

2025 Summary Report



Water and Wastewater Operations

Region of Waterloo



Region of Waterloo

Presented to Regional Council

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This document is available in alternate formats upon request

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1. OVERVIEW & BACKGROUND

This summary report represents all the drinking water supply and transmission systems in the Region of Waterloo and the distribution systems in North Dumfries and Wellesley Townships, and addresses the requirements as defined under the Safe Drinking Water Act and the Drinking Water Quality Management System.

1.1 SAFE DRINKING WATER ACT

Schedule 22-2 of Ontario Regulation 170/03 states that owners of municipal drinking water systems shall ensure that, no later than March 31 of each year, a summary report is prepared for the preceding calendar year and presented to the members of municipal council. This report includes:

- (1) A list of the requirements in the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water license, and any order applicable to the system that was not met at any time during the period covered by the report;
- (2) for each requirement in (1), specify the duration of the failure and the measures that were taken to correct the failure;
- (3) a summary of the quantities of flow rates of water supplied during the period covered by the report, including monthly average and maximum flows;
- (4) a comparison of the summary referred in (3) to the rated capacity flow rates in the system's approval, drinking water works permit, or municipal drinking water license.

This report captures non-compliance issues and corresponding corrective action(s) or mitigating measure(s).

1.2 DRINKING WATER QUALITY MANAGEMENT SYSTEM (QMS) CONFORMANCE AND MUNICIPAL DRINKING WATER LICENSING PROGRAM

To obtain and maintain a Municipal Drinking Water License (MDWL), the Region must hold: a valid Drinking Water Works Permit (DWWP), a valid Permit to Take Water (PTTW) for each water source, operational plans as approved by the Ministry of the Environment, Conservation and Parks (MECP), operating authority accreditation (based on a third party audit of the Drinking Water Quality Management Standard (DWQMS) 21 Elements), and financial plans approved by Regional Council. Each Municipal Drinking Water License and each Financial Plan must be renewed every 5 years. Eleven (11) MDWL were issued to the Region in 2021 and applications to renew the MDWL were submitted to the MECP in October 2025.

In 2024, the MECP provided the Region a Notice of Intention to Issue an Order under Section 114 of the Safe Drinking Water Act (SDWA). The Notice required the Region to take charge of, operate, and maintain the Petersburg non-municipal, year-round residential water system. In 2024, a DWWP was issued, an operational plan was developed, significant upgrades were completed to the supply facility, a PTTW was issued to the Region and ownership was transferred from the private owner to the Region. In 2025, a third party audit was performed in order to achieve

operating authority accreditation for the system, and associated Financial Plans were approved by Regional Council. The first MDWL for the Petersburg system was issued in December 2025.

MANAGEMENT REVIEW

The management review must be conducted annually to evaluate the suitability, adequacy, and effectiveness of the Quality Management System (QMS) with the results being communicated to Regional Council as the system owner. The management review provides evidence of continued endorsement and commitment to the QMS from Top Management.

The QMS annual management review was conducted on November 25, 2025 and included discussion of non-compliance issues and corresponding corrective/preventative action(s). The 2025 management review minutes, identified deficiencies, decisions and action items, are included in Appendix A. There were no major non-conformances identified with the QMS.

INFRASTRUCTURE REVIEW

DWQMS (Element 14 and 15) requires that the operational plan document a summary and monitor the effectiveness of the Operating Authority's infrastructure maintenance, rehabilitation and renewal programs and to communicate these programs and any updates to the Owner. Asset management and maintenance programs are established and maintained to ensure repair and replacement of water system infrastructure. An overview of the infrastructure maintenance is found in section 5.

2. HEALTH RELATED NOTIFICATIONS – BOIL WATER ADVISORIES (BWA)/DRINKING WATER ADVISORIES (DWA)

The Region of Waterloo Water and Wastewater Operations Division, in collaboration with the Public Health Department, ensures a safe water supply. There were no BWA or DWA issued during 2025.

3. REGULATORY COMPLIANCE

The MECP's annual drinking water system inspections focus on compliance with the SDWA and related regulations. The following legislative requirements apply to municipally owned and operated drinking water systems:

- proper documentation;
- sampling and analytical testing;
- adverse water quality incident reporting (AWQI);
- proper treatment and maintenance;
- corrective actions;
- Municipal Drinking Water Licenses;
- Drinking Water Works Permits;
- accreditation;
- continuous water quality monitoring;
- flow monitoring;

- calibration/verification of flow meters and instrumentation and,
- certified operators.

A summary of the non-compliances related to the above can be found in Table 1.

The 2024-25 MECP Chief Drinking Water Inspector’s report, released in December 2025, identifies 19 inspection reports with an average compliance rating of 98.7% for the Region of Waterloo, with 12 of 19 inspections receiving 100%. Chart 1 below compares the average MECP inspection compliance ratings over the past 5 years and Appendix B summarizes the most recent ratings for Region owned systems.

CHART 1 – MECP AVERAGE INSPECTIONS RATINGS

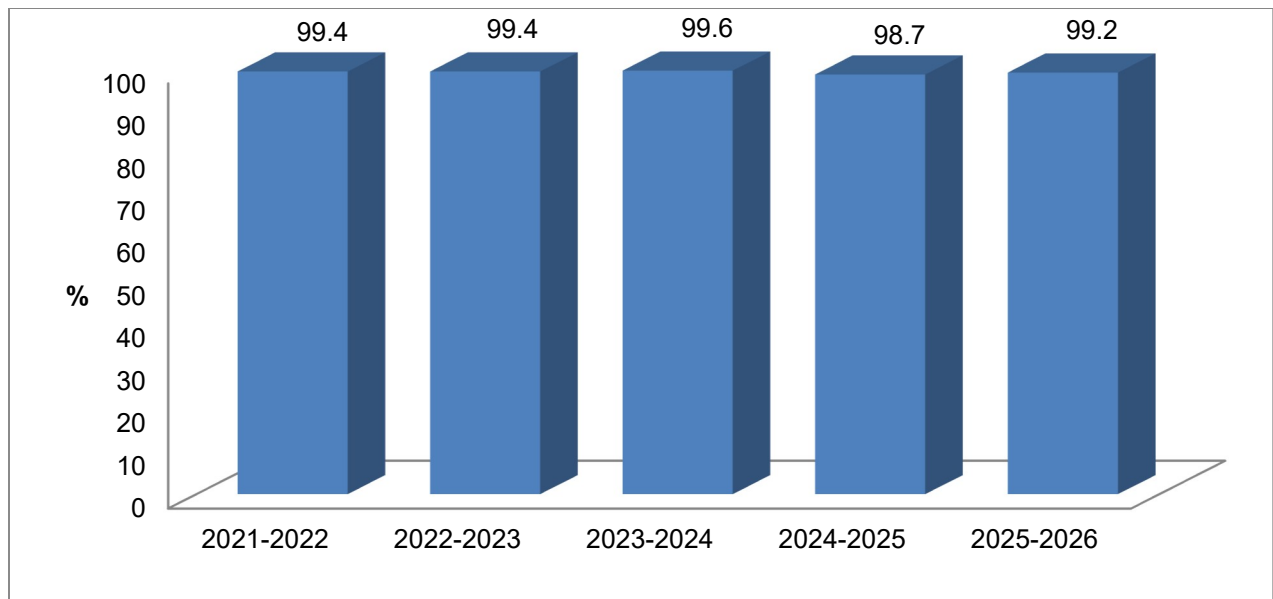


TABLE 1 – SUMMARY OF NON-COMPLIANCE ISSUES UNDER THE SAFE DRINKING WATER ACT (SDWA), MUNICIPAL DRINKING WATER LICENSES (MDWL), DRINKING WATER WORKS PERMITS (DWWP), PERMITS TO TAKE WATER (PTTW), AND THE ONTARIO WATER RESOURCES ACT (OWRA)

Date	Description	Root Cause	Preventative/ Corrective Action
O. Reg 170/03, Schedule 1-2(1)1 – Treatment Equipment			
October 22, 2025	<u>Kitchener</u> A production well was not maintained in a manner sufficient to prevent entry into the well	Improvements to well grading were not initiated when issues were noted.	Well grading and base materials were upgraded to address the noted deficiencies.

Date	Description	Root Cause	Preventative/ Corrective Action
	of surface water and other foreign materials. The grading at the base of well K4C was not sufficient to prevent pooling of surface water.		
Drinking Water Works Permit (DWWP) - Schedule B, Section 3 Watermain Additions, Modifications, Replacements and Extensions			
October 3, 2025	<p><u>Integrated Urban Distribution System</u></p> <p>A Region of Waterloo watermain was modified by a contractor as part of a proposed future subdivision and the required Form 1 was not completed prior to the modification.</p>	It was incorrectly assumed by the contractor and design lead (developer’s consultant) that the City of Cambridge paperwork/Form 1 met the legislated requirements and no further communication to other groups (Region of Waterloo) was required.	A Region Form 1 was completed as required. Review protocols and guidelines, including a sign-off and training for staff involved in the watermain commissioning process. Discuss communication processes with area municipalities to ensure appropriate notifications and approvals are received from Region Water O&M when other parties are required to operate Region equipment.
O. Reg 170/03 – Schedule 6-5, Continuous Monitoring			
April 9, 2025 11:20 - April 10, 2025 20:28 (duration – approximately 33 hours)	<p><u>Roseville</u></p> <p>Primary disinfection free chlorine residual data was not recorded for greater than 5 minutes. Following equipment maintenance, the free chlorine analyzer was left in a state of holding</p>	Operator oversight.	Debrief held with relevant staff to clarify expectations and requirements. Investigate alterations to work order scheduling system to include additional verifications.

