



2023 Annual Summary Report

(Schedule 22: Summary Report for Municipalities, O. Reg. 170/03)

January 1, 2023 to December 31, 2023

Township of Wilmot – Infrastructure Services Department

Last Revision: Feb 20, 2024

Purpose

The purpose of this report is to give the Township of Wilmot's drinking water system owners, the Mayor and Council members, an understanding of the system's current state for the reporting period from January 1, 2023 to December 31, 2023. This report has been prepared to comply with Schedule 22 of Ontario Regulation 170/03 (O. Reg. 170/03). For large municipal drinking water systems, this regulation mandates the preparation and submission of a summary report to members of the municipal council by March 31, 2024, covering activities of the preceding year.

Furthermore, the Safe Drinking Water Act 2002 (SDWA) requires that the municipality must:

- Acknowledge that the people of Ontario have a right to expect the safety of their drinking water; and,
- Provide for the prevention of health hazards associated with drinking water by controlling and regulating drinking water systems and conducting drinking water testing.

The information in this report is essential for the system owner to evaluate the system's suitability for both current and future uses. The data in this report will also give you the means to make sure the municipality has fulfilled its obligations under the SDWA. The SDWA and O. Reg. 170/03: Schedule 22, Summary Report are both satisfied by this report.

In addition to this report, an annual water quality report for each drinking water distribution system is posted to the Township websites, which includes information on annual testing and sampling parameters. In order to comply with O. Reg. 170/03 Section 11, these reports were prepared. The Township website also has copies of the approval for each system, the Drinking Water Works Permit (DWWP), the Municipal Drinking Water Licence (MDWL), and any applicable orders that were not followed at any point during the report's reporting period.

A copy of this report is available for viewing online and accessible copies can be made available upon request.

Scope

This Annual Summary Report of Water Distribution systems includes information for the period of January 1, 2023, to December 31, 2023, from the following systems:

- New Hamburg/Baden Distribution System
- New Dundee Distribution System
- St Agatha Distribution System

- Mannheim Distribution System

The information in this report is required to be reported to the following:

- The drinking water systems owners - Township of Wilmot Mayor and Council
- Top management as indicated by the Drinking Water Quality Management System
- The public and interested stakeholders.

System Overview

The Township of Wilmot owns and operates a total of four distribution systems. The distribution systems are connected to and purchase water from the Integrated Urban System (IUS) that is owned and operated by the Region of Waterloo. The Region of Waterloo provides treatment to the water before it supplies the water to the Township.

The Township of Wilmot owns and operates the following distribution systems:

- New Hamburg/Baden Distribution system – Large Municipal Residential
- Mannheim Distribution system – Large Municipal Residential
- St Agatha Distribution System - Large Municipal Residential
- New Dundee Distribution System – Large Municipal Residential

The water distribution system includes all pipes and appurtenances (waterworks). The scope of the waterworks begins at the point where treated water enters the system and ends at the property lines of the consumers. The Township of Wilmot does not provide treatment to the water.

The waterworks is comprised of the following infrastructure:

- 76.89 km of distribution main
- 391 hydrants
- 860 valves (not including service valves)

The Ministry of the Environment, Conservation and Parks (MECP) has developed the Municipal Drinking Water Licensing Program in support of the SDWA. This program requires the Township's drinking water systems to have the following in place in order to be issued licenses to operate the systems:

- A Drinking Water Works Permit (DWWP)
- An approved Operational Plan
- Accreditation of the Operating Authority
- A Financial Plan for the operation of the water system

The Township of Wilmot has a DWWP and License for each of its drinking water systems, issued February 9, 2021.

Compliance

The SDWA provides a legislative framework for all municipal drinking water systems and provides a consistent set of provincewide standards and rules to help ensure access to safe, high quality, reliable drinking water.

O. Reg. 170/03 regulates drinking water systems in Ontario and O. Reg. 169/03 regulates water quality standards that must be met.

Under Schedule 22 of O. Reg. 170/03, the owner of a water system must annually prepare a Summary Report for Municipalities and present it to Council by March 31 of each year. The report must contain any regulatory requirements that the drinking water system failed to meet and must be summarized with information about the non-compliance events. The report must also include a summary of the quantities and flow rates of water supplied for the year, including monthly average and maximum daily flows.

Statement of Compliance

The Township of Wilmot complied with the requirements of the Act, the Regulations, and the conditions of all licenses and permits for the municipal drinking water systems. The details of these compliance requirements are located in the following sections.

