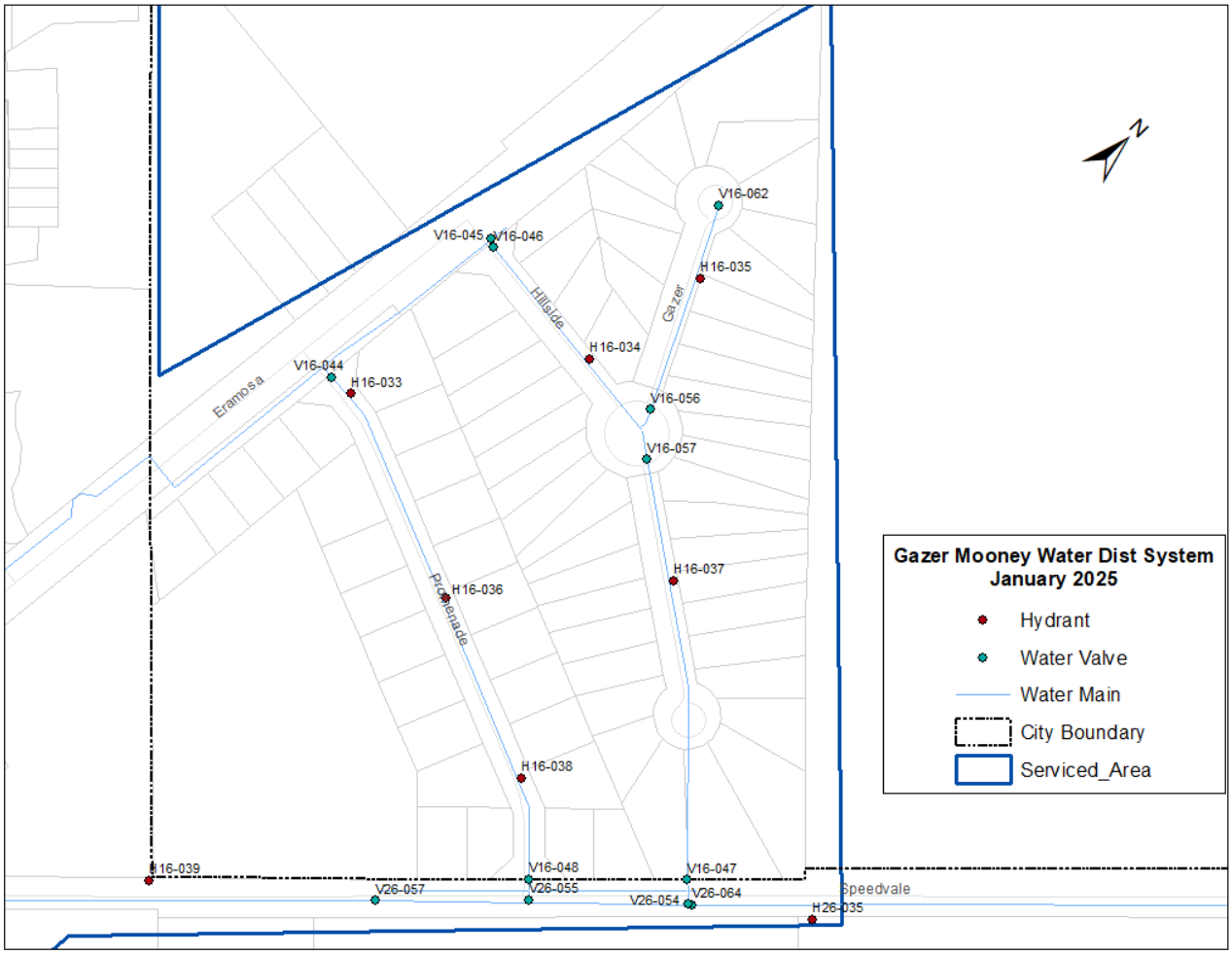
The Gazer Mooney Subdivision Distribution System is comprised of the following infrastructure:

- approximately 650 metres of 200mm diameter watermain.
- approximately 600 metres of 150mm diameter watermain.
- six watermain valves.
- six fire hydrants.
- one sampling station; and
- approximately 72 water services and water meters.

An overview of the Gazer Mooney Subdivision Distribution System is illustrated in Figure 2: Gazer Mooney Subdivision Distribution System.

[4] Estimated, based on 72 water connections multiplied by 2.9 people per household (as per Statistics Canada for low density residential).

Figure 2: Gazer Mooney Subdivision Distribution System



Quality Management System

Management Review

At least once every calendar year, Water Services' Management and other key members from Water Services' support teams meet to evaluate the adequacy and effectiveness of Water Services' Quality Management System (QMS). Key information reviewed at the meeting, includes, but is not limited to incidences of regulatory non-compliance and corrective actions taken. The results of the meeting, including decisions or action items to prompt changes and improvements in Water Services' QMS are communicated to City of

Guelph (owner of the Guelph Drinking Water System) and Township of Guelph/Eramosa Council (owner of the Gazer Mooney Subdivision Distribution System) by inclusion in this report, see Appendix A: Management Review Minutes.

The review provides evidence of continued endorsement and commitment to the QMS from Water Services Management and other key members from Water Services' support teams.

Regulatory Compliance

Compliance with Terms and Conditions of System Approval and Other Orders

The City of Guelph fulfilled the requirements of the Safe Drinking Water Act, its regulations and the terms and conditions of the Municipal Drinking Water Licences and Drinking Water Works Permit for the Guelph Drinking Water System and the Gazer Mooney Subdivision Distribution System; exceptions, if any, are detailed in Table 1: Summary of non-compliance events and actions taken. Note: the non-compliances identified did not result in any unproperly treated water reaching customers.

As the Operating Authority for both the Guelph Drinking Water System and the Gazer Mooney Subdivision Distribution System, Guelph Water Services' is inspected annually by the Ministry of the Environment, Conservation and Parks (Ministry) for compliance with regulatory requirements.

Table 1: Summary of non-compliance events and actions taken, includes non-compliance events that were self-identified to the Ministry in the 2024-2025 drinking water inspection of the Guelph Drinking Water System and Gazer Mooney Subdivision Distribution System (see Table 1 below).

The annual MECP Inspection for 2024-2025 for the Guelph Drinking Water System began October 15, 2024, and on November 5,2024 for Gazer Mooney distribution system; the MECP is yet to issue its final report.

Guelph Drinking Water System

There were two (2) incidents of non-compliance associated with the Guelph DWS for 2024-2025 inspection period. NOTE: the non-compliances identified did not result in any unproperly treated water reaching customers. For details, please refer to Table 1: Summary of non-compliance events and actions taken.

Gazer Mooney Subdivision Distribution System

There were zero (0) incidents of non-compliance in the Gazer Mooney SDS for 2024-2025 inspection period.