Date	Description	Root Cause	Preventative/ Corrective Action
	its last value.		
<p>May 12, 2025 14:24 – May 14, 2025 20:50 (duration – approximately 55 hours)</p>	<p><u>Cambridge</u> Primary disinfection free chlorine residual data was not recorded for greater than 5 minutes. Following equipment maintenance, the free chlorine analyzer at well H3/H3A was left in a state of holding its last value.</p>	<p>Operator oversight.</p>	<p>Meeting held with staff to clarify expectations and requirements. Analyzer calibration/verification work order revised to include additional verification step.</p>
<p>December 26, 2025, 20:48-21:06 (duration – 18 minutes)</p>	<p><u>Petersburg</u> Primary disinfection free chlorine residual data from a communication loss event of greater than 5 minutes were not reviewed by a certified operator within 72 hours.</p>	<p>Multiple communication loss events over a long weekend led to the event being overlooked.</p>	<p>Reviewed event with relevant staff and discussed areas for improvement with existing processes.</p>

Date	Description	Root Cause	Preventative/ Corrective Action
O. Reg 128/04 - Section 27, Record Keeping			
July 3, 2025	<p><u>Maryhill</u></p> <p>Logbooks did not contain the required information. Required logbook entries were not completed for the installation of a new flow meter.</p>	<p>Several operators were involved in the installation, and it was incorrectly assumed that a group logbook entry was made by other attending staff.</p>	<p>A information email was sent to all Water Services Operations and Maintenance staff to remind them of the record keeping requirements of Section 27 of Regulation 128/04. Included in the email was direction to ensure each operator documents their own activities individually.</p>
Oct 14, 2025	<p><u>Foxboro</u></p> <p>Logbooks did not contain the required information. A low chlorine well shutdown event was not documented as required.</p>	<p>Combination of alarm fatigue and operator error.</p>	<p>Meeting held with staff to clarify expectations and requirements. Investigate revising alarm setpoints and alarm delay timers to reduce the number of nuisance alarms.</p>
Drinking Water Works Permit (DWWP) – Schedule B, Section 2 Alterations to the Drinking Water System			
July 3, 2025	<p><u>Maryhill</u></p> <p>A disinfection/cleaning record for the installation of a new flow meter was not available for review during the annual MECP Inspection.</p>	<p>A hardcopy cleaning/disinfection record was completed but misplaced during staff vehicle turnover.</p>	<p>Supervisor to discuss expectations with staff and investigate additional record keeping training. Inform staff to include documentation of disinfection/cleaning in logbook entry as a backup to demonstrate compliance.</p>

Date	Description	Root Cause	Preventative/ Corrective Action
Municipal Drinking Water License – Schedule C, Section 5 Additional Sampling, Testing and Monitoring			
April-June 2025	<u>Integrated Urban Distribution System</u> The required quarterly NDMA sample was not collected in the second quarter of 2025.	The missed sample was not flagged on the existing tracking system.	Investigate improved communication methods with sampling staff when facilities are temporarily removed from service. Review and revise sample tracking system to ensure all regulatory samples are included.

4. HYDRAULIC PERFORMANCE

A summary of the monthly average and maximum flow rates of water supplied are identified in Appendix C.

The Region of Waterloo Drinking Water systems have 34 Permits to Take Water (PTTW), 11 Municipal Drinking Water Licenses (MDWL) and 11 Drinking Water Works Permits (DWWP). Refer to Appendix D for a full list of PTTW, MDWLs and DWWPs.

5. PREVENTATIVE MAINTENANCE PROGRAMS

Elements 14 and 15 of the DWQMS require that the operational plan document a procedure for the annual review of infrastructure necessary to operate and maintain the system. Element 14 requires that the operating authority carry out the review and report to the owner. This reporting ensures that the owner is regularly informed of infrastructure needs and can plan accordingly. Element 15 is about documenting a summary of the maintenance, rehabilitation and renewal programs for the infrastructure. These summaries must be updated as changes occur and must be communicated to the owner. Monitoring the effectiveness of the maintenance program is achieved by periodically reviewing the maintenance program and confirming the effectiveness of the program.

In 2019, the Water and Wastewater Operations Division adopted a Corporate wide Enterprise Asset Management System (Lucity) which replaced the previous computerized maintenance management software. Lucity is a system that manages the installation, maintenance and replacement of infrastructure, equipment and components at water facilities. The system is used to develop, monitor, and report on preventative maintenance plans for the equipment. Preventative maintenance is based on industry standards, regulatory requirements, past history, manufacturers’ recommendations and risk analysis. The following preventative maintenance programs are in place:

- As per the MDWL and/or Reg. 170/03, instrumentation is calibrated and/or verified in accordance with manufacturer's instructions with the exception of the billing meters; a third party calibrates and/or verifies the billing meters annually.
- Instrumentation such as ultraviolet sensors, ultraviolet transmittance, chlorine, and turbidity analyzers, ozone monitors, and other equipment are calibrated and/or verified in-house as per manufacturer's recommendations.
- A software program monitors the status of the SCADA communication system.
- Process and Instrumentation Diagrams (P&IDs) and Process Flow Diagrams (PFDs) are reviewed, updated and maintained as required.
- Electrically, the UV ballasts are run to failure, and the UV lamps are replaced as per manufacturer's instructions.
- Canadian Standards Association (CSA) guidelines have specific requirements for diesel generators, such as an annual load bank test, run under load for rated power, oil changes, coolant, filters, electrical test of alternator, test oil for engine problems and efficiency. There is a contract with a third party to ensure CSA requirements are met.
- In house backup diesel generators are run monthly under load and preventative maintenance is conducted in accordance with CSA guidelines.
- Sub Station Maintenance, involving visual inspections, are performed several times per year.
- All other electrical components are replaced as required.
- Mechanically, sodium hypochlorite injectors are rebuilt monthly at all sites, booster pumps are maintained as required, chemical pumps are checked monthly and rebuilt as required. Piping and valve work is done as required. Air chambers are checked yearly and pumped out as required.
- Distribution system maintenance for North Dumfries and Wellesley Townships includes annual water main flushing and hydrant maintenance. All valves are operated over a 5-year span. Water main repairs, service leaks, meter replacement, and locates occur as required.
- Distribution maintenance, including water main repairs on the trunk mains are performed by the cities, townships or a third party contractor. Programs exist and vary by city for leak detection analysis, locates, and flushing. A more enhanced program continues to be developed to ensure that valves are exercised and remain operational.

6. WELL MAINTENANCE

Wells are maintained in accordance with Reg. 903, (Ontario Water Resources Act) and O. Reg. 170/03 (Schedule 1). Routine internal well inspections and annual MECP inspections indicated that production wells and monitoring wells were in compliance, with the exception of well K4C as identified in Table 1.

7. ASSET MANAGEMENT AND CAPITAL INFRASTRUCTURE REPLACEMENT PROGRAM

The Region's overall objective is to support the achievement of service levels goals, and manage risk, while minimizing lifecycle costs. Risk events, such as an asset failure, are events which may compromise the delivery of the Region's strategic objectives.

The Region's asset risk framework considers potential losses to services, financial loss, and potential safety hazards. All assets are considered according to the impact of asset failure against these criteria and the likelihood of that failure occurring based on asset age, condition and performance.

Renewal work involves replacing or rehabilitating assets or components of assets to avoid service failure or interruption. For those assets with a higher risk profile, renewal works are timed to minimize any risk of failure, while obtaining the longest economic and service life from the assets. The objective is to replace critical assets before condition deteriorates into a poor or very poor state (which would increase the risk of failure).

The predominant drivers of renewals investment are as follows:

- **Current condition and performance:** The Region regularly inspects its assets to monitor their condition and performance, according to Water and Wastewater Infrastructure Management's Inventory, Condition, and Capital Planning Assessment Protocol and supporting Template. Asset specific programs, targeting assets that have higher replacement values, higher consequence of failure and/or are more challenging to inspect continue to be developed and updated to help further refine requirements for renewal investment.
- **Rate of deterioration:** Examination of the rate of deterioration over time based on current condition, compared to expected service life.
- **Renewals intervention point:** Establishing a renewals intervention point based on the level of service required and its risk categorization.
- **Opportunities for more efficient project delivery:** Coordination with other planned capital work such as upgrades or expansion, or coordination with other business units or local municipalities.

Asset renewal requirements are bundled into capital projects based on the type of renewal required and the required timing. Asset Management has also defined a prioritization framework to help define overall capital project priority for infrastructure projects. Project prioritization criteria, include the following:

- Project to address capacity deficiency or to support planned growth
- Project to address compliance requirements (Design / Regulatory)
- Project with funding from higher orders of government with defined timelines
- Project to address a health and safety concern

- Project to provide needed redundancy
- Project to address asset condition / end-of-life
- Project to undertake a time-sensitive rehab to extend service life
- Project to address a performance deficiency or opportunity to improve process performance
- Project that addresses corrective maintenance requirements / reliability concerns
- Project that will reduce energy consumption / greenhouse gases
- Project that improves climate change resiliency

The above framework has established the foundation upon which asset management and capital infrastructure investment decisions are made. In addition, regular preventative maintenance is also performed to maintain the condition of assets and help ensure expected service lives are achieved.

In 2025, some key asset management activities, completed or initiated, are summarized below.

- **2025 Asset Management Plan: Collaborative Efforts with the Corporate Asset Management System Program**

The purpose of the Asset Management Plan (AM Plan) is to support the Region's stewardship of its assets and to meet the requirements for proposed levels of service as outlined in Ontario Regulation 588/17 AM Planning for Municipal Infrastructure (O.Reg. 588/17).