MECP Inspections

Each year, the Township of Wilmot's water distribution system undergoes a comprehensive inspection of its drinking water system conducted by the MECP. For the calendar year 2023, the annual inspection process is underway, water operation supervisor is currently working with the MECP inspector to ensure its completion. The previous inspection by the MECP took place on January 6, 2023, for the calendar year of 2022, encompassing a thorough review of the drinking water distribution systems for compliance with relevant legal requirements, including an examination of maintenance records. The inspection conducted in 2023 yielded a commendable compliance rating of 100% for the Township's distribution system.

Drinking Water Quality Management System

The Ontario Government implemented the Municipal Drinking Water Licensing Program in 2007 as recommended by Justice O'Conner as a result of the Walkerton Inquiry. The MECP developed the Drinking Water Quality Management standard ("DWQMS") that applies to owners and operating authorities for municipal drinking water systems. The

implementation of the DWQMS is mandated by the provincial government through the Safe Drinking Water Act, 2002.

Under the Safe Drinking Water Act, 2002 and Ontario Regulation 188/07, the Township of Wilmot is required to maintain licensing to operate the municipal water distribution systems. The Township has drinking water permits and licenses to operate each of the Township's water distribution systems in compliance with the Safe Drinking Water Act 2002, Regulation 170/03, Regulation 169/03 and Regulation 188/07. The licenses and permits are posted for information purposes on the Township website for public review.

The DWQMS is a system that provides an understanding of the drinking water system, the roles and responsibilities associated with the system, and a commitment and endorsement by the owner to provide safe drinking water. The DWQMS requires the operating authority to develop Operational Plans that explains how the Township should operate the drinking water systems. The details of the Operational Plan are how Management and Staff structure, process and document their activities to achieve the goal of clean and safe drinking water. The Operational Plan is a controlled administrative document that is available for viewing in hard copy only at the Township Public Works administrative building. The document does not require direct Council approval. Instead, the focus is to obtain Council endorsement for the comprehensive goal of the quality management system, to provide clean and safe drinking water.

Audits

The operating authority is required to conduct annual internal and external audits on the effectiveness of the DWQMS. The internal audit was conducted by qualified staff and one corrective action was identified. The external audit is conducted by an independent accredited third-party organization that reviews the operating authority conformance to the QMS. In 2023, NSF-ISR Management conducted the external audit finding 4 corrective actions and 3 opportunities for improvement in the water distribution system. Both audits resulted in listings of Opportunities for Improvements and Corrective Actions Required, of which the Operating Authority resolved in the given time. These findings are communicated in the Management Review.

Management Review

As per DWQMS, an annual Management review is to be conducted with findings conveyed to the owner. A Management review was conducted on December 13, 2023. The review included findings from the internal and external audits, MECP inspections and other prescribed items. The minutes are attached in Attachment 1 – 2023 Management Review.

Township of Wilmot Water System

The SDWA and the Ontario Water Resources Act each require that operating authorities record and report water being supplied to the the Township of Wilmot.

Water Usage

The information in Attachment 2 – 2023 Water Usage summarizes the quantities of water used, and has been gathered using Region of Waterloo pumpage reports attached to monthly invoices sent to the Township. Baden and New Hamburg are considered one system; however, they are shown separately based on the Regional reports.

Adverse Conditions

There were no orders issued against any of the systems in 2023. There were five (5) adverse water quality incidents in 2023 within the Township system, they are listed in the following table.

Date	Location	Adverse condition	Corrective Action
Jan 06, 2023	2719 Sandhills Rd, Baden	Total Coliform presence	Flushed and Re-sampled
Jan 25, 2023	2719 Sandhills Rd, Baden	Total Coliform presence	Flushed and Re-sampled
Jan 26, 2023	2719 Sandhills Rd, Baden	Total Coliform presence	Flushed and Re-sampled
July 12, 2023	31 Boullee St, NH	Total Coliform presence	Flushed and Re-sampled
July 26, 2023	31 Boullee St, NH	Total Coliform presence	Flushed and Re-sampled

All adverse test results were remediated by flushing and re-sampling in accordance with O. Reg.170/03 and reported to both the Owners and Top Management.

