# Schedule A

# 2023 Drinking Water System Operations Report

# City of Barrie

# Water Operations Branch

# Drinking Water System

# Operations Report

For the Period of

**JANUARY 1ST, 2023 TO DECEMBER 31ST, 2023**

| | |
|---|---|
| **System Rating:** | Water Treatment Subsystem Class IV<br>Water Distribution and Supply Subsystem Class IV<br>Water Distribution Subsystem Class II |
| **Drinking Water System No.:** | 220001192 |
| **Municipal Drinking Water Licence No.:** | 014-101, Issue No. 6 |

Effective Date: 2024-02-06

## CONTENTS



## LIST OF FIGURES

## 1 Introduction

The purpose of this report is to summarize the City of Barrie (the City) Municipal Drinking Water System's (the System) operating year from January 1st to December 31st, 2023. This report is a compilation of information that demonstrates the commitment of the Water Operations Branch (the Branch) to provide safe drinking water while remaining transparent, financially accountable, and demonstrate initiative in driving continual improvement.

The Branch's priorities align with its mission and vision outlined in the Water Operations Strategic Plan 2023-2026:

**VISION**

To be Barrie's preferred choice for drinking water by providing the *highest quality product and service.*

**MISSION**

Protect public health, provide uninterrupted supply of potable water, reduce climate change impacts, and empower a skilled team of drinking water professionals

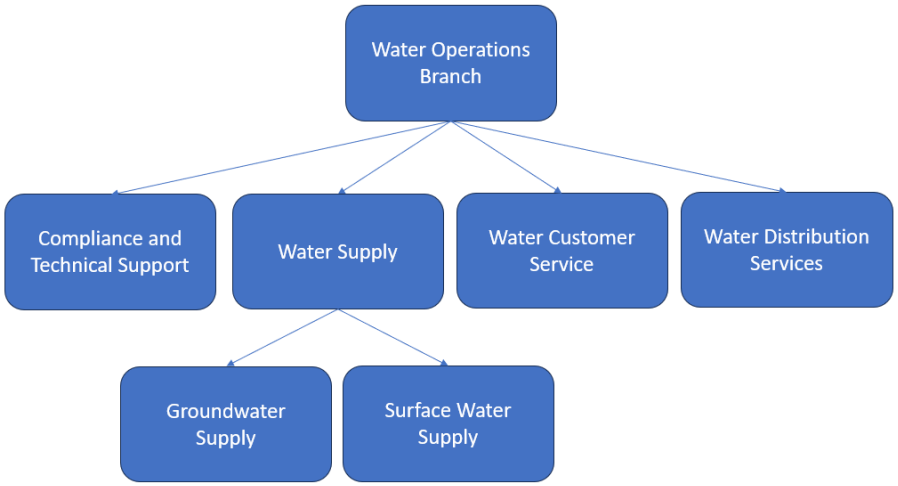
The following sections provide details of the 2023 achievements that support the Branch priorities listed above.

## 2 Program Review

### 2.1 Water Operations Branch

The primary objective of the Branch is the production and delivery of potable water from two sources; 1) a deep groundwater aquifer accessed through twelve (12) active groundwater wells and, 2) surface water from Lake Simcoe that is drawn to the Surface Water Treatment Plant (SWTP) from an intake in Kempenfelt Bay.

Comprised of four (4) organizational Sections, three (3) of which have operational responsibilities, the Branch works collaboratively to ensure high quality drinking water is produced and delivered to the City residents. Highlights regarding the performance and operations of these Sections are discussed in Sections 2.1.4 to 2.5 of this report.



### 2.1.1 Training


The Branch recognizes the importance of employee training as not only a legislated requirement for certified operators but also a positive way to foster improved performance and adaptability of its workforce. In 2023, approximately 4,200 hours of certified operator training occurred, and twenty-three (23) certificate renewals or upgrades were awarded to operations staff.

### 2.1.2 Research and Educational Partnerships

In partnership with both the University of Toronto and University of Waterloo, the Branch provides sponsorship to the Natural Sciences and Engineering Research Council which supports university students in advanced studies and promotes discovery research. Not only does the partnership allow the Branch to participate in water treatment research but it also helps guide the research conducted by these schools.

The current research work being conducted by the Universities with the SWTP is associated with SWTP processes which routinely utilizes the membrane filtration pilot plant located within the SWTP. This allows Staff to actively participate in the research projects and be some of the first benefactors of the research being conducted.

Research work being conducted by the University of Waterloo in partnership with the Groundwater Section is focused on manganese removal using biofilters. This provides staff with an opportunity to participate in the research project by assisting with sampling events.