The Region's AM Plan contains consolidated information for the Region's assets and is a written representation of proposed risk reduction programs and strategies for the Region's assets based on understanding of customer requirements, regulatory compliance, and the ability of the assets to meet required levels of service. This AM Plan forecasts future costs and assists in predicting future problems that may hinder service delivery. This creates opportunities for the Region's asset managers and operators to remove physical, financial and political barriers before they negatively impacted customer levels of service.

Ontario Regulation 588/17, Asset Management Planning for Municipal Infrastructure, requires that Asset Management Policy be reviewed and updated as required at least every five years. The asset management policy establishes the framework and guiding principles and process for asset management practice. The regulation also requires that an AM Plan is prepared for all municipal infrastructure assets at least every five years and that an annual review of asset management progress is conducted by July 1 of each year, starting in 2026. In 2024, the Region retained a consultant to support the development of the 2025 AM Plan, which was endorsed by council in June 2025. Ongoing efforts are being made to support the annual review and future AM Plans.

Water and Wastewater Inventory Management Protocol (IMP) Implementation

In 2022, a project to formalize the workflow for inventory management associated with capital and Operation & Maintenance work was initiated. The objective of this project was to develop clear workflow(s) for implementation. The goal of the standardized protocol is to ensure changes

to assets resulting from all types of work, capital and operations and maintenance, are accurately and efficiently reflected in Region's Work Management System / Asset Register Lucity, in support of data management and effective lifecycle management of Water and Wastewater assets. The project continued into 2023/2024 and included consultation with all stakeholders that oversee capital or operation and maintenance work. Collaboration with stakeholders and documentation of workflow(s) were completed and a training program was developed and offered to staff in February 2024 to support use of the protocol and template.

In 2025, 12 Inventory Management Tables (IMTs) were submitted following the completion of water capital projects. This represented updates/and additions of over 860 assets within our asset registry. Lucity is updated with each submitted IMT, in support of ongoing efforts to ensure asset data is reliable and up to date for various management and reporting purposes.

- **Project Tracking Tool: "PeTey"**

PeTey is a web-based application used to identify and track water and wastewater projects. Project Managers within Water and Wastewater Infrastructure Management, Water and Wastewater Operations, and Design and Construction have been provided access to this tool to track project scope, schedule, budget, spending and prioritization of capital projects. PeTey provides a consolidated list of capital projects: completed projects, projects that are in progress, as well as planned future projects. This tool is used to support Project Status Reporting (PSR), preparation of the capital program each year, as well as to monitor project spending against capital budgets.

In 2025, an updated budget submission template was created to improve the efficiency of updating submitted budgets in Petey, also enabling the creation of a new PowerBI dashboard that will support confirmation of 2026 budgets.

The following summarizes the improvements made to the system in 2025:

- Continued administrative support of the PeTey web-based tool as well as providing ongoing training and support to staff.
- Continued support of the Power BI PSR Dashboard.
- Addition of 292 capital projects, 157 of which are future year projects.

- **Water and Wastewater Project Request Tracking System**

An online application is available to staff to submit capital project needs. The system was implemented as tool for staff to communicate needs in a standardized manner that logs the details of the requests, the completed review of the request, and the subsequent action. Following review, confirmed project needs are recommended for the capital program.

In 2025, 48 project requests were submitted by staff, 40 were reviewed and recommended for the capital budget as required, four (4) were not recommended for capital planning, and four (4) requests are still in review. Project requests approved in Bitrix are incorporated into the Project Tracking Tool – PeTey, for input into the capital program.

- **Annual Project Prioritization**

Each year, meetings are conducted to review and prioritize capital infrastructure projects identified to start the following year prior to the capital program development and prior to initiation. Meeting stakeholders include representation from Engineering & Planning, Infrastructure & Program Planning, Water Operations, SCADA & Operational Technology, Hydrogeology & Water Programs, and others as required. The objectives of the project prioritization meeting are as follows:

- Review the water capital project list
 - Consistent with DWQMS – Element 15, 4.8.5 The Manager, Water Operations and Maintenance Shall Ensure:

In collaboration with the Manager, Infrastructure & Program Planning, a long-term forecast for infrastructure maintenance, rehabilitation, and renewal programs are reviewed at least every calendar year.

- Confirm Project Prioritization
 - Consistent with DWQMS – Element 14, 4.1.3: The Manager, Infrastructure & Program Planning Shall Ensure:

A capital works priority projects list is developed and updated annually, in collaboration with Hydrogeology and Water Programs, and Engineering and Planning personnel, to include:

- new supply and distribution system infrastructure
- existing infrastructure upgrades, identified through the Master Plans, studies and maintenance plans
- priorities are confirmed through the 10 year budget process, containing the required infrastructure
- Projects are prioritized based on several criteria, ranked between 1 to 10, and are assigned an overall project priority of High, Medium, Low.
- Project prioritization is intended to inform the capital program development as well as the order of project execution, supporting decision making related to budgets, water supply, and/or resource constraints.

The annual meetings serve to create increased project awareness, provide an opportunity for open dialogue, and identify if changes or alternative actions are required to projects such as risk mitigation measures or modified project scope.

- **Water Facility Inventory, Condition, and Capital Planning Assessments (ICCs)**

ICCs are performed to recognize/update all major building, process, and site works assets and components, as well as to assess the current physical condition and performance (capacity, suitability, quality, quantity, and cost or energy efficiency). This information is then used to support a 10 year capital renewal plan and long-term renewal forecast (50 year) for the facility/system.

The following assessments were initiated, ongoing or completed by the Asset Management Team in 2025:

- Conestogo Plains Reservoir (Offline)
- Flow Meter Chambers (in conjunction with flow meter replacements in the Linear Network)
- Freeport
- Greenbrook WTP
- Greenbrook WTP Filters
- Hidden Valley Raw Water Intake / Weir
- Ira Needles, Pinebush, Freeport, and Ayr Elevated Storage (ROVs)
- Mannheim Water Treatment Residual Management Plant
- Mannheim WTP Chambers
- Mannheim Reservoir and Pumping Station Chambers
- Mannheim Raw Water Transmission Main Chambers
- Maryhill Village Heights WTP
- Middleton WTP (including Reservoir In-Service, ROV Assessment)
- New Hamburg WTP
- St. Jacobs and Elmira Transmission Main Chambers
- Wellesley WTP Reservoir (Offline)
- Wellesley WTP Filters
- Zone 7 Pumping Station and Wells W7 and W8
- **Annual Review and Coordination of Watermain Replacements**

Watermain replacement requirements are reviewed based on the age, material, and condition (break history and leakage reports where available) and are coordinated with both Regional and Local transportation capital programs. Coordination meetings with area municipalities occurred in June/July 2025 in support of capital budgeting processes.

- **Grand River Intake Weir System Assessment**

In 2024, a consultant was retained to undertake a Public Safety Assessment of the Mannheim Water Treatment Plant Grand River Intake Weir. The assessment was completed in 2024 with the reporting and recommendations provided in 2025. Additional installation of signage was also completed in 2025. Further assessment of assets and Dam Safety Review is currently in progress.

- **Elevated Tank Program**

The Region's Water System includes 10 treated water elevated tanks, in addition to two (2) raw water elevated tanks. The Elevated Tank Program includes regular inspections and rehabilitation as described below.

- **Elevated Tank Inspections:** The Region undertakes an annual tank inspection program to examine ladders, landings, handrails, appurtenances, venting and overflow screens. These inspections meet or exceed the recommended requirements set out in the AWWA Standard M42-Steel Water Storage Tanks. In addition to annual safety inspections, ROV (Remotely Operated Underwater Vehicle) inspections were carried out for selected tanks as part of the ongoing inspection program while storage facilities are kept online. Cathodic protection inspections were also completed where applicable.
- **Reservoir cleaning and re-coating:** The Region is continuing to optimize the capital and O&M program for elevated water storage tanks, with consideration of levels of service, alignment of maintenance or warranty inspections, coating replacement/rehabilitation or maintenance work with other capital projects. The overall program objective is to define service levels goals, manage risk, minimize lifecycle costs, and improve alignment with other capital projects to minimize downtime.
- In 2025, the Mannheim East Raw Water tank was drained, cleaned and inspected, and a Safety Code 6 assessment was completed for the Waterloo Zone 6 tank. Ira Needles, Pinebush, Freeport, and Ayr Elevated Storage tanks were also inspected (via ROVs).

Elevated tank renewal work in 2025, identified through the Reservoir Inspection Program, that were initiated, or ongoing by project delivery project managers, included the following:

- Howard Tank – Riser replacement, renewal and interior re-coat. Construction started in 2025 and is anticipated to be complete in spring of 2026.

- **In-Ground Reservoir/Tank Inspection Program**

The Region's Water System includes many underground or at grade water storage structures (raw water storage tanks, potable water storage tanks, chlorine contact chambers, ozone contact chambers, backwash feed and storage tanks, other storage tanks). The physical condition of these assets and the assets located within are difficult to inspect. Assessment of these structures is facilitated by either ROV (Remotely Operated Underwater Vehicle) while the asset is in service, or physical inspection through person entry. Inspection requires significant advanced planning and may require isolation, draining, cleaning and confined space entry to undertake the inspection. The objective for the reservoir inspection program is to develop a consistent approach to reservoir inspections and renewal to ensure that all assets (i.e. structural, process, electrical, and instrumentation) are captured, and quality information is generated for capital planning.

In 2022, a document to support site-specific Terms of Reference for reservoir inspection and renewal was developed. The document identifies three (3) phases that can be executed as a single project or multiple projects as required:

Phase I is an in-service assessment:

- Inspection undertaken via a Remotely Operated Underwater Vehicle (ROV)
- Accompanied by exterior inspection and chamber inspection
- Minimal operational interruption / involvement required

A Phase I assessment provides an initial look at condition of the reservoir and indication of renewal requirements. This assessment is used to prioritize when the Phase II inspection should be planned.