Attachment 1

2023 Management Review

Utilities Management Review Agenda & Minutes

Meeting Date:	December 13 th 2023	Next Meeting: TBD
Attendees:	Chris Thorne (CT), Jeff Molenhuis (JM), Chad Woodhouse (CW)	
Absent:		
Minutes by:	Chris Thorne	
MEETING TOPICS AT A GLANCE		
<ul style="list-style-type: none">a) Incidents of regulatory non-complianceb) Incidents of adverse drinking water testsc) Deviations from critical control point limits and response actionsd) The effectiveness of the risk assessment processe) Results of internal and 3rd party auditsf) Results of relevant emergency response testingg) Operational performanceh) Water quality trendsi) Follow-up on actions items from previous management reviewsj) Status of management action items (if any) identified between reviewsk) Changes that could affect the QMSl) Consumer feedbackm) The resources needed to maintain the QMSn) The results of the infrastructure reviewo) Operational Plan currency, content and updatesp) Staff suggestions		

Item	Discussed	Action By	Timing
A	<p>Incidents of regulatory non-compliance:</p> <ul style="list-style-type: none"> There were no incidents of regulatory noncompliance reported in 2022. The 2023 annual MECP inspection for systems owned and operated by the Township will be conducted in December. This is an unannounced inspection therefore no date has been given. 	CT to Facilitate Inspection	Q4 2023
B	<p>Incidents of adverse drinking water tests:</p> <ul style="list-style-type: none"> There were 5 incidents of adverse drinking water quality in 2023. On January 6th a total coliform exceedance was identified in the New Hamburg/Baden distribution system. On January 25th a total coliform exceedance was identified in the New Hamburg/Baden distribution system. On January 26th a total coliform exceedance was identified in the New Hamburg/Baden distribution system. On July 12th a total coliform exceedance was identified in the New Hamburg/Baden distribution system. On July 26th a total coliform exceedance was identified in the New Hamburg/Baden distribution system. All 5 issues were resolved by flushing and resampling. 		
C	<p>Deviations from critical control point limits and response actions:</p> <ul style="list-style-type: none"> No deviations from critical control points were identified in 2023 		
D	<p>The effectiveness of the risk assessment process:</p> <ul style="list-style-type: none"> On June 20th and 23rd a review of the risk assessment process was conducted. During this review assigned values for likelihood, severity and detectability were reviewed. 		
E	<p>Results of internal and 3rd party audits:</p> <ul style="list-style-type: none"> The internal audit was conducted from June 26 to July 05, 2023 by the Licensing & compliance coordinator. 1 corrective action was identified during the Internal audit. <ul style="list-style-type: none"> The 2023 internal audit was not conducted as per Appendix 15 Internal Audit Procedure. As a result of this Element 19 of DWQMS (Procedure) has been revised to allow an alternate auditing process (Element-based and Process-based) to be implemented every year . The external audit was conducted on November 23rd 2023 by Rose Johnson of NSF International. 4 Corrective actions and 3 Opportunities for improvement were identified. <ul style="list-style-type: none"> T00011899588-1, The Operational Plan (Rev. 50) does not contain a completed copy of the Subject System Description Form / Schedule C as stipulated in "Director's directions – minimum requirements for operational plans". As a result of this Schedule "C" has been added to the Operational plan. T00011899588-2, "Master List of Documents is not up-to-date" as a result of this the master list was updated and three new documents were added. T00011899588-3, "Risk Assessment Table, Rev. 21, June 20, 2023 There is no reference to Cybersecurity threats - required for all systems, per MECP Potential Hazardous 	CT to respond to all CAR's & OFI's	Q1 2024