### 2.1.3 Budget and Costs

The Branch's budget for 2023 was $23.1 million. Forty percent (40%) of which was transferred to reserves and other departments to fund projects and positions. The remaining balance of $13.9 million (including expenses and revenues) was utilized for operating the drinking water system which includes but is not limited to: salaries and benefits, services, utilities, insurance, minor capital, materials, and supplies. In 2023, the Branch expended 95.5% of the operating budget.

Figure 1 illustrates the 2023 budget and actuals highlighting employee, operational, utility, and rental costs.

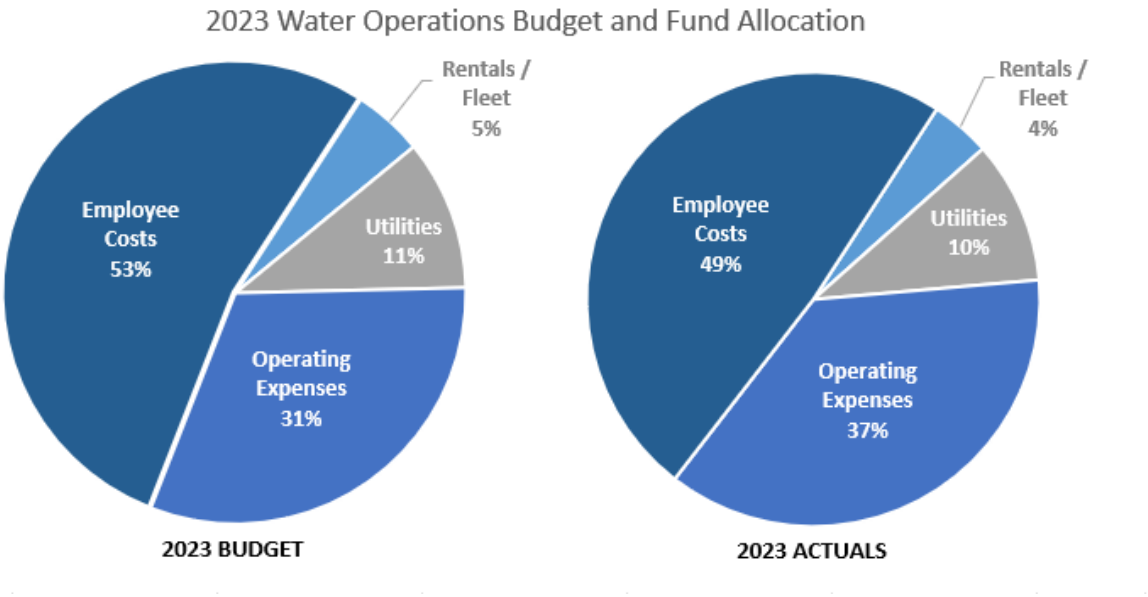



Figure 1. Water Operations Budget and Fund Allocation

In accordance with O.Reg. 453/07, the Operating Authority developed a financial plan to ensure sustainability of the drinking water system. The Financial Plan is valid for a ten (10) year period and contains details of the financial position, financial operations, and cash flow of the System. The Financial Plan was updated in April of 2021 and a copy can be found at www.barrie.ca/waterservices.

### 2.1.4 Energy Optimization

In 2023, the Branch worked with Alectra Utilities Corporation as a Class A Account to reduce energy consumption during peak periods to help the Province of Ontario defer the needs for investments in new electricity infrastructure. Through the Program, Water Operations Staff modify water operations to increase treated water production during off-peak hours and reduce production during peak hours. Not only does this initiative reduce the burden on the electrical grid, but it provides the Branch the opportunity to reduce overall utility costs. In 2023, the Branch successfully mitigated their energy usage during four (4) peak energy events.

## 2.2 Water Treatment Services

Water Treatment is one of the first steps in ensuring the production and distribution of safe drinking water. Water Treatment Services is responsible for all water treatment processes, storage tank monitoring, ongoing operation and maintenance, and water quality sampling. This involves overseeing a System consisting of the SWTP and associated low lift pumping station (LLPS), 12 groundwater wells, 3 in-ground storage facilities, 7 booster stations, and 3 elevated storage towers.

### 2.2.1 Treatment System Performance

In 2023, a total of 13,989 ML of drinking water was produced, which represents a 1.9% increase from 2022. This seems to follow an overall trend of increased water conservation within the City in the past ten (10) years (Figure 2).