Phase II is an offline assessment followed by immediate renewal before the reservoir is put back in service:

- Before the reservoir is taken out of service, the necessary planning is completed to ensure efficient project delivery and minimized downtime.
- Reservoir isolation, draining, cleaning, and inspection via person entry (structural and process specialists).
- Following the inspection, a scope of work recommended to be completed prior to putting the reservoir back online is developed. The goal is to undertake the necessary repairs such that there is not a need to take the reservoir offline again for a least 5 years.
- Contractor retained and repairs completed.
- Disinfection, sampling, and reservoir put back in service.
- Standardized deliverables, including future recommended works.

Phase III is a tender for renewal (if required):

Phase III is planned and undertaken if additional future renewal work is recommended by the consultant (ideally a minimum of 5 years following Phase II).

Reservoir Inspection and Renewal work, undertaken by the Asset Management Team in 2025, included the following:

- Mannheim Reservoir (5 Cells) – A Phase I in-service reservoir assessment was undertaken in 2023/2024. The scope of work also included interior investigation of the Concrete Pressure Pipe within the reservoir. Final recommendations were provided in 2025.
- Linwood Ground Water Supply System – In coordination with upgrades to the Facility, a Phase II inspection and renewal was completed in 2024. Final documentation and future recommendations were provided in 2025.
- Maryhill WTP Reservoir - In coordination with upgrades to the Facility, a Phase II inspection and renewal was completed in 2025.
- Maryhill Heights Reservoir - A Phase I in-service reservoir assessment was undertaken in 2025.

- Middleton Reservoir - A Phase I in-service reservoir assessment was initiated in 2024, along side the overall facility ICC and Facility Plan. Inspection is planned in early 2026.
- New Hamburg WTP – A Phase I in-service reservoir assessment was completed along side the overall facility ICC.
- West Montrose Reservoir – In coordination with operation and maintenance works, a Phase II inspection and renewal was completed in 2025.

Reservoir Renewal Work in 2025, identified through the Reservoir Inspection Program, executed by project delivery project managers, included the following:

- Parkway Reservoir – Phase III Renewal. Construction continued in 2025 and is anticipated to be complete in early 2026.
- Turnbull Reservoir – Phase II (Offline / Isolation Planning) and/or Phase III (Design / Tendering / Renewal). Design was completed and tendered in 2025.

- **Roofing Asset Program**

The roofing Asset Program objective is to assess the condition of roofing at water facilities and identify repair and replacement needs. The program follows Water’s standardized data collection protocol which supports the development of capital renewal plans and long-term forecast. Where possible, identified renewal is aligned with planned projects, or is grouped separately into roofing renewal projects completed by the Region’s Facilities Management group.

- In 2025, St. Clements WTP, Petersburg WTP, and the Zone 7 PS roofing were replaced, while roofing repairs were also completed at various sites.

- **Water Filters Asset Program Development**

Initiated in late 2021, the key objective of this initiative is to refine the filtration system asset hierarchy in the corporate work management system, Lucity, and recommend best practice life-cycle management strategies for filtration assets. The deliverables of the program will include a 10-year capital program for filter assets, a 50-year forecast, operation and maintenance recommendations, as well as technical levels of service and key performance indicators. Final documentation and future recommendations were provided in 2024. The existing asset data is currently being reviewed to be updated to represent the recommended hierarchy. Further development and implementation continued in 2025 with assessments being undertaken for the Greenbrook WTP and Wellesley WTP.

- **Facility/Asset Imaging**

LiDAR (light detection and ranging) is a technology that is being used by Water and Wastewater Infrastructure Management to generate virtual imagery of the Region’s water and wastewater facilities.

This technology is used to facilitate discussion during meetings and project planning activities, assist design, tendering and construction activities. The imaging of the water and wastewater facilities enables staff, consultants, and contractors to view the sites, without the need for in-person site visits. The imaging is a widely and routinely used resource for staff for many purposes

and has the added benefit of reducing Greenhouse Gas (GHG) emissions by reducing the travel to sites.

At the end of 2025, the library of virtual tours included 351 active spaces at both water and wastewater sites. Imaging has been expanded to include assets when they are taken out of service for inspection such as chambers, reservoirs, and tanks.

APPENDIX A – QMS MANAGEMENT REVIEW

DATE: November 25, 2025

TIME: 1:00pm – 4:30pm

PLACE: Mannheim Training Room

PRESENT: Peter Clarke, Dale Wiens, Kathy Taylor, Mark Chen, Ryan Snider, Amy Shaw, Mari MacNeil, Jennifer Rose, Aldo Franco (Public Health), Bernadette Moussa (Public Health), Frank Kosa (Design & Construction)

REGRETS: None

1) QMS MANAGEMENT REVIEW PROCESS

A summary was provided of the Management Review purpose and objectives - to evaluate the effectiveness and appropriateness of the QMS and to address any deficiencies.

2) QMS POLICY REVIEW AND APPROVAL

The QMS policy was reviewed and continues to be appropriate.

3) DWQMS MANAGEMENT REVIEW REQUIREMENTS

Required Management Review agenda items were discussed in accordance with the procedure.

4) ROUNDTABLE DISCUSSION

Management Review discussion conducted as per presentation and agenda.

5) PREVIOUS ACTION ITEMS - FOLLOW-UP

Reviewed 2024 Management Review action items and status:

I. REVIEW/IMPLEMENT 2024 INTERNAL AND EXTERNAL AUDIT FINDINGS

Three (3) non-conformance issues were identified. Four (4) opportunities for improvement (OFI) were identified. Implementation to be assessed and decided by management staff.

Action: QMS Team, Operations & Maintenance (O&M) Supervisors.

Status: 3 non-conformance action plans completed. 3 OFI implemented, 1 in progress.

II. PROVIDE QMS TRAINING TO THE DESIGN & CONSTRUCTION AND ENGINEERING & PLANNING GROUPS

Including Municipal Drinking Water Licence (MDWL) and Drinking Water Works Permit (DWWP) training.

Action: QMS Team

Status: Complete. To be provided annually.

III. FINALIZE LETTER TO PROJECT MANAGERS CLARIFYING COMPLIANCE REQUIREMENTS, ASSOCIATED EXPECTATIONS AND POTENTIAL IMPLICATIONS FOR NON-COMPLIANCE

Action: Manager, O&M and Commissioner, EES

Status: Complete

IV. SET UP MEETING WITH PUBLIC HEALTH TO REVIEW THE AWQI COMMUNICATION PROTOCOL

Water & Wastewater Services' Internal BWA/DWA communication protocol updated as well.

Action: Supervisor, Process & Compliance

Status: Complete

V. CONTINUE THE DEVELOPMENT AND PROVISION OF IN-HOUSE TRAINING SESSIONS TO ASSIST WITH ACHIEVING REQUIRED ON THE JOB TRAINING HOURS

Particularly beneficial for new staff and supervisors.

Action: QMS Team, O&M Supervisors

Status: Ongoing. Several additional training sessions provided in 2025

6) INCIDENTS OF REGULATORY NON-COMPLIANCE REVIEW

Four (4) regulatory non-compliance issues have occurred in 2025. For non-compliance issues, a corrective/preventative action plan was implemented.

7) OPERATIONAL PLANS AND MUNICIPAL DRINKING WATER LICENSES

- Operational Plans updated to reflect 2025 Risk Assessment Outcomes.

8) General Discussion

- The Ministry of Environment Conservation and Parks (MECP) is in the process of revising the GUDI Terms of Reference and associated Procedure for Disinfection of Drinking Water in Ontario. New facilities and system wells require 4 log virus inactivation vs. current 2 log inactivation. New groundwater wells classified as provisional groundwater may require additional monitoring for potential surface water influence.
- Form 2s generated for the following:
 - Wellhouse K22A demolition
 - Wells NH3, PE1, K33, K2A pump replacements
 - Elmira West Elevated Tank rechloramination system installation
 - Strange Street WTP FCR analyzer sample pump removal
 - Rahmans Pumping Station and Standpipe demolition

- Wells K18 and K19 raw watermain air relief valve installation
- William Street well pumps rated capacity changes
- Elmira West Elevated Tank backflow preventer removal
- St. Jacobs to Elmira watermain – Air relief and valve chamber removal
- Turnbull Pumping Station upgrades
- Schedule C received for the following:
 - Chlorine gas system upgrades at Mannheim WTP
 - Erb Street Reservoir bypass
 - Wellhouse G4A upgrades

Upcoming

- Cambridge - Cedar Creek Elevated Tank and Watermain
- MECP has a working group in place to review and revise the disinfection requirements for water treatment plants, storage facilities and wells in Ontario. Currently, O&M must follow American Water Works Association (AWWA) Standards.
- MECP indicated an application for Regulatory Relief from Schedule 6-2 of Regulation 170/03 (sampling locations) may be required. Inventory of all IUS facilities completed to determine where relief will be required.
- Discussed the possibility of inviting external stakeholders such as the MECP and/or area municipality representatives to various tabletop emergency exercises.
- Discussed outcome of 2022 meeting between Water O&M, Public Health and MECP regarding corrective action required if adverse levels of fluoride (above 1.5 mg/L but below 2.4 mg/L) were to be obtained. Significant staff turnover has occurred since the meeting. Meeting minutes to be provided to Public Health.
- Discussed developing an in house on the job training form that staff could use in the field to assist with meeting minimum training requirement hours. Could be particularly beneficial for onboarding new staff.
- Benefits of additional storage facilities and redundant storage facilities discussed. Would provide additional operational resiliency for instances when reservoirs are taken offline for inspection and/or rehabilitation, including the upcoming isolation of the Erb Street Reservoir.
- Discussed the limited nature of groundwater and potential impacts that groundwater quality changes may have on water supply. Historically, production wells have been abandoned or removed from service due to water quality changes with no practical options for treatment or mitigation. Groundwater blending models are in place to address finished water quality. Blending models

have also been proposed to address potential future water supply challenges.