Table 1: Summary of non-compliance events and actions taken

#	Drinking Water System	Legislative Requirement	Statement of Non-compliance	Corrective Action
1	Guelph Drinking Water System	O. Reg 128/04 made under Safe Drinking Water Act,2002 requires a MECP certified drinking water operator for operation of a drinking water system	There were three instances of a non-certified operator/contractor work on the City's drinking water system.	The City staff addressed the issue with the contractor(s) as soon as they became aware of operation of system by the contractor that did not hold a valid drinking water certificate. The contractor(s) were advised not to operate the system in absence of City's drinking water operator and were directed to contact OIC or ORO to assign an operator to be present on site while they worked on the system. The City staff were trained on proper record keeping during the Water Services operations meeting held on October 3, 2024. Ministry was satisfied with the action taken and recommended that the City develops a procedure to ensure that unlicensed contractors working in facilities that cannot be shut down, or where a certified operator is not

#	Drinking Water System	Legislative Requirement	Statement of Non-compliance	Corrective Action
				overseeing the work, are clearly instructed not to operate any valves or treatment equipment without consulting the OIC or ORO.
2	Guelph Drinking Water System	Safe Drinking Water Act,2002 Drinking Water Works Permit (DWWP) – Form 2 Record of Minor Modifications or Replacements to the Drinking Water System	From 2 documents required for minor modifications to the system were not prepared.	A standby chemical metering pump was removed from Clair Booster Pumping Station; a Form 2 was not completed prior to removal of the chemical metering pump. MECP identified this non-compliance during the 2024-2025 inspection of Guelph's DWS. The Form 2 was promptly completed, and a Director Notification was submitted to MECP on December 30,2024. MECP confirmed no additional action is required by the City.

Operational Performance

The following section describes Operational Performance statistics of Guelph's Water Services that includes:

- 2024 Totalized Pumpages as per the Municipal Drinking Water Licence and Permits to Take Water;
- 2024 Instantaneous Flows as per Permit to Take Water;
- Water Production, Consumption and Population; and
- Water Supply Capacity.

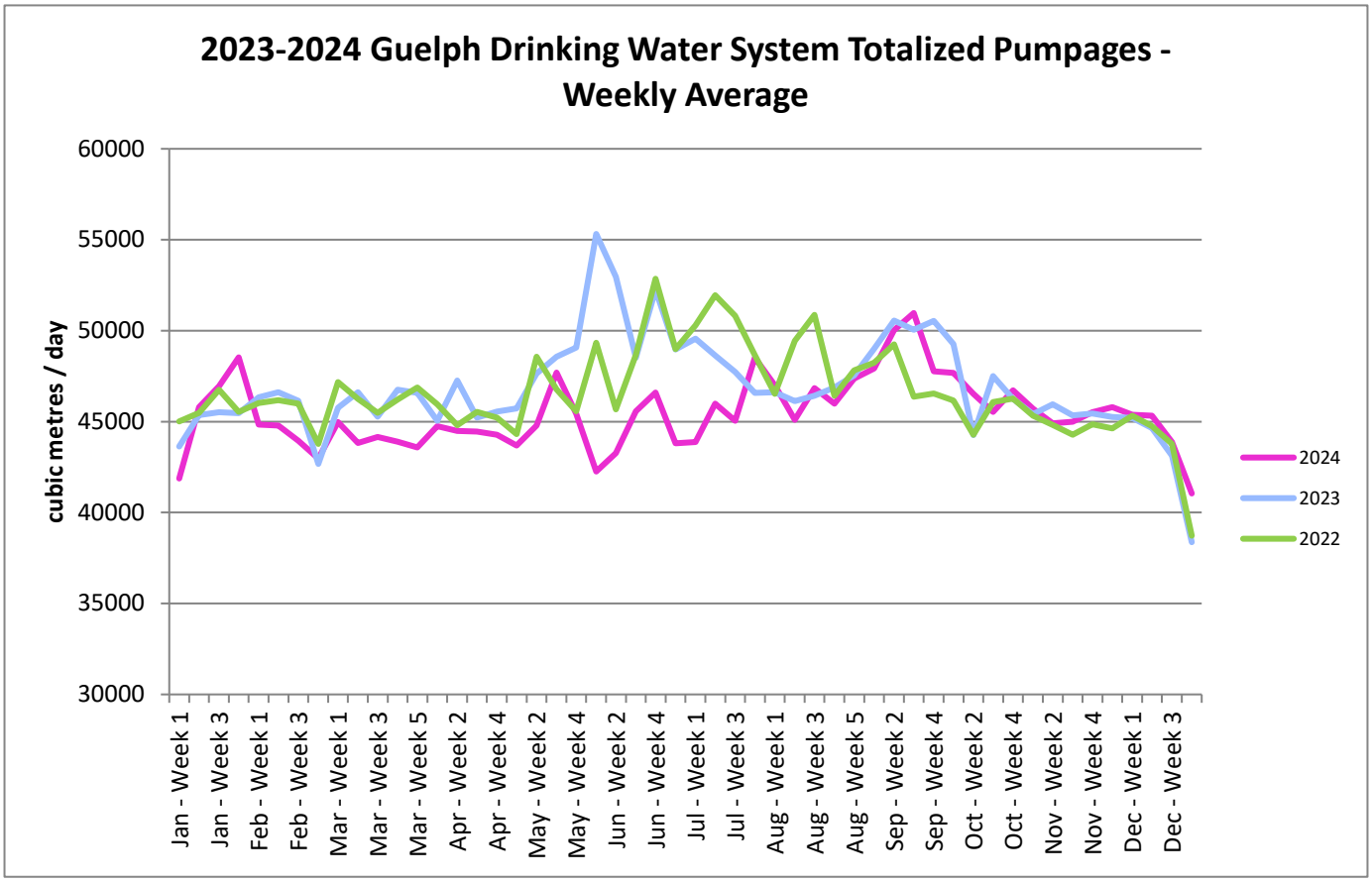
2024 Totalized Pumpages and Instantaneous Flows

The Ontario Water Resources Act and the Safe Drinking Water Act, each require that operating authorities record and report both water takings as governed by Permits to Take-Water and treated water supplied to the City of Guelph.

Summaries of total water pumped, instantaneous flows and capacity (flows and volumes compared to rated capacities) by the City of Guelph can be found in Appendix B: Total Water Pumped and Instantaneous Flows.

Figure 3: Totalized Treated Water Pumpages, depicts the Guelph Drinking Water System treated water pumpages in cubic metres as a weekly average. Using a weekly average allows for less data points resulting in a simplified graph for the purpose of this report.

Figure 3: Totalized Treated Water Pumpages, 2022-2024



Water Services processed 16,611,474 cubic metres (16.611 billion litres) of water to the distribution system in 2024. This represents 2.87 per cent less water being supplied to the distribution system in 2024 as compared to 2023.

The 2024 average daily water demand was 45,385 cubic metres (45.385 million litres). The maximum daily production of water in 2024 was 60,680 cubic metres (60.68 million litres) and occurred on May 14, 2024. The minimum daily production of water in 2024 was 35,494 cubic metres (35.49 million litres) and occurred on December 26, 2024.