	<p>Events for Municipal Residential Drinking Water Systems, Rev. April 2022”. As a result, Cybersecurity threats was added to the risk assessment table for all systems.</p> <ul style="list-style-type: none"> ○ T00011899588-4, “Continual improvement processes are not fully effective, there is no evidence available to demonstrate that the four Opportunities for Improvement (OFIs) from the previous NSF audit have been reviewed / documented”. As a result, a requirement is to be added to the internal audit process to verify that corrective actions and Opportunities for improvement have been properly reviewed and documented. ○ OFI DWQMS-01, “Although generally found to meet the requirements of the Standard, an opportunity exists to clarify the endorsement statement to clearly reference the contents of the Operational Plan.” ○ OFI DWQMS-02, “In addition to the minor NC relating to document control, an opportunity exists to ensure accuracy of dates in DWQMS records, e.g. Management Review meeting minutes.” ○ OFI DWQMS-03, “Although generally found to meet the requirements of the Standard, an opportunity exists to clearly identify Nonconformities / Corrective actions in the Internal Audit Report. 		
F	<p>Results of relevant emergency response testing:</p> <ul style="list-style-type: none"> ● 2023 Emergency response training and testing was completed via 3rd party training on December 7th. Staff were trained on the regulations and best practices. Various mock and tabletop scenarios were discussed. 		
G	<p>Operational performance:</p> <ul style="list-style-type: none"> ● Valve Maintenance, Hydrant Maintenance, Hydrant Flushing, and Dead-end flushing have all been completed for 2023. ● There were 11 water main/service leaks repaired in thus far in 2023. 		
H	<p>Water quality trends:</p> <ul style="list-style-type: none"> ● No significant water quality trends to note for the New Hamburg/Baden or St Agatha distribution systems. ● An increase in dirty water complaints has been noted in the New Dundee distribution system this year. A flush hydrant installation program has been investigated and scheduled to commence in 2024 to aid in the process of watermain flushing for this system. 		
I	<p>Follow-up on actions items from previous management reviews:</p> <ul style="list-style-type: none"> ● Response to Corrective actions from internal and external audits <ul style="list-style-type: none"> ○ Complete- corrective actions have been responded to and closed out ○ MECP annual inspection report to be forwarded to management 1/18/23 ○ 2022 emergency response training was completed on 12/20/22 		
J	<p>Status of management action items (if any) identified between reviews:</p>		

	<ul style="list-style-type: none"> No action items were identified between management reviews. 		
K	<p>Changes that could affect the QMS:</p> <ul style="list-style-type: none"> Addition of the Knipfel distribution system is expected to increase daily operational needs. 		
L	<p>Consumer feedback:</p> <ul style="list-style-type: none"> An increase of dirty water was noted in the New Dundee distribution system this year. A flush hydrant installation program has been investigated and scheduled to commence in 2024 to aid in the process of watermain flushing for this system. 		
M	<p>The resources needed to maintain the QMS:</p> <ul style="list-style-type: none"> As growth occurs GIS and records management needs will continue to expand. Future additional resources may be needed to supplement this expansion. Dedicated resource for internal auditing, either internal or external consultant. 		
N	<p>The results of the infrastructure review:</p> <ul style="list-style-type: none"> An infrastructure review meeting took place on November 8th 2023. At this meeting the integrity of the water distribution and sewage collection systems was discussed. Future needs and developments were taken into account and a top 5 priority list was adjusted. Review of top 5 priority list <ol style="list-style-type: none"> Victoria street, (Waterloo St to Webster St) New Hamburg On ten-year capital plan, Construction TBD Boulee St, New Hamburg On ten-year capital plan, Construction TBD Webster St, New Hamburg On ten-year capital plan, Construction TBD New Dundee 2" watermains & valve install 2" valves need to be dug to operate, valve needed to isolate Main St between Alderview Dr. and Bock St. Mill St and Burns St intersection. 		
O	<p>Operational Plan currency, content and updates:</p> <ul style="list-style-type: none"> The operational plan and all appendices currently meet the updated standard DWQMS 2.0. 		
P	<p>Staff suggestions:</p> <ul style="list-style-type: none"> Meetings are held as needed to discuss policy & procedure where staff are encouraged to present their views. Changes resulting from these meetings are made on an ongoing basis. 		

Attachment 2 – 2023 Water Usage (m³)

	January	February	March	April	May	June	July	August	September	October	November	December
Baden/NH	83,175	76,390	14,380	85,636	105,702	101,922	90,189	88,097	87,347	88,141	83,597	86,276
Baden	29,111	26,736	9,533	29,972	36,996	35,673	31,566	30,834	30,571	30,849	29,259	30,197
New Hamburg	54,064	49,653	4,847	55,663	68,706	66,249	58,623	57,263	56,776	57,292	54,338	56,079
New Dundee	7,576	6,890	7,429	7,640	9,761	14,359	10,398	5,779	5,741	5,595	5,562	5,294
St Agatha	2,615	2,108	2,225	2,245	3,111	3,378	2,443	2,309	2,508	2,277	2,115	2,156
Foxboro Green	2,439	2,306	2,662	2,788	2,591	2,655	2,369	2,421	2,308	2,470	2,255	2,517
Total	95,806	87,693	6,697	98,308	121,165	122,314	105,399	98,605	97,904	98,483	93,529	96,243