- Additional supporting staff will be required in Water and Wastewater Infrastructure Management (WWIM). Consider including details in 2026 top management presentation. As more assets are built out, additional staff will be required to support those assets.
- Consider the creation of an SOP and/or an annual meeting to ensure operational performance is considered in the development of the Water and Wastewater Monitoring Report. Operational performance indicators including well production, water quality, facility upgrades, offline wells etc. should be included. The same approach could be considered for the Wastewater side.
- Leak detection programs and associated water loss discussed. Summarize water loss as a percentage of water supplied and provide a summary for Region-owned distribution systems at the 2026 top management review.
- Eleven (11) Municipal Drinking Water License (MDWL) renewal applications submitted in October 2025. Current Licenses expire April 2026.
 - New MDWL requirements may include changes to harmful algal bloom response plans, NSF14 (polyvinyl chloride (pvc) piping) requirements, below grade well inspection frequency, increased primary disinfection requirements from 2 log to 4 log virus inactivation, changes to compliance implications for adverse distribution chlorine residuals, changes to the CT calculation requirements, continuous monitoring alarm setpoints and filter performance reporting requirements.
- Competency Tables were recently revised to include staff outside of Water O&M. Clarity and training on methods to ensure required training and competencies are reflective of actual practices would be beneficial. Set up a meeting to review and revise tables as necessary.
- Briefly discussed proposed changes to the Ontario Clean Water Act and potential revisions intended to streamline Source Protection Plan approvals.
- Discussed resources required to maintain and improve the QMS, including:
 - Additional staffing as indicated in several internal and external QMS audits and a Municipal Benchmarking exercise completed in 2023. The Region has become the fastest growing community in Canada, at a time when much of our above ground infrastructure is reaching end of life; the combination of increased equipment failures and increased population-based demand have increased pressure to enhance preventative maintenance, maximize production, and respond quickly to equipment failures.
 - Specific O&M staffing requirements identified to maintain and improve the QMS included:
 - Instrumentation and Control Technician (Deferred, 2026)
 - Millwright x2 (2027)

- Instrumentation and Control Technician x2 (2027)
- TBD – Pending Water Supply Strategy Update (WSSU) outcomes, develop staffing plan to service new infrastructure.
- Asset rehabilitation and renewal. 14% of assets are nearing end of life (EOL). 36.9% (\$1.7B) of assets are in "fair" condition, increased from 18% in 2020. Many assets will enter EOL within the next reporting period.
- Additional equipment, particularly to support Distribution System maintenance and repairs, such as service line repair/replacement and valve exercising and isolation.
- Provision of increased internal and external training sessions to ensure mandatory minimum requirements are met. Many groups require over 4 years of experience to obtain the required water licencing to function independently. Recruitment for skilled trades should start 2-5 years before infrastructure is brought online.

9) **ACTION ITEMS**

I. **REVIEW/IMPLEMENT 2025 INTERNAL AND EXTERNAL AUDIT FINDINGS**

- Three (3) minor non-conformances identified.
- Three (3) opportunities for improvement were identified, implementation to be assessed and decided by management staff.

Action: QMS Team, O&M Supervisors

Timeline: Fall 2026

II. **PROVIDE QMS AND COMPLIANCE TRAINING TO THE DESIGN & CONSTRUCTION AND WATER & WASTEWATER INFRASTRUCTURE MANAGEMENT GROUPS**

Action: Supervisor, Process and Compliance

Timeline: Fall 2026

III. **CONSIDER CREATING A TRAINING FORM TO ALLOW FOR INCREASED TRACKING OF ON THE JOB TRAINING PERFORMED IN THE FIELD.**

Action: QMS Team

Timeline: Spring 2026

IV. **CONSIDER THE CREATION OF AN SOP AND/OR AN ANNUAL MEETING TO ENSURE OPERATIONAL PERFORMANCE IS CONSIDERED IN THE DEVELOPMENT OF THE WATER AND WASTEWATER MONITORING REPORT.**

Action: O&M Supervisors, Manager O&M

Timeline: 2026

V. **SUMMARIZE THE WELL REHABILITATION WORK COMPLETED AND INCLUDE THE PERCENTAGE IMPROVEMENT TO THE WATER SUPPLY AT THE 2026 TOP MANAGEMENT**

REVIEW.

Action: QMS Team, Hydrogeology and Water Programs Group

Timeline: Fall 2026

VI. FORMALIZE COMPETENCIES AND SPECIFIC TRAINING REQUIREMENTS FOR STAFF EXTERNAL TO O&M. REVIEW AND REVISE COMPETENCY TABLE AS REQUIRED.

Action: QMS Team, Manager O&M

Timeline: Spring 2026

VII. SUMMARIZE WATER LOSS AS A PERCENTAGE OF WATER SUPPLIED AND PROVIDE A SUMMARY FOR REGION-OWNED DISTRIBUTION SYSTEMS AT THE 2026 TOP MANAGEMENT REVIEW.

Action: QMS Team, WWIM Group

Timeline: 2026

VIII. CONTINUE THE DEVELOPMENT AND PROVISION OF IN-HOUSE TRAINING SESSIONS TO ASSIST WITH ACHIEVING REQUIRED ON THE JOB TRAINING HOURS

- Particularly beneficial for new staff and supervisors.

Action: QMS Team, O&M Supervisors

Timeline: 2026

10) NEXT STEPS

- Prepare for External (NSF) Reaccreditation Audit, scheduled for February 22-24, 2026.
- Review and implement previous audit findings and staff suggestions as applicable.
- Continue development and provision of in-house training presentations

APPENDIX B – MECP INSPECTION COMPLIANCE RATINGS

Drinking Water System	Water Works #	Inspection Period	Compliance Rating %
Ayr	220004199	Sept 19, 2024 to Sept 25, 2025	100
Branchton	260002538	May 14, 2024 to April 30, 2025	100
Cambridge	220000166	April 1, 2024 to March 31, 2025	100
Integrated Urban Water Distribution System	260097331	September 1, 2024 to August 10, 2025	100
Foxboro	220009210	August 1, 2024 to August 31, 2025	100
Kitchener	220003092	October 18, 2024 to October 22, 2025	96.67
Linwood	220000102	November 1, 2024 to December 10, 2025	100
Lloyd Brown	260002759	January 30, 2025 to January 8, 2026	100
Mannheim WTP	220006981	August 8, 2024 to August 19, 2025	100
Mannheim Village	260002668	July 1, 2024 to May 31, 2025	100
Maryhill	220004171	December 17, 2024 to December 3, 2025	94.18
New Dundee	220004180	November 1, 2024 to June 30, 2025	100
New Hamburg/Baden	220000111	June 1, 2024 to July 31, 2025	100
Petersburg	260006269	March 1, 2025 to December 31, 2025 (report not received at time of issue)	N/A
Roseville	220007301	July 18, 2024 to June 19, 2025	94.67
Shingletown	260002707	September 1, 2024 to May 31, 2025	100
St. Clements - Heidelberg	220005811	December 16, 2022 to January 20, 2024 (current report not received at time of issue)	100
Waterloo	220000157	October 1, 2024 to October 25, 2025	100
Wellesley	220004215	October 15, 2024 to September 10, 2025	100

APPENDIX C – TREATED WATER FLOW DATA

The following tables summarize the flow rates for 2025, including MDWL Schedule C - Table 1 flow limits and treated water monthly average daily volumes.

Cambridge Drinking Water System – Wells G4/G4A			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 1900 m³/day)	Monthly Average (m³/d)
January	16.38	1384	1377
February	16.39	1384	1375
March	16.52	1383	1358
April	16.24	1377	972
May	0.00	0	0
June	0.00	0	0
July	0.00	0	0
August	0.00	0	0
September	10.65	23	1
October	17.37	1348	1234
November	16.13	1400	1304
December	17.05	1428	1314
Average			1276
Maximum	17.37	1428	

Cambridge Drinking Water System – Wells G5/G5A			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 4320 m ³ /day)	Monthly Average (m ³ /d)
January	16.63	1405	1404
February	16.65	1405	1404
March	16.62	1405	1400
April	16.79	1405	1110
May	10.42	866	843
June	33.23	1383	1014
July	17.71	1383	1382
August	16.84	1383	1382
September	16.89	1383	1382
October	18.86	1383	1382
November	16.80	1440	1384
December	17.17	1383	1379
Average			1289
Maximum	33.23	1440	

Cambridge Drinking Water System – Well G9			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 3,280 m ³ /day)	Monthly Average (m ³ /d)
January	17.07	1324	1247
February	17.33	1312	1252
March	18.23	1287	1244
April	16.90	1344	1254
May	17.62	1365	1250
June	16.23	1343	1207
July	16.31	1142	927
August	16.73	1354	1221
September	17.41	1314	1250
October	16.17	1226	1172
November	16.03	1229	1139
December	15.47	1186	1108
Average			1189
Maximum	18.23	1365	

Cambridge Drinking Water System – Well H3/H3A			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 1642 m ³ /day)	Monthly Average (m ³ /d)
January	12.44	1033	1028
February	12.42	1027	1019
March	12.31	1015	1004
April	12.98	1030	984
May	12.73	897	822
June	12.29	870	837
July	14.27	1036	880
August	12.14	451	15
September	17.01	1037	548
October	12.38	1037	1033
November	12.38	1080	1038
December	12.33	1037	953
Average			847
Maximum	17.01	1080	