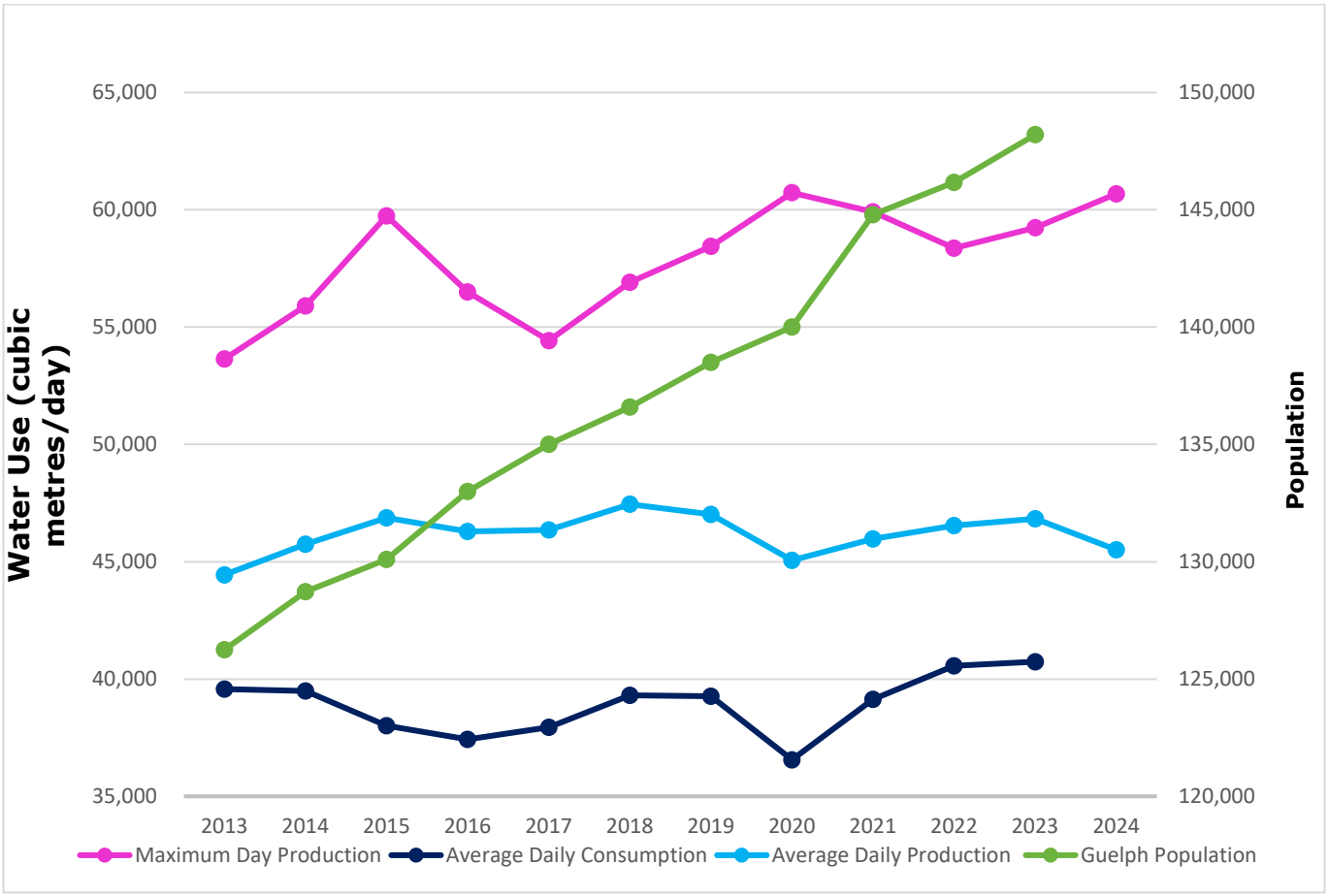
Water Production, Consumption and Population

From 2014 to 2023 Guelph's population increased by 15.1 per cent, whereas the annual average consumption increased by only 2.7 per cent overall.

Fluctuation in water production and consumption is anticipated to occur, year to year, based on a number of factors, including seasonal temperatures and annual precipitation, system demands (including planned and unplanned maintenance) and steady population growth; however, the steady-to-reduced water consumption (and production) rates year over year can likely be attributed to Guelph's Water Efficiency Strategy, Water Loss Management Plan, and resulting programming, as described later in this section. Further, the impacts to consumption (and production) across sectors varied throughout the 2020 year, which can likely be attributed to changes in societal behaviour as a result of the pandemic. While residential consumption increased through 2020 across all three residential sectors (low, medium and high-density), industrial, commercial and institutional consumption had decreased. A significant portion of the precipitous drop in 2020 can be attributed to these changes. The increase in consumption based on 2022 population potentially signify activities including business returning to near normal.

Figure 4: Guelph Water Production vs. Water Consumption vs. Population, 2013 - 2024, below, shows the City of Guelph's annual average daily water production, annual average daily consumption, annual peak day demand, and population from 2013 to 2024[5].

Figure 4: Guelph Water Production vs. Water Consumption vs. Population, 2014-2023[5]



Water Supply Capacity

Water Services staff uses source-specific calculated firm capacity values in order to aid planning of scheduled shutdowns and maintenance of the water supply wells. Staff hold monthly meetings to review project and programming activities that affect firm capacity. The purpose of the monthly meetings are to ensure adequate servicing capacity is available to meet the City's water demands while maintenance and capital upgrades are undertaken to ensure the operates in a fit state of repair.

[5] 2024 Consumption and Population data was not available when Figure 4: Guelph Water Production vs. Water Consumption vs. Population, 2013 – 2024 was prepared.

Values used for permitted pumping rate and firm capacity calculations by well are provided below in Table 2: Permitted Rates and Point of Entry Firm Capacities of Water Supply Wells (includes only wells that were in-use for production/supply in 2024. The permitted pumping rate is the rate of pumping allowed as identified in the Permits to Take Water. The firm capacity rate is the actual rate of pumping that can be sustainably achieved at each well.

Table 2: Permitted Rates and Point of Entry Firm Capacities of Water Supply Wells

Well Name	Permitted Daily Maximum (m3/day)	Permitted Rate (L/s)	Point of Entry Firm Capacity[6] (m3/day)	Point of Entry Firm Capacity[6] (L/s)
Arkell 1	3,273	37.9	1,640	19.0
Arkell Springs Wellfield[7]	28,800	333.3	28,800	333.3
Arkell Infiltration Gallery (Glen Collector)	25,000	290.0	5,908	59.0
Burke	6,546	75.8	5,790	60.0
Carter 1 and Carter 2	6,547	75.8	5,184	60.0
Membro	6,050	78.0	3,200	37.0
Water St.	3,400	44.4	1,702	19.7
Dean	2,300	34.6	1,500	17.4
University	3,300	46.2	1,500	17.4
Downey	5,237	60.6	2,592	30.0
Park 1 and Park 2	10,300	127.2	9,500	110.0

[6] The firm capacity rate is the actual rate of pumping that can be achieved at each well.
[7] The Arkell Springs Wellfield consists of five (5) municipal drinking water production wells: Arkell 6, Arkell 7, Arkell 8, Arkell 14 and Arkell 15. All of the aforementioned Arkell Wells are contained within the same Permit to Take Water. Notwithstanding the specified maximum permitted taken per day, any combination of these wells can be used to obtain the permitted rate.

Well Name	Permitted Daily Maximum (m3/day)	Permitted Rate (L/s)	Point of Entry Firm Capacity[6] (m3/day)	Point of Entry Firm Capacity[6] (L/s)
Emma	3,100	40.8	2,330	27.0
Helmar	3,273	37.9	804	9.3
Paisley	3,200	42.0	804	9.3
Calico	5,237	60.6	1,040	12.0
Queensdale	5,237	60.6	501	5.8

Note: Wells Admiral, Edinburgh, Sacco and Smallfield are currently not connected to the drinking water system, Calico and Helmar are not in service. All of these wells have been issued a Permit to Take Water.