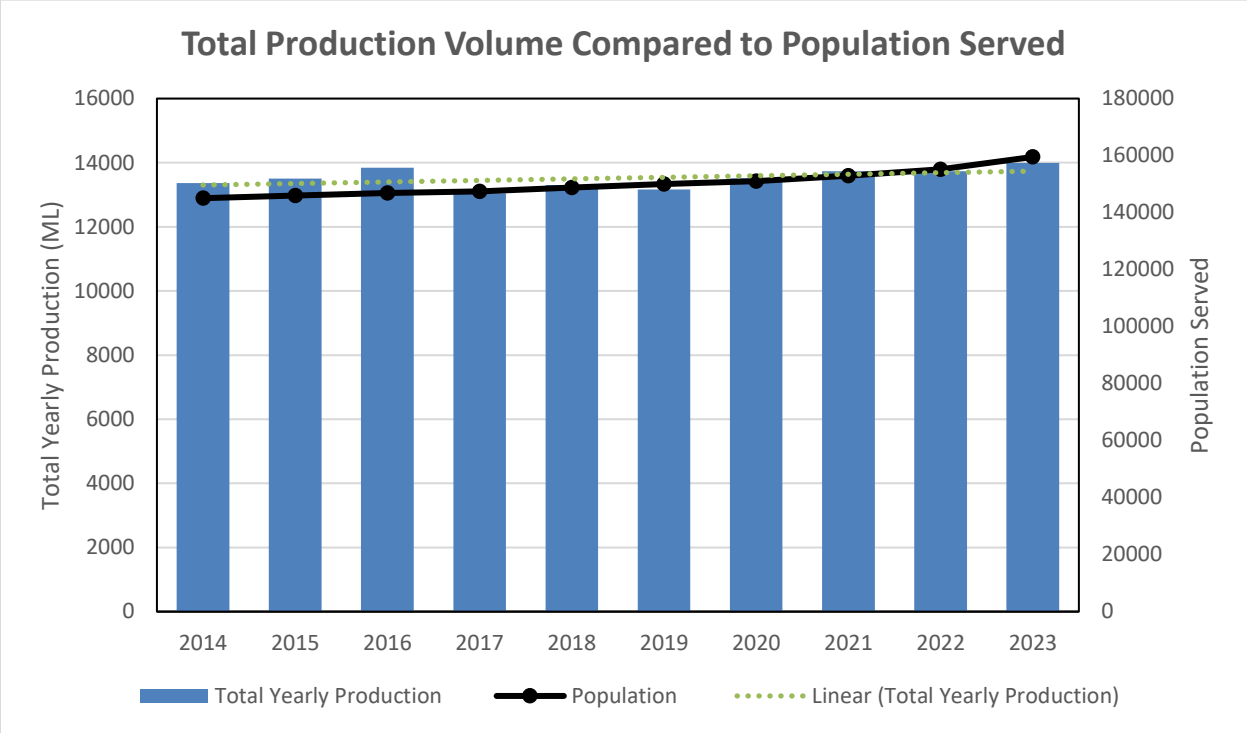



Figure 2. Total yearly production of drinking water (ML) compared to population served

The SWTP membrane filtration system has a manufacturers operational target of 98% efficiency for which staff have opted to set as an overall operational goal. Therefore, the SWTP has defined efficiency as the difference between the amount of water taken from Lake Simcoe and the amount of water that is sent out of the SWTP to our customers. In 2023, our overall average efficiency was 96.4%, a 1.2% decrease from 2022. Factors that can cause these minor variations to the efficiency are annual pilot plant consumption, waste resulting from maintenance activities, age of the membrane filtration system and flow meter margins of error.

### 2.2.2 Preventative Maintenance Highlights

The following sections summarize the significant maintenance activities that were completed within the Water Treatment Services Sections in 2023.

#### 2.2.2.1 Water Supply - Groundwater Supply

In 2023, the Groundwater Supply Section completed the following significant maintenance activities:

- Cleaned and disinfected all cells at Harvie Reservoir.
- Cleaned and disinfected Sarjeant Dr. Well #7 clear well, Heritage Park Well #11 clear well, Johnson St. Well #13 clear well, and Brownwood Well #16 clear well.
- Completed well pump and associated motor maintenance at John St. Well #5, Johnson St. Well #13, and Brownwood Well #16.
- Completed well maintenance at John St. Well # 5, Johnson St. Well #13, and Brownwood Well #16.
- Completed booster pump and associated motor maintenance at Innisfil Booster Pumping Station – Pump #3.
- Replaced six (6) in-station valves at Big Bay Booster Pumping Station.