Cambridge Drinking Water System – Well H4A			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 2074 m ³ /day)	Monthly Average (m ³ /d)
January	12.97	1037	1037
February	13.04	1037	1037
March	12.89	1037	1035
April	12.87	1037	1025
May	16.70	1037	1011
June	16.89	1037	1033
July	12.94	1037	1036
August	12.84	1037	1037
September	13.36	1037	1037
October	16.96	1037	1032
November	12.86	1080	1038
December	16.86	1037	720
Average			1006
Maximum	16.96	1080	

Cambridge Drinking Water System – Well H5/H5A			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 1987 m ³ /day)	Monthly Average (m ³ /d)
January	10.69	864	864
February	10.50	864	864
March	10.55	865	830
April	17.01	821	813
May	12.28	821	802
June	11.72	821	821
July	11.96	821	818
August	12.44	821	820
September	12.36	821	815
October	11.91	821	816
November	11.77	855	644
December	12.29	821	737
Average			804
Maximum	17.01	865	

Cambridge Drinking Water System – Middleton Wells (G1, G1A, G2, G3, G14, G15)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 40349 m ³ /day)	Monthly Average (m ³ /d)
January	306.03	22011	20488
February	306.04	21714	20425
March	307.48	23330	21548
April	396.33	23327	21049
May	404.18	23331	22158
June	403.90	25683	23005
July	406.66	26460	23691
August	405.15	26404	24062
September	401.26	24723	22389
October	398.08	22336	20164
November	395.46	21437	19317
December	396.00	23495	21135
Average			21619
Maximum	406.66	26460	

Cambridge Drinking Water System – Pinebush Wells (P10A, P10B, P11, P17, P19)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 10368 m ³ /day)	Monthly Average (m ³ /d)
January	43.64	3106	2531
February	43.41	3107	2549
March	43.40	3112	2300
April	38.58	2585	2417
May	35.64	2663	2327
June	34.80	2299	2134
July	33.89	2258	2019
August	32.83	1791	1657
September	33.25	1790	1664
October	33.19	1804	1521
November	31.59	1815	1082
December	39.87*	0	0
Average			2018
Maximum	43.64	3112	

*Running to waste.

Cambridge Drinking Water System – Well P16			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 1961 m ³ /day)	Monthly Average (m ³ /d)
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
Average			0
Maximum	0	0	

Cambridge Drinking Water System – Well P9			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 1728 m ³ /day*)	Monthly Average (m ³ /d)
January	18.49	1556	1555
February	18.63	1556	1552
March	18.50	1556	1549
April	18.40	1556	1555
May	18.57	1556	1554
June	18.44	1556	1555
July	18.47	1556	1553
August	18.47	1556	1547
September	18.44	1556	1555
October	18.45	1556	1554
November	18.45	1620	1556
December	19.33	1556	1534
Average			1552
Maximum	19.33	1620	

Cambridge Drinking Water System – Well P15A			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 1728 m ³ /day)	Monthly Average (m ³ /d)
January	15.78	1296	1221
February	15.56	1296	1249
March	15.65	1297	1285
April	15.58	1297	1293
May	18.14	1434	1268
June	15.65	1296	1296
July	15.60	1297	1294
August	15.73	1296	1277
September	15.57	1296	1296
October	15.60	1296	1295
November	15.60	1296	1292
December	17.29	1296	1278
Average			1279
Maximum	18.14	1434	

Cambridge Drinking Water System – Shades Mill Wells (G7, G8, G38, G39, G40)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 12960 m³/day)	Monthly Average (m³/d)
January	100.56	7234	4731
February	99.54	7269	5155
March	98.54	7459	4642
April	98.78	5457	4479
May	98.16	5465	5016
June	98.37	7713	5960
July	98.39	7671	6135
August	96.86	8055	5898
September	108.00	7524	5450
October	111.75	5609	4331
November	111.10	6402	4139
December	109.50	6354	3649
Average			4965
Maximum	111.75	8055	

Cambridge Drinking Water System – Turnbull Wells (G6, G16, G17, G18)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 10368 m³/day)	Monthly Average (m³/d)
January	104.66	3654	2035
February	105.89	3736	2306
March	104.14	3737	2491
April	103.96	5457	2885
May	104.13	6410	4095
June	102.78	7612	4937
July	105.07	5892	3810
August	106.70	6326	3810
September	104.09	5549	3151
October	104.17	2480	1636
November	105.72	4199	1823
December	103.83	4328	2785
Average			2980
Maximum	106.70	7612	

Kitchener Drinking Water System – Greenbrook Wells (K1A, K2A, K4C, K5A, K8)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 12269 m³/day)	Monthly Average (m³/d)
January	143.33	6458	6407
February	127.30	6458	6182
March	139.84	6078	5744
April	120.42	6080	5892
May	141.25	5911	1980
June	40.32*	0	0
July	63.77*	0	0
August	39.75*	0	0
September	42.47*	0	0
October	40.66*	0	0
November	40.15*	0	0
December	85.08*	0	0
Average			5241
Maximum	143.33	6458	

*Running to waste

Kitchener Drinking Water System – Wells K34/K36			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 6868 m³/day)	Monthly Average (m³/d)
January	55.10	3830	3687
February	55.65	3820	3585
March	54.01	3784	3762
April	56.53	3979	3712
May	58.00	3977	3862
June	54.40	3778	3662
July	53.36	3746	3691
August	51.36	3742	3504
September	50.68	3592	3557
October	50.74	3566	3489
November	50.40	3545	3470
December	57.86	3528	3117
Average			3588
Maximum	58.00	3979	

Kitchener Drinking Water System – Parkway Wells (K31, K32, K33)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 13737 m³/day)	Monthly Average (m³/d)
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
Average			0
Maximum	0	0	

Kitchener Drinking Water System Strange St. Wells (K10A, K11A, K13B, K18, K19, W1B, W2B, W2C, W3A)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 21600 m³/day)	Monthly Average (m³/d)
January	99.25	7718	6970
February	99.90	7697	6393
March	96.58	7666	6846
April	96.57	7974	5997
May	98.93	7921	7702
June	95.25	7896	6892
July	107.43	7040	6631
August	101.78	17525	11489
September	73.48	17685	16557
October	79.87	17655	15552
November	63.45	15541	14226
December	66.11	15531	15380
Average			10053
Maximum	107.43	17685	

Kitchener Drinking Water System – Woolners Wells (K80, K81, K82)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 11146 m³/day)	Monthly Average (m³/d)
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
Average			0
Maximum	0	0	

Mannheim WTP Drinking Water System – Well K21			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 2765 m³/day)	Monthly Average (m³/d)
January	24.64	2052	1960
February	24.35	1957	1917
March	25.03	2064	1923
April	25.07	2071	1961
May	22.70	1890	1843
June	25.14	1826	1797
July	22.12	1776	1747
August	21.93	1794	1722
September	20.25	1725	1675
October	24.09	1745	1649
November	23.24	1765	1667
December	23.71	1679	1628
Average			1791
Maximum	25.14	2071	

Mannheim WTP Drinking Water System – Well K21A			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 2160 m ³ /day)	Monthly Average (m ³ /d)
January	20.41	1729	1718
February	22.41	1728	1715
March	20.32	1728	1077
April	35.02	1728	839
May	20.55	1728	1725
June	28.64	1901	1767
July	23.33	1901	1898
August	23.29	1901	1849
September	20.37	1729	1728
October	25.98	1729	1724
November	24.36	1800	1730
December	25.64	1729	1714
Average			1623
Maximum	35.02	1901	

Mannheim WTP Drinking Water System – Well K25			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 6826 m ³ /day)	Monthly Average (m ³ /d)
January	57.33	4528	4289
February	59.07	4372	4320
March	60.75	4527	4361
April	60.18	4433	4328
May	57.05	4353	4309
June	70.99	4328	4285
July	55.25	4314	4237
August	57.01	4345	4181
September	52.24	4336	4306
October	57.74	4337	4188
November	54.92	4185	4105
December	56.04	4226	4159
Average			4256
Maximum	70.99	4528	

Mannheim WTP Drinking Water System – Well K29			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 5270 m ³ /day)	Monthly Average (m ³ /d)
January	57.13	3877	3715
February	58.34	3863	3726
March	59.22	4159	3847
April	61.38	4229	3867
May	56.88	3761	3660
June	57.04	3684	3581
July	56.18	3869	3575
August	59.47	4278	3647
September	50.70	3736	3652
October	56.47	3841	3661
November	57.69	3829	3717
December	54.08	3949	3777
Average			3702
Maximum	61.38	4278	

Mannheim WTP Drinking Water System – ASR1			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 5010 m ³ /day)	Monthly Average (m ³ /d)
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	0	0	0
July	20.68	798	152
August	19.90	1136	127
September	19.97	268	35
October	18.38	404	21
November	18.96	57	8
December	19.44	1066	118
Average			77
Maximum	20.68	1136	

Mannheim WTP Drinking Water System – ASR2			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 3283 m ³ /day)	Monthly Average (m ³ /d)
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	27.55	175	16
June	17.01	1147	461
July	17.51	1066	343
August	16.31	1065	335
September	16.40	575	159
October	16.19	524	31
November	15.87	53	8
December	16.49	1037	128
Average			185
Maximum	27.55	1147	

Mannheim WTP Drinking Water System – ASR3			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 3974 m ³ /day)	Monthly Average (m ³ /d)
January	0	0	0
February	0	0	0
March	0	0	0
April	4.40	73	3
May	3.43	248	92
June	45.50	306	111
July	12.53	34	1
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
Average			52
Maximum	45.50	306	

Mannheim WTP Drinking Water System – ASR4			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 5443 m ³ /day)	Monthly Average (m ³ /d)
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
Average			0
Maximum	0	0	