Appendix A: Management Review Minutes

Meeting:	**2024 Management Review**
Date:	February 18, 2025
Time:	9:00 a.m. – 11:00 a.m.
Location:	WS Boardroom and MS Teams (Hybrid option)
Present:	Kelly Beirnes, Matt Bender, Wayne Galliher, Kewal Kharbanda, Deigh Madejski, Mathew Newman, Kristin Pressey, Nathan Siniowski, Tim Spence, Jason Wallace, Heather Yates
Regrets:	Emily Stahl, Ryan Costello

Meeting Minutes

Item #	Discussion Items	Actions/Decisions for Deficiencies or Recommendations
-	Introduction - Reviewed purpose of Management Review. - Clarified that the scope of information for the review includes data for the 2024 calendar year.	- None.
a.)	Incidents of regulatory non-compliance - Reviewed the non-compliances raised in the 2023-2024 and 2024-2025 Ministry of the Environment, Conservation and Parks (MECP) Inspection Reports for the Guelph Drinking Water System (DWS) and Gazer Mooney Subdivision Distribution System (DS). o Only reviewed incidents of regulatory non-compliance that have not already been discussed at a Management Review (3 non-compliances from 2023-2024 report and 2 non-compliances from 2024-2025 report).	- None.

Item #	Discussion Items	Actions/Decisions for Deficiencies or Recommendations
	- For all non-compliances discussed, reviewed the immediate actions taken by Water Services. - Reiterated that non-compliances do not indicate that the drinking water is unsafe. They highlight areas where the system's operation can improve.	
b.)	Incidents of Adverse Drinking Water Tests - Reviewed 4 adverse water quality incidents (AWQIs) for the Guelph DWS and 1 AWQI for the Gazer Mooney Subdivision DS which were filed with the MECP in 2024. - Details of each AWQI are documented in the 2024 Annual Reports prepared for each drinking water system, which will be made publicly available on the City's website.	- None.
c.)	Deviations from Critical Control Point (CCP) and limits (CCL) and response actions - There were no deviations for Critical Control Limits (CCLs) in 2024. - Discussed the details of an improvement opportunity for streamlining documentation to ensure procedures related to recording and responding to CCL deviations are clearly highlighted and accessible (i.e., speak to specific response and recording procedures, instead of a general file location where multiple procedures are stored).	- None.
d.)	The effectiveness of the risk assessment process - The Risk Assessment (RA) is effective because it: o Follows a structured approach. o Identifies and evaluates risks (61 risks identified in 2024). o Identifies control measures for each risk. o Documents the assessment. o Updates outcomes as risk ratings change or new risks identified.	- None.

Item #	Discussion Items	Actions/Decisions for Deficiencies or Recommendations
	- The annual risk assessment, conducted by various teams, was reviewed and approved by Top Management on December 2, 2024, as documented in the associated meeting minutes. Before approval, Top Management requested modifications to some risk evaluations, with rationale provided. - In January 2025, minor modifications were made to two risks to improve the accuracy of the evaluations, demonstrating that risk evaluations are kept current, even outside of the routine annual risk assessment.	
e.)	Internal and external DWQMS audit results - Reviewed internal/external DWQMS audit results, including number of non-conformances, actions opened (corrective and opportunities for improvement), staff suggestions, system strengths, and number of interviewees and auditors. - All items of continual improvement raised in internal/external DWQMS audits are confirmed to be logged and tracked through the continual improvement tracker log.	- None.
f.)	Results of emergency response testing - A table-top exercise was conducted on November 13, 2024, with the following objectives: o Boost participants' confidence in handling a Water Services emergency. o Improve the existing emergency action plan. - The objectives were achieved, and participant feedback was positive. - Detailed information on the test exercise, including the results was recorded and shared with Top Management on January 16, 2025. - Several members of Top Management participated in the test exercise and helped make decisions on improvement needs based	- None.

Item #	Discussion Items	Actions/Decisions for Deficiencies or Recommendations
	on the results and lessons learned (e.g., minor updates to existing action plan, ensuring contact information for related service providers is available for the type of emergency).	

g.)	Operational performance
	
	The following data was reviewed and considered:
	- most recent Ministry of the Environment, Conservation and Parks (MECP) Inspection Ratings for the Guelph DWS and Gazer Mooney Subdivision DS.
	- Treated water production data for the Guelph DWS. For example:
	  ○ MMAT (minimum, maximum, average and total) for the year.
	  ○ weekly average of total treated pumpages (2022-2024) demonstrating seasonal variabilities in demand.
	- 2024 Summary Report for Guelph DWS shows that system flow rates do not exceed 64% of the approved capacity. Water Services conducts monthly reviews and evaluations of system capacity, performance, and potential limitations.
	- Summary of maintenance activities completed under the treatment, distribution and SCADA programs in 2024 for Guelph DWS, including any minor modifications authorized through the Drinking Water Works Permit (DWWP).
		- None.

h.)	Raw water supply and drinking water quality trends For Guelph DWS: - Reviewed microbiological and chemical (Schedule 23 and Schedule 24, O. Reg. 170/03) test results. All test results met the O. Reg. 169/03 – Ontario Drinking Water Quality Standards (ODWQS), except for one adverse test result, which was discussed under agenda item b) Incidents of Adverse Test Results.	- None.

Item #	Discussion Items	Actions/Decisions for Deficiencies or Recommendations
	- For sodium, there is no ODWQS, but notifications are required when levels exceed 20 mg/L. Groundwater sources in the system typically have sodium levels above 20 mg/L, with Arkell and Carter wellfields showing lower levels compared to other sources. - Maximum nitrate levels for the drinking water system as a whole consistently meet the ODWQS and show low variability, but nitrate levels at Carter are fluctuating. Water Services will continue to monitor and investigate the source. - The running annual averages for total trihalomethanes and Haloacetic acids meet the ODWQS and show low variability (2022-2024). For Gazer Mooney Subdivision Distribution System: - Reviewed microbiological and chemical (Schedule 23 and Schedule 24, O. Reg. 170/03) test results. All test results met the O. Reg. 169/03 – Ontario Drinking Water Quality Standards (ODWQS), except for one adverse test result, which was discussed under agenda item b) Incidents of Adverse Test Results. - Since the system receives drinking water from the Guelph DWS, sodium levels were also above 20 mg/L. - The running annual averages for total trihalomethanes and Haloacetic acids continue to meet the ODWQS and show low to no variability (2022-2024).	
i.)	Follow-up action items from previous Management Reviews - No action items were raised in the previous management review held on February 12, 2024.	- None.
j.)	The status of management action items identified between reviews	- None.

Item #	Discussion Items	Actions/Decisions for Deficiencies or Recommendations

	- Includes actions to address risks (corrective and preventive) and opportunities for improvement for the QMS.
	- Current status:
	  o 38 active items.
	  o 9 pending items.
	- Key areas targeted for improvement. Addressing these will yield the most significant system improvements and reduce the risk of potential QMS nonconformities:
	  o Element 05 – Document and Records Control
	  o Element 08 - Risk assessment outcomes
	  o Element 10 – Competencies
	  o Element 12 – Communications
	  o Element 16 – Sampling, testing and monitoring
	  o Element 18 – Emergency Management
	  o Element 21 – Continual Improvement
	- All management action items are confirmed to be logged and tracked through the continual improvement tracker log.	

k.)	Changes that could affect the drinking water system and the quality management system
	
	- Discussed particulars on the following items that could affect the QMS:
	  o Organizational and resource changes.
	  o Facility changes (minor or major alterations to the system).
	  o Regulatory changes.
	  o Changes in essential suppliers/service providers.
	  o Technological upgrades.
	  o Other (e.g., changes to MECP protocols or guidelines; new or proposed changes to Health Canada's Guidelines for Canadian Drinking Water Quality).
	- Discussed how the changes could affect the QMS. For example, the changes could result in the need for:
	  o New or modified MECP approvals.
		- None.

Item #	Discussion Items	Actions/Decisions for Deficiencies or Recommendations
	○ Changes to operational practices. ○ QMS document updates. ○ Communicating with suppliers/service providers, staff, or the public. ○ Staff training.	
l.)	Consumer Feedback - Reviewed number and type of calls received by Business Services, which manages all water-related inquiries through the City's public contact points. ○ 2806 calls received in 2024. ○ Less than 1% of the inquiries were related to water quality. ○ More than 50% of the inquiries were related to water meter issues and water service turn on/off requests.	- None.
m.)	Resources needed to the maintain the quality management system - Discussed that the resources needed to maintain the QMS continue to be the same year-after-year. For example: ○ Top Management commitment. ○ Trained personnel. ○ Documentation. ○ Continuous improvement. ○ Consumer feedback. ○ QMS Representative. - Emphasized that these resources continue to help ensure the QMS is effective and continuously improving.	- None.
n.)	Results of the infrastructure review - Confirmed that infrastructure review occurs annually and is ongoing. ○ Vertical infrastructure review is captured under the Capital Needs Assessment Report for Water Facilities, prepared by GM BluePlan Engineering, dated July	- None.

Item #	Discussion Items	Actions/Decisions for Deficiencies or Recommendations
	2022 and updated every five years. An annual meeting to review the state of fit repair based on facility works and to accelerate timing noted in the Capital Needs Assessment Report was held on April 10, 2024. ○ Water Distribution linear infrastructure review was conducted on April 8, 2024. Linear infrastructure needs from previous year (2023) were reviewed and updated (e.g., new projects added, existing projects removed or modified if completed, and scoring used to rank priorities updated where necessary).	
o.)	Operational plan currency, content and updates - The Operational Plan, which documents the quality management system was last updated on April 25, 2023 ○ It was last endorsed by the drinking water system owners in 2023 due to the newly elected Council. ○ It was last endorsed by Top Management in 2024 due to change in Top Management. ○ Updates are in-progress with draft updates submitted to Top Management in December 2024 for feedback.	- None.
p.)	Staff suggestions - Reviewed 4 staff suggestions raised through the internal DWQMS audit process in 2024. - All staff suggestions have been considered and are confirmed to be logged and tracked through the continual improvement tracker.	- None.

Appendix B: Total Water Pumped and Instantaneous Flows

This section summarizes the total volume of treated water pumped to the distribution system as well as raw water pumped and corresponding instantaneous flows for all in-service sources in 2024.

Capacity is calculated by comparing the average pumped or flow value against the Municipal Drinking Water Licence (MDWL) allowable volume or Permit to Take Water (PTTW) flow. Capacity is representative of the conditions of pumping for that year which may be influenced by other testing programs, maintenance or special operational conditions. Additionally, the actual capacity of the source may not be achievable due to well performance and/or current infrastructure. Optimization efforts are included as a component of the Water Supply Master Plan, with the intent to match the actual capacity of the water source with the appropriate infrastructure, where possible.

City of Guelph Water Services – Treated Water Pumpages, January 1, 2024 – December 31, 2024

Table 3 below shows the amount of treated water in cubic metres pumped to the distribution system from each facility in 2024.

Table 3: Treated Water Pumpages, 2024

-	Facility Units Regulatory Limit	Burke m^3 6,546	Calico m^3 5,237	Dean m^3 2,300	Downey m^3 5,237	Emma m^3 3,100	Helmar m^3 3,273	Membro m^3 6,050	Paisley Net m^3 3,200	Park m^3 10,300	Queensdale m^3 5,273	University Net m^3 5,108	Water Street m^3 3,400	F.M. Woods m^3 65,000	Total System Discharge m^3 n/a
Jan	Average	5,067	0	1,128	2,421	1,880	0	628	728	3,106	0	2,113	1,577	27,211	45,860
Jan	Maximum	5,087	0	1,233	2,635	2,158	0	2,938	780	4,944	0	2,130	1,661	32,378	53,700
Jan	Total	157,079	0	34,980	75,057	58,287	0	19,482	22,559	96,294	0	65,506	48,882	843,538	1,421,665
Feb	Average	4,999	0	1,192	2,250	1,906	0	3,884	753	2,819	0	2,099	1,434	22,754	44,089
Feb	Maximum	5,075	0	1,231	2,619	2,014	0	4,320	772	5,440	0	2,124	1,520	25,406	48,042
Feb	Total	144,958	0	34,554	65,239	55,261	0	112,648	21,835	81,757	0	60,864	41,581	659,872	1,278,570
Mar	Average	5,000	0	1,190	850	1,908	0	3,552	716	2,533	0	2,069	1,462	24,609	43,888
Mar	Maximum	5,038	0	1,224	2,562	2,092	0	3,802	750	3,395	0	2,129	1,538	29,267	47,993
Mar	Total	155,010	0	36,890	26,349	59,149	0	110,099	22,181	78,527	0	64,128	45,321	762,885	1,360,538
Apr	Average	4,939	0	1,183	0	1,943	0	3,847	649	2,669	0	2,033	1,438	25,784	44,485
Apr	Maximum	5,003	0	1,267	0	2,053	0	3,974	686	3,532	0	2,130	1,546	27,787	47,342
Apr	Total	148,178	0	35,480	0	58,280	0	115,396	19,459	80,080	0	60,998	43,142	773,532	1,334,545
May	Average	4,890	0	1,152	0	1,968	0	3,983	590	3,028	0	1,931	1,521	25,793	44,858
May	Maximum	4,969	0	1,265	0	2,199	0	4,234	633	8,227	0	2,119	1,575	37,141	60,680
May	Total	151,605	0	35,727	0	61,019	0	123,473	18,285	93,883	0	59,857	47,157	799,585	1,390,591
Jun	Average	4,856	0	1,143	0	2,138	0	3,843	499	1,689	0	1,907	1,337	27,330	44,742
Jun	Maximum	4,892	0	1,213	0	2,251	0	4,061	564	5,530	0	1,937	1,586	34,557	51,806
Jun	Total	145,669	0	34,280	0	64,149	0	115,300	14,964	50,664	0	57,206	40,124	819,911	1,342,266
Jul	Average	4,842	0	1,126	0	2,053	0	3,680	494	1,991	49	1,698	1,342	28,741	46,016
Jul	Maximum	4,869	0	1,188	0	2,286	0	3,715	525	3,733	681	1,933	1,837	36,789	53,380
Jul	Total	150,088	0	34,919	0	63,632	0	114,074	15,327	61,714	1,526	52,639	41,609	890,967	1,426,493