Mannheim WTP Drinking Water System – ASR5			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 5504 m ³ /day)	Monthly Average (m ³ /d)
January	45.26	2580	426
February	45.19	270	30
March	45.14	439	35
April	50.29	3231	467
May	50.16	209	12
June	50.24	4273	1256
July	45.39	3888	1409
August	45.29	3888	1230
September	45.32	2116	590
October	45.31	1953	145
November	45.16	195	29
December	45.26	3888	539
Average			514
Maximum	50.29	4273	

Mannheim WTP Drinking Water System – RCW2			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 5443 m ³ /day)	Monthly Average (m ³ /d)
January	35.16	1893	312
February	34.44	199	22
March	34.30	323	26
April	40.49	2327	340
May	36.76	3024	650
June	37.01	3024	1612
July	37.57	3024	1036
August	36.96	3025	913
September	45.60	1648	410
October	37.13	1520	112
November	37.31	152	22
December	37.69	3024	413
Average			489
Maximum	45.60	3025	

Mannheim WTP Drinking Water System – RCW3			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 2592 m ³ /day*)	Monthly Average (m ³ /d)
January	29.48	1404	162
February	25.20	150	17
March	25.16	247	19
April	30.41	1807	260
May	30.46	2361	477
June	30.15	2420	1301
July	30.34	2419	876
August	29.98	2333	737
September	30.13	1269	353
October	29.67	1172	87
November	29.52	116	16
December	29.97	2333	292
Average			383
Maximum	30.46	2420	

Mannheim WTP Drinking Water System – RCW4			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 3888 m³/day)	Monthly Average (m³/d)
January	37.45	2008	331
February	36.35	211	23
March	35.34	345	27
April	40.17	2409	355
May	38.14	3024	650
June	38.94	3284	1658
July	38.95	3283	1190
August	39.39	3284	1039
September	38.97	1789	499
October	38.23	1648	122
November	38.18	164	24
December	38.27	3283	450
Average			531
Maximum	40.17	3284	

Mannheim WTP Drinking Water System – Well K91			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 4492 m³/day)	Monthly Average (m³/d)
January	39.19	3217	2613
February	39.17	3170	2152
March	38.70	3153	2217
April	38.22	3150	2517
May	38.49	3137	2543
June	38.56	3106	2810
July	37.93	3096	2892
August	38.51	3086	2403
September	38.26	3096	2538
October	38.20	3107	2295
November	38.13	3003	1970
December	37.71	3102	1925
Average			2406
Maximum	39.19	3217	

Mannheim WTP Drinking Water System – Well K92			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 4492 m ³ /day)	Monthly Average (m ³ /d)
January	42.30	3402	2713
February	42.04	3369	2137
March	42.20	3363	2399
April	42.09	3381	2748
May	41.43	3342	2703
June	41.14	3327	3052
July	40.74	3301	3081
August	41.37	3291	2569
September	41.85	3311	2697
October	41.61	3499	2497
November	41.72	3440	2241
December	41.80	3450	2130
Average			2581
Maximum	42.30	3499	

Mannheim WTP Drinking Water System – Well K93			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 4492 m ³ /day)	Monthly Average (m ³ /d)
January	47.63	3452	2745
February	45.96	3430	2374
March	49.24	3408	2342
April	58.10	3382	2723
May	45.28	3393	2757
June	44.22	3387	3099
July	43.57	3354	3129
August	44.17	3350	2609
September	43.89	3343	2749
October	43.80	3348	2503
November	44.17	3344	686
December	0	0	0
Average			2520
Maximum	58.10	3452	

Mannheim WTP Drinking Water System – Well K94			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 4492 m³/day)	Monthly Average (m³/d)
January	43.94	3355	2725
February	43.23	3304	2093
March	43.60	3307	2272
April	43.07	3311	2663
May	44.76	3269	2640
June	42.31	3251	2984
July	42.71	3233	3029
August	75.00	3219	2507
September	44.38	3222	2624
October	44.99	3539	2427
November	49.13	3607	2292
December	42.99	3602	2221
Average			2540
Maximum	75.00	3607	

Mannheim WTP Drinking Water System – Grand River Intake (Mannheim WTP)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 72576 m³/day)	Monthly Average (m³/d)
January	725.90	47206	40465
February	473.46	42912	38849
March	492.86	44195	41391
April	694.45	43770	39054
May	695.53	54175	42341
June	592.42	63401	50108
July	472.35	62321	51579
August	635.70	66139	49972
September	670.46	49563	43021
October	643.50	44632	38969
November	748.04	42719	39834
December	762.93	47770	39561
Average			42929
Maximum	762.93	66139	

Mannheim Village Drinking Water System – Well K22A			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 6566 m ³ /day)	Monthly Average (m ³ /d)
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
Average			0
Maximum	0	0	

Mannheim Village Drinking Water System – Well K23			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 6566 m ³ /day)	Monthly Average (m ³ /d)
January	25.08	1905	1894
February	23.97	1903	1881
March	23.44	1904	1893
April	22.68	1905	1803
May	25.84	1904	1896
June	24.45	2060	1850
July	24.86	1907	1853
August	24.45	1904	1775
September	25.50	1905	1862
October	25.72	1904	1897
November	22.86	1981	1905
December	22.97	1902	1639
Average			1846
Maximum	25.84	2060	

Mannheim Village Drinking Water System – Well K24			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 6566 m ³ /day)	Monthly Average (m ³ /d)
January	41.81	3025	3018
February	49.98	3024	3011
March	51.03	3025	2989
April	39.48	3025	3020
May	38.49	3025	3003
June	40.48	3456	3082
July	44.08	3456	2887
August	48.16	2593	2591
September	34.12	2593	2576
October	47.49	2593	2573
November	46.60	2700	2596
December	33.84	2593	2556
Average			2825
Maximum	51.03	3456	

Mannheim Village Drinking Water System – Well K26			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 9850 m ³ /day)	Monthly Average (m ³ /d)
January	98.67	7604	5391
February	102.91	7603	4944
March	94.67	6588	3746
April	97.77	7604	6304
May	94.75	7604	5708
June	95.79	8209	7256
July	103.14	8209	7064
August	99.65	8209	5397
September	90.97	7604	5659
October	107.65	7603	3536
November	93.25	7603	4208
December	95.30	7992	3910
Average			5260
Maximum	107.65	8209	

Shingletown Drinking Water System – Wells K50/K51			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 13651 m³/day)	Monthly Average (m³/d)
January	145.05	11233	6714
February	142.44	11234	11217
March	156.47	11234	11215
April	143.43	11234	11220
May	145.03	11234	11198
June	142.49	11664	11306
July	141.85	11666	11656
August	145.23	11666	11531
September	140.46	11233	11188
October	137.04	11233	11181
November	135.67	11674	11204
December	146.20	11728	11202
Average			10903
Maximum	156.47	11728	

Waterloo Drinking Water System – Erb Street Wells (W6B, W6C, W7, W8)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 24139 m³/day)	Monthly Average (m³/d)
January	146.37	13068	11632
February	144.51	12651	11383
March	144.81	13144	11885
April	142.81	11709	9610
May	141.81	12381	10543
June	147.24	12810	11187
July	147.35	12722	12003
August	153.36	13179	11654
September	137.01	12836	11133
October	148.06	12733	11084
November	136.96	12533	11140
December	139.23	14260	10017
Average			11106
Maximum	153.36	14260	

Waterloo Drinking Water System – Well W10			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 2160 m ³ /day)	Monthly Average (m ³ /d)
January	20.42	1729	1721
February	21.22	1728	1727
March	20.60	1728	1689
April	20.62	1729	1653
May	21.10	1729	1722
June	20.37	1729	1724
July	20.58	1729	1695
August	20.63	1728	1721
September	20.41	1728	1722
October	20.45	1728	1694
November	20.43	1800	1659
December	20.89	1728	1722
Average			1704
Maximum	21.22	1800	

Waterloo Drinking Water System – Well W25			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 6,826 m ³ /day)	Monthly Average (m ³ /d)
January	70.56*	3388	2663
February	74.73*	3357	2932
March	67.75*	3389	3170
April	68.72*	4760	3507
May	67.17*	4731	4517
June	72.30*	4706	4494
July	78.42*	4557	4313
August	78.82*	4222	3951
September	66.66*	4172	3998
October	69.19*	4148	3902
November	82.19*	4166	3850
December	70.60*	4105	3941
Average			3770
Maximum	82.19	4760	

*Less than 5 minute flow spike.

New Hamburg/Baden Drinking Water System – Wells (NH3, NH4)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 3542 m ³ /day)	Monthly Average (m ³ /d)
January	41.33*	1955	1732
February	42.71*	2191	1720
March	40.75	1971	1713
April	47.04*	1979	1751
May	42.53*	2298	1887
June	42.91*	2572	2089
July	49.60*	2872	1977
August	43.15*	2803	2030
September	48.70*	2227	1924
October	49.57*	2231	1826
November	49.08*	2208	1842
December	49.21*	2088	1805
Average			1858
Maximum	49.60	2872	

*Less than 5 minute flow spike.

Ayr Drinking Water System – Wells (A1, A2, A3)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 5478 m ³ /day)	Monthly Average (m ³ /d)
January	70.75*	2111	1816
February	68.25*	2246	1913
March	71.29*	2195	1984
April	68.19*	2308	2047
May	68.22*	2934	2235
June	73.67*	3352	2495
July	72.05*	3099	2408
August	71.42*	2913	2302
September	60.74	2397	2074
October	49.63	2272	1916
November	71.85*	2090	1699
December	69.30*	2678	1908
Average			2067
Maximum	73.67	3352	

*Less than 5 minute flow spike.