-	Facility Units Regulatory Limit	Burke m^3 6,546	Calico m^3 5,237	Dean m^3 2,300	Downey m^3 5,237	Emma m^3 3,100	Helmar m^3 3,273	Membro m^3 6,050	Paisley Net m^3 3,200	Park m^3 10,300	Queensdale m^3 5,273	University Net m^3 5,108	Water Street m^3 3,400	F.M. Woods m^3 65,000	Total System Discharge m^3 n/a
Aug	Average	4,675	0	1,183	0	2,053	0	3,622	411	3,279	491	1,816	1,373	27,573	46,478
Aug	Maximum	4,885	0	1,263	0	2,208	0	3,715	454	8,043	1,082	1,854	1,471	33,989	52,663
Aug	Total	144,937	0	36,674	0	63,652	0	112,290	12,751	101,637	15,230	56,305	42,568	854,758	1,440,803
Sep	Average	4,715	0	1,222	750	1,814	0	3,455	380	3,062	495	1,808	1,403	29,804	48,908
Sep	Maximum	4,840	0	1,319	2,415	2,409	0	3,542	404	6,249	620	1,843	1,480	35,872	55,428
Sep	Total	141,441	0	36,647	22,511	54,418	0	103,654	11,410	91,853	14,842	54,241	42,077	894,135	1,467,229
Oct	Average	0	0	1,263	2,115	2,200	0	3,188	311	3,334	559	1,813	1,203	30,599	46,585
Oct	Maximum	0	0	1,320	2,445	2,486	0	3,370	343	9,327	600	1,832	1,505	37,525	54,005
Oct	Total	0	0	39,165	65,569	68,201	0	98,820	9,629	103,359	17,330	56,209	37,293	948,563	1,444,139
Nov	Average	0	0	620	1,940	1,989	0	2,982	233	3,007	428	1,756	1,312	31,044	4,311
Nov	Maximum	0	0	1,273	2,167	2,197	0	3,150	284	8,565	580	1,888	1,459	34,253	50,976
Nov	Total	0	0	18,607	58,187	59,685	0	89,445	6,989	90,195	12,848	52,683	39,373	931,314	1,359,326
Dec	Average	0	0	1,241	2,091	1,977	0	2,752	78	2,445	446	1,782	1,228	29,357	43,397
Dec	Maximum	4	0	1,274	2,187	2,400	0	2,938	192	4,074	468	1,809	1,487	32,600	47,668
Dec	Total	4	0	38,477	64,809	61,299	0	85,310	2,419	75,791	13,835	55,248	38,055	910,060	1,345,308
2024	Average	3,665	0	1,137	1,035	1,986	0	3,285	487	2,747	206	1,902	1,386	27,550	45,385
2024	Maximum	5,087	0	1,320	2,635	2,486	0	4,320	780	9,327	1,082	2,130	1,837	37,525	60,680
2024	Total	1,338,968	0	416,398	377,721	727,032	0	1,199,990	177,807	1,005,755	75,614	695,885	507,183	10,089,120	16,611,474
-	Average Process Capacity	56%	0%	49%	20%	64%	0%	54%	15%	27%	4%	58%	41%	42%	n/a

City of Guelph Water Services – Permit-to-Take-Water Raw Pumpages, January 1, 2024 – December 31, 2024

Table 4 and Table 5 presented below, outline the Permit to Take Water Pumpages for 2024. Table 4 includes the following sources: Arkell Well 1, Arkell Well 6, Arkell Well 7, Arkell Well 8, Arkell Well 14, Arkell Well 15, Arkell Recharge Pump, Arkell Springs Glen Collector System, Burke Well, Calico Well, and Carter Well 1 and 2. Table 5 includes the following sources: Dean Well, Downey Well, Emma Well, Helmar Well, Membro Well, Paisley Well, Park Wells 1 and 2, Queensdale Well, University Well and Water Street Well.

Table 4: Permit-To-Take-Water Raw Pumpages, 2024

	Facility Units	Arkell Well #1 m^3	Arkell Well #6 m^3	Arkell Well #7 m^3	Arkell Well #8 m^3	Arkell Well #14 m^3	Arkell Well #15 m^3	Arkell Wellfield (#6, 7, 8, 14, 15) Total m^3	Arkell - Recharge Pump m^3	Arkell Springs Glen Collector System m^3	Burke Well m^3	Calico Well m^3	Carter Wells #1 & #2 m^3
-	Regulatory limit	3,273	9,600	9,600	9,600	9,600	9,600	28,800	9,092	25,000	6,546	5,237	6,547
Jan	Average	0	7,566	5,295	3,261	2,971	3,023	22,116	0	5,391	5,351	0	0
Jan	Maximum	0	7,848	7,163	6,036	7,001	6,121	27,396	0	5,558	5,372	0	0
Jan	Total	0	234,561	164,150	1,010,78	92,109	93,700	685,598	0	167,129	165,889	0	1
Feb	Average	0	4,976	6,393	848	2,535	2,377	17,129	0	5,782	5,281	0	0
Feb	Maximum	0	7,852	7,581	2,029	4,547	3,945	20,169	0	5,944	5,352	0	0
Feb	Total	0	144,306	185,398	24,591	73,514	68,940	496,750	0	167,679	153,148	0	0
Mar	Average	0	74,50	4,382	2,745	3,560	2,469	20,606	0	6,092	5,284	0	0
Mar	Maximum	0	7,871	7,220	6,336	6,908	4,577	27,846	0	6,409	5,311	0	0
Mar	Total	0	230,954	135,845	85,101	110,347	76,543	638,790	0	188,861	163,793	0	0
Apr	Average	0	7,412	3,973	1,568	2,313	3,427	18,692	0	6,944	5,224	0	318
Apr	Maximum	0	8,204	7,511	5,550	4,124	5,515	22,242	0	7,617	5,278	0	1,458
Apr	Total	0	222,352	119,195	47,026	69,392	102,809	560,774	0	208,320	156,713	0	9,530
May	Average	0	6,239	4,693	899	1,613	2,018	15,462	6,537	10,088	5,172	0	893
May	Maximum	0	8,258	8,092	3,411	4,507	5,010	22,408	8,276	13,003	5,223	0	2,671
May	Total	0	193,412	145,492	27,862	50,007	62,554	479,327	202,659	312,725	160,318	0	27,672
Jun	Average	0	5,218	2,221	369	2,977	1,727	12,511	7,670	14,231	5,139	0	670
Jun	Maximum	0	8,257	5,653	1,216	7,855	5,134	18,771	7,948	14,795	5,171	0	1,749
Jun	Total	0	156,550	66,630	11,061	89,296	51,800	375,337	230,104	426,934	154,180	0	20,107
Jul	Average	0	4,150	5,833	480	1,194	2,273	13,931	7,564	14,635	5,125	0	1,071

	Facility Units	Arkell Well #1 m^3	Arkell Well #6 m^3	Arkell Well #7 m^3	Arkell Well #8 m^3	Arkell Well #14 m^3	Arkell Well #15 m^3	Arkell Wellfield (#6, 7, 8, 14, 15) Total m^3	Arkell - Recharge Pump m^3	Arkell Springs Glen Collector System m^3	Burke Well m^3	Calico Well m^3	Carter Wells #1 & #2 m^3
-	Regulatory limit	3,273	9,600	9,600	9,600	9,600	9,600	28,800	9,092	25,000	6,546	5,237	6,547
Jul	Maximum	0	8,113	8,093	2,325	4,454	7,452	24,553	7,651	14,947	5,158	0	2,948
Jul	Total	0	128,662	180,826	14,874	37,013	70,474	431,849	234,496	453,693	158,873	0	33,213
Aug	Average	0	6,654	4,289	1,134	1,573	956	14,606	6,994	13,666	4,964	0	931
Aug	Maximum	0	8,098	8,096	6,678	6,327	3,862	27,943	7,530	14,379	5,143	0	3,023
Aug	Total	0	206,260	132,972	35,165	48,767	29,626	452,790	216,827	423,656	153,876	0	28,858
Sep	Average	0	6,681	4,689	1,307	1,355	1,846	15,878	5,871	12,442	4,983	0	1,666
Sep	Maximum	0	8,090	8,024	3,837	3,409	5,047	20,737	7,360	13,957	5,125	0	2,607
Sep	Total	0	200,434	140,673	39,209	40,657	55,368	476,341	176,118	373,251	149,482	0	49,975
Oct	Average	0	7,484	5,039	1,708	2,392	1,699	18,322	7,081	11,490	0	0	1,930
Oct	Maximum	0	8,004	7,835	7,344	6,801	4,782	28,781	7,431	12,029	0	0	3,484
Oct	Total	0	231,992	156,214	52,953	74,164	52,667	567,990	219,524	356,177	0	0	59,830
Nov	Average	0	7,519	5,496	1,862	2,320	3,068	20,264	3,335	9,107	0	0	2,502
Nov	Maximum	0	8,198	7,648	4,029	4,937	4,469	25,836	7,519	10,988	0	0	3,617
Nov	Total	0	225,569	164,866	55,858	69,588	92,037	607,917	100,055	273,215	0	0	75,069
Dec	Average	0	6,437	5,889	3,574	3,355	4,151	23,406	0	5,994	10	0	107
Dec	Maximum	0	7,748	7,616	5,941	5,357	5,673	26,516	0	6,599	239	0	2,352
Dec	Total	0	199,553	182,556	110,787	104,018	128,683	725,598	0	185,811	316	0	3,315
2024	Average	0	6,482	4,849	1,646	2,347	2,419	17,744	3,754	9,655	3,878	0	841
2024	Maximum	0	8,258	8,096	7,344	7,855	7,452	28,781	8,276	14,947	5,372	0	3,617
2024	Total	0	2,374,605	1,774,816	605,566	858,872	885,202	6,499,062	1,379,783	3,537,452	1,416,589	0	307,569
-	Average Pumped	0%	68%	51%	17%	24%	25%	62%	71%	39%	59%	0%	13%

Table 5: Permit-to-Take-Water Raw Pumpages, 2024

	Facility	Dean Well	Downey Well	Emma Well	Helmar Well	Membro Well	Paisley Well	Park Wells #1 and #2	Queensdale Well	University Well	Water Street Well
	Units	m^3	m^3	m^3	m^3	m^3	m^3	m^3	m^3	m^3	m^3
-	Regulatory limit	2,300	5,273	3,100	3,273	6,050	3,200	10,300	5,237	3,300	3,400
Jan	Average	1,130	2,487	1,880	0	616	728	3,066	0	2,123	1,577
Jan	Maximum	1,241	2,694	2,158	0	2,881	780	4,894	0	2,319	1,661
Jan	Total	35,021	77,112	58,287	0	19,104	22,559	95,059	0	65,824	48,882
Feb	Average	1,197	2,314	1,906	0	3,772	753	2,948	0	2,096	1,434
Feb	Maximum	1,252	2,665	2,014	0	4,183	772	5,353	0	2,295	1,520
Feb	Total	34,716	67,104	55,261	0	109,391	21,835	85,490	0	60,791	41,581
Mar	Average	1,196	902	1,908	0	3,455	716	2,576	0	2,081	1,463
Mar	Maximum	1,260	2,636	2,092	0	3,698	750	3,355	0	2,319	1,525
-Mar	Total	37,086	27,966	59,149	1	107,109	22,181	79,855	1	64,508	45,342
Apr	Average	1,189	0	1,943	0	3,739	649	2,631	0	2,064	1,437
Apr	Maximum	1,287	0	2,053	0	3,862	686	3,405	0	2,330	1,526
Apr	Total	35,656	0	58,280	0	112,160	19,459	78,938	1	61,918	43,112
May	Average	1,160	0	1,968	0	3,872	590	2,995	0	1,521	1,180
May	Maximum	1,268	0	2,199	0	4,108	633	7,396	0	1,568	1,507
May	Total	35,964	0	61,019	0	120,035	18,285	92,840	1	47,157	36,588
Jun	Average	1,149	1,073	2,138	0	3,748	499	1,700	0	1,916	1,340
Jun	Maximum	1,214	2,246	2,251	0	3,950	564	4,785	0	2,110	1,573
Jun	Total	34,480	32,198	64,149	0	112,428	14,964	50,992	1	57,486	40,194
Jul	Average	1,136	2,246	2,053	1	3,565	494	1,969	49	1,691	1,342
Jul	Maximum	1,202	2,246	2,286	4	3,634	525	3,682	681	2,119	1,837
Jul	Total	35,227	69,638	63,632	18	110,520	15,327	61,044	1,529	52,430	41,609

	Facility	Dean Well	Downey Well	Emma Well	Helmar Well	Membro Well	Paisley Well	Park Wells #1 and #2	Queensdale Well	University Well	Water Street Well
	Units	m^3	m^3	m^3	m^3	m^3	m^3	m^3	m^3	m^3	m^3
-	Regulatory limit	2,300	5,273	3,100	3,273	6,050	3,200	10,300	5,237	3,300	3,400
Aug	Average	1,184	1,404	2,053	0	3,523	411	3,369	491	1,828	1,373
Aug	Maximum	1,274	2,246	2,208	1	3,613	454	7,943	1,082	2,119	1,471
Aug	Total	36,708	43,524	63,652	7	109,208	12,751	104,432	15,230	56,664	42,568
Sep	Average	1,224	778	1,814	0	3,364	380	3,021	495	1,810	1,403
Sep	Maximum	1,334	2,480	2,409	1	3,449	404	6,178	620	2,159	1,480
Sep	Total	36,726	23,332	54,418	5	100,930	11,410	90,636	14,842	54,289	42,077
Oct	Average	1,270	2,175	2,200	0	3,112	311	3,288	559	1,824	1,203
Oct	Maximum	1,348	2,509	2,486	1	3,280	343	9,201	600	2,136	1,505
Oct	Total	39,369	67,431	68,201	2	96,478	9,629	101,915	17,330	56,529	37,293
Nov	Average	625	1,994	1,989	0	2,923	233	3,051	428	1,767	1,312
Nov	Maximum	1,280	2,228	2,197	0	3,088	284	7,596	580	2,223	1,459
Nov	Total	18,741	59,823	59,685	0	87,687	6,989	91,538	12,848	53,001	39,372
Dec	Average	1,248	2,148	1,978	0	2,708	78	2,477	462	1,802	1,228
Dec	Maximum	1,305	2,247	2,400	0	2,882	192	3,946	521	2,111	1,487
Dec	Total	38,699	66,589	61,304	0	83,954	2,419	76,776	14,335	55,848	38,055
2024	Average	1,142	1,460	1,986	0	3,200	487	2,758	207	1,877	1,358
2024	Maximum	1,348	2,694	2,486	4	4,183	780	9,201	1,082	2,330	1,837
2024	Total	418,394	534,718	727,037	32	1,169,004	177,807	1,009,514	76,117	686,445	496,674
	Average Pumped	50%	28%	64%	0%	53%	15%	27%	4%	57%	40%

City of Guelph Water Services – Permit-to-Take-Water Instantaneous Flows, January 1, 2024 – December 31, 2024

Table 6 and Table 7 presented below, outline the Instantaneous Flow Summary for 2024. Table 6 includes the following sources: Arkell Well 1, Arkell Well 6, Arkell Well 7, Arkell Well 8, Arkell Well 14, Arkell Well 15, Arkell Recharge Pump, Arkell Springs Glen Collector System, Burke Well, Calico Well, Carter Wells 1 and 2. Table 7 includes the following sources: Dean Well, Downey Well, Emma Well, Helmar Well, Membro Well, Paisley Well, Park Wells 1 and 2, Queensdale Well, University Well and Water Street Well.