Branchton Drinking Water System – Wells (BM2, BM3)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 130 m ³ /day)	Monthly Average (m ³ /d)
January	1.24	29	24
February	1.13	32	26
March	1.22	45	25
April	2.00*	41	28
May	1.44	54	33
June	1.36	67	36
July	1.44	47	34
August	1.38	74	38
September	1.38	47	30
October	1.41	35	28
November	1.41	58	27
December	1.44	79	30
Average			30
Maximum	2.00	79	

*Less than 5 minute flow spike.

Roseville Drinking Water System – Wells (R5, R6)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 357.7 m ³ /day)	Monthly Average (m ³ /d)
January	3.34	59	44
February	3.34	50	42
March	3.34	66	46
April	3.31	67	45
May	3.29	68	56
June	3.29	97	68
July	3.32	108	75
August	3.32	104	75
September	3.33	85	64
October	3.33	88	52
November	3.31	67	47
December	3.28	56	47
Average			55
Maximum	3.34	108	

Maryhill Drinking Water System – Maryhill WTP- Wells (MH1, MH2)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 157 m³/day)	Monthly Average (m³/d)
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
Average			0
Maximum	0	0	

Maryhill Drinking Water System – Maryhill Heights- Wells (MH4A, MH5)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 812 m³/day)	Monthly Average (m³/d)
January	15.06	74	62
February	14.80	78	66
March	14.88	74	63
April	14.86	106	70
May	14.99	110	82
June	14.99	203	134
July	10.00	183	140
August	6.78	221	152
September	6.10	171	122
October	6.07	128	88
November	9.75	81	70
December	5.46	89	78
Average			94
Maximum	15.06	221	

Linwood Drinking Water System – Wells (L1A, L2)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 604.8 m³/day)	Monthly Average (m³/d)
January	7.63	284	174
February	7.54	194	154
March	7.07	171	155
April	7.17	207	159
May	7.24	214	174
June	7.22	219	189
July	7.24	209	185
August	7.27	220	180
September	7.23	199	169
October	7.27	316	200
November	7.24	183	167
December	7.28	202	178
Average			174
Maximum	7.63	316	

St. Clements Drinking Water System – Wells (SC2, SC3, SC4)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 1771.2 m³/day)	Monthly Average (m³/d)
January	16.91	346	301
February	23.78*	366	286
March	16.73	317	278
April	21.35*	374	290
May	16.71	526	339
June	16.65	565	407
July	16.46	553	417
August	16.06	802	455
September	14.61	557	403
October	14.47	395	315
November	14.54	340	293
December	14.37	375	320
Average			342
Maximum	23.78	802	

*Less than 5 minute flow spike.

Wellesley Drinking Water System – Wells (WY1, WY5, WY6)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 3006 m ³ /day)	Monthly Average (m ³ /d)
January	21.22*	824	682
February	20.62*	703	635
March	20.82*	726	633
April	20.57*	707	617
May	20.20*	782	627
June	21.08*	834	703
July	21.28*	842	684
August	45.84*	776	612
September	20.75*	697	605
October	21.03*	675	576
November	20.89*	683	590
December	21.07*	717	613
Average			631
Maximum	45.84	842	

*Less than 5 minute flow spike.

Foxboro Drinking Water System – Wells (FG1, FG2A, FG4)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 288 m ³ /day)	Monthly Average (m ³ /d)
January	2.48	117	83
February	2.18	84	69
March	2.37	79	67
April	2.88	101	80
May	3.70	102	84
June	3.17	100	78
July	2.62	89	69
August	2.91	84	71
September	2.75	91	70
October	2.75	84	73
November	2.35	83	72
December	2.20	87	74
Average			74
Maximum	3.70	117	

New Dundee Drinking Water System – Wells (ND4, ND5)			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 982.2 m³/day)	Monthly Average (m³/d)
January	6.04	205	173
February	5.87	268	174
March	5.83	202	175
April	5.82	222	196
May	5.81	337	229
June	5.74	317	262
July	5.78	322	245
August	5.72	327	228
September	5.66	267	205
October	5.66	210	173
November	5.62	184	162
December	5.51	190	168
Average			199
Maximum	6.04	337	

Petersburg Drinking Water System – Well PE1			
Month	Raw Peak Flow Rate (L/s)	Treated – Max Day (MDWL Limit= 288 m³/day)	Monthly Average (m³/d)
January	6.52	34	27
February	6.84	34	27
March	3.92	33	27
April	3.91	40	28
May	3.88	47	33
June	3.87	71	41
July	3.87	65	39
August	3.87	61	39
September	3.85	56	36
October	3.85	38	27
November	3.83	31	24
December	3.81	31	26
Average			31
Maximum	6.84	71	

APPENDIX D – SYSTEM INFORMATION

Municipality	Location	Water Source	MDWL# / DWWP#	PTTW #	Sub-System Class /Number	System Type
Cambridge Drinking Water Supply System (IUS)	Galt Wells	G4/G4A	012-102 / 012-202	P-300- 2229080479	WT Class III #8125	Large
		G5/G5A		P-300- 6117976847		
		G9		Grandfathered		
	Hespeler Wells	H3/H3A		P-300- 3214426699		
		H4A		1008-BW6L62		
		H5/H5A		P-300- 1161883172		
	Middleton WTP	G1, G1A, G2, G3, G14		7214-AMGR5G		
		G15		6132-AKURBN		
	Pinebush WTP	P10, P10A, P10B, P11 P17, P19		7858-BXUUUH		
	Preston Wells	P16		2004-AKXNEB		
	Rahmans Wells	P9 P15/P15A		P-300- 6117976847		
	Shades Mill WTP	G7, G8, G38, G39, G40		3004-A9GHYU		
Turnbull WTP	G6, G16, G17, G18, G19	5552-BUKM94				
Kitchener Drinking Water Supply System (IUS)	Greenbrook WTP	K1A, K2A, K4C, K5A, K8	012-102 / 012-202	0071-BUKPU5	WT Class III #8126	Large
	K34 WTP	K34 K36		4588-DMHQTG		
	Parkway WTP	K31, K32		Grandfathered		
		K33		3115-AMHXXH		

Municipality	Location	Water Source	MDWL# / DWWP#	PTTW #	Sub-System Class /Number	System Type
	Strange Street WTP	K10A K11A K13B K18, K19		P-300-6221899077		
		W1B W2B W2C W3A		P-300-5049623280		
	Woolners Wells	K80, K81, K82		0288-BA8LR8		
Mannheim Drinking Water Supply System (IUS)	Mannheim WTP	Grand River	012-102 / 012-202	Hidden Valley 5557-DPHMXD (Mannheim WTP supply only)	WT Class IV #1843	Large
	ASR Wells	ASR1 ASR2 ASR3 ASR4 ASR5 RCW2 RCW3 RCW4		Mannheim Consolidated P-300-3130244509 (Mannheim Wells, Peaking Wells and ASRs)		
	K90 Peaking Wells	K91 K92 K93 K94				
	Mannheim Wells	K21/K21A K25 K29				
Waterloo Drinking Water Supply System (IUS)	Erb Street Wells	W6B W6C W7 W8	012-102 / 012-202	1541-AWGPZR	WT Class II #8127	Large
	Waterloo Wells	W10 W25 W5A		0061-BLHQ45		

Municipality	Location	Water Source	MDWL# / DWWP#	PTTW #	Sub-System Class /Number	System Type
Integrated Urban Water Distribution System	Cambridge, Kitchener, Waterloo, Wilmot and Woolwich	IUS Sources	012-102 / 012-202	N/A	WD Class IV #8128	Large
North Dumfries Township Drinking Water Supply Systems	Ayr WTP	A1 A2 A3	012-113 / 012-213	P-300-2094925631	WT Class II #2591 & WD Class II #362	Large
	Branchton WTP	BM2 BM3	012-111 / 012-211	2481-DJKHVA	Limited Groundwater	Small
	Lloyd Brown Distribution		012-102 / 012-202	N/A	Limited Groundwater	Small
	Roseville WTP	R5 R6	012-101 / 012-201	P-300-3116859114	Limited Groundwater	Small
Wellesley Township Drinking Water Supply Systems	Linwood WTP	L1A L2	012-108 / 012-208	2680-B8HT58	WT Class II #3594 WD Class II #1951	Large
	St. Clements WTP	SC2 SC3 SC4	012-110 / 012-210	P-300-5118893858	WT Class II #2598 WD Class II 1952	Large
	Wellesley WTP	WY1 WY5 WY6	012-115 / 012-215	P-300-4214409441	WT Class II #2601 WD Class II 1953	Large

Municipality	Location	Water Source	MDWL# / DWWP#	PTTW #	Sub-System Class /Number	System Type
Wilmot Township Drinking Water Supply Systems	Foxboro	FG1 FG2A FG4	012-105 / 012-205	2544-BBHP4S	WT Class I #2599	Large
	Mannheim Village Wells	K23 K24 K26	012-102 / 012-202	P-300- 3130244509	WT Class I #3603	Large
	New Dundee Wells	ND4 ND5	012-107 / 012-207	5581-B84PGT	WDS Class I #3595	Large
	New Hamburg WTP	NH3 NH4	012-102 / 012-202	7021-AQRK39	WT Class II #2930	Large
	Shingletown Wells	K50 K51	012-102 / 012-202	P-300- 4271733410	WDS Class I #3593	Large
	Petersburg	PE1	012-116 / 012-216	3478-D83LM9	Limited Groundwater	Small
Woolwich Township Drinking Water Supply Systems	Maryhill Village Heights Wells	MH4A MH5	012-106 / 012-206	1746-BBWLJR	WT Class I #8867	Large
	Maryhill WTP	MH1 MH2		2613-BBKR76	WT Class I #8867	Large