Table 6: Permit-to-Take-Water Instantaneous Flows, 2024

	Facility	Arkell Well #1	Arkell Well #6	Arkell Well #7	Arkell Well #8	Arkell Well #14	Arkell Well #15	Arkell - Recharge System	Arkell Springs Glen Collector System	Burke Well	Calico Well	Carter Wells
	Units	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s
-	Regulatory limit	37.9	111.0	111.0	111.0	111.0	111.0	157.8	290.0	75.8	60.6	75.8
Jan	Average	0.0	87.7	62.5	37.7	34.8	35.0	0.0	50.7	61.9	0.0	0.0
-	Maximum	0.0	92.9	90.9	85.8	91.1	87.1	0.0	55.5	63.0	0.0	0.0
Feb	Average	0.0	57.5	73.9	16.7	29.4	27.5	0.0	42.0	61.1	0.0	0.0
-	Maximum	0.0	92.4	91.3	87.3	91.3	88.4	0.0	50.0	63.0	0.0	0.0
Mar	Average	0.0	86.3	50.5	32.2	41.3	28.6	0.0	47.7	61.2	0.0	0.0
-	Maximum	0.0	93.3	90.7	87.2	91.2	87.5	0.0	58.1	62.5	0.0	0.0
Apr	Average	0.0	85.8	46.3	18.4	26.7	39.6	40.9	79.1	60.5	0.0	3.8
-	Maximum	0.0	97.2	95.3	91.9	91.1	88.0	114.6	108.8	61.8	0.0	63.7
May	Average	0.0	71.4	54.9	10.2	18.7	23.4	95.3	117.4	59.9	0.0	10.8
-	Maximum	0.0	102.4	95.8	92.5	91.7	87.3	98.4	128.1	61.5	0.0	60.9
Jun	Average	0.0	61.2	24.8	4.2	34.4	28.7	92.0	133.0	59.5	0.0	8.0
-	Maximum	0.0	96.4	95.5	92.9	92.1	87.5	93.4	141.1	60.4	0.0	59.3
Jul	Average	0.0	48.0	67.2	5.6	13.8	26.3	90.2	135.6	59.3	0.0	12.7
-	Maximum	0.0	95.2	95.1	92.7	92.7	87.4	91.2	158.3	60.4	0.0	60.9

	Facility	Arkell Well #1	Arkell Well #6	Arkell Well #7	Arkell Well #8	Arkell Well #14	Arkell Well #15	Arkell - Recharge System	Arkell Springs Glen Collector System	Burke Well	Calico Well	Carter Wells
	Units	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s
-	Regulatory limit	37.9	111.0	111.0	111.0	111.0	111.0	157.8	290.0	75.8	60.6	75.8
Aug	Average	0.0	76.9	49.9	13.2	18.2	11.6	83.6	148.0	57.4	0.0	11.1
-	Maximum	0.0	94.7	94.9	92.1	91.6	86.8	90.6	158.9	62.0	0.0	60.0
Sep	Average	0.0	81.7	54.3	15.1	16.3	21.4	81.0	140.0	57.7	0.0	19.7
-	Maximum	0.0	94.2	96.3	92.2	90.8	85.5	86.5	147.9	59.8	0.0	60.1
Oct	Average	0.0	85.9	58.5	19.7	27.7	19.7	81.3	128.8	0.0	0.0	22.6
-	Maximum	0.0	93.6	96.6	91.3	89.8	84.1	84.1	143.3	0.0	0.0	100.0
Nov	Average	0.0	86.9	63.7	21.6	26.8	35.5	36.3	100.3	0.0	0.0	29.6
-	Maximum	0.0	93.5	95.0	91.5	89.1	84.7	82.6	134.1	0.0	0.0	60.7
Dec	Average	0.0	74.5	68.3	41.4	38.9	48.1	0.0	68.4	0.0	0.0	0.6
-	Maximum	0.0	92.6	94.6	91.5	87.2	83.0	0.0	76.7	0.0	0.0	29.4

Table 7: City of Guelph - Instantaneous Flow Summary, 2024

	Facility	Dean Well	Downey Well	Emma Well	Helmar Well	Membro Well	Paisley Well	Park Wells	Queensdale Well	University Well	Water Street Well
	Units	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s
-	Regulatory limit	34.6	60.6	40.9	37.9	78.0	42.5	127.2	60.6	46.2	44.4
Jan	Average	13.9	30.6	26.6	0.0	7.1	8.4	37.4	0.0	24.6	19.3
-	Maximum	17.6	35.7	31.1	0.0	55.2	10.5	117.1	0.0	27.6	28.0
Feb	Average	14.7	28.8	27.5	0.0	43.7	8.7	34.6	0.0	24.3	18.0
-	Maximum	18.3	35.6	30.4	0.0	56.6	9.4	118.7	0.0	27.2	26.1
Mar	Average	14.7	11.3	27.4	0.0	40.1	8.3	15.9	0.0	24.1	18.2
-	Maximum	18.8	34.8	30.0	0.0	56.2	9.7	59.1	0.0	27.3	25.6
Apr	Average	14.9	0.0	27.6	0.0	43.3	7.5	33.5	0.0	24.1	18.0
-	Maximum	20.3	0.0	30.4	0.0	58.3	9.0	118.5	0.0	27.5	26.6
May	Average	14.8	0.0	27.7	0.0	44.8	6.8	39.1	0.0	22.4	18.7
-	Maximum	20.5	0.0	30.5	0.0	60.1	7.7	118.0	0.0	38.8	26.3
Jun	Average	15.1	0.0	28.4	0.0	43.4	5.8	21.5	0.0	22.2	16.4
-	Maximum	19.8	0.0	32.0	0.0	59.8	8.1	117.4	0.0	25.1	26.3
Jul	Average	15.1	0.0	27.2	0.0	41.3	5.7	26.2	0.6	20.0	16.6
-	Maximum	19.5	0.0	31.8	0.0	56.6	6.1	109.3	37.5	25.3	26.2
Aug	Average	15.3	0.0	27.7	0.0	40.8	4.8	40.8	6.5	21.1	16.6
-	Maximum	19.5	0.0	30.6	0.0	55.7	6.3	113.7	27.8	25.3	32.6
Sep	Average	15.3	9.9	23.8	0.0	38.9	4.4	37.7	6.5	20.9	17.0
-	Maximum	19.4	39.7	30.7	0.0	56.2	5.1	122.7	14.1	25.7	23.7

	Facility	Dean Well	Downey Well	Emma Well	Helmar Well	Membro Well	Paisley Well	Park Wells	Queensdale Well	University Well	Water Street Well
	Units	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s
-	Regulatory limit	34.6	60.6	40.9	37.9	78.0	42.5	127.2	60.6	46.2	44.4
Oct	Average	15.3	26.6	27.7	0.0	36.0	3.6	20.2	6.7	21.1	14.4
-	Maximum	19.1	29.5	32.2	0.0	56.8	4.0	62.8	13.5	25.6	32.4
Nov	Average	7.7	26.0	27.7	0.0	33.8	2.7	19.9	5.4	20.4	15.7
-	Maximum	19.4	30.8	30.6	0.0	57.3	3.2	63.7	13.1	26.0	24.4
Dec	Average	15.3	25.9	27.5	0.0	31.3	0.9	31.0	5.9	20.9	14.7
-	Maximum	19.0	27.8	30.6	0.0	56.8	2.3	122.9	12.0	25.5	23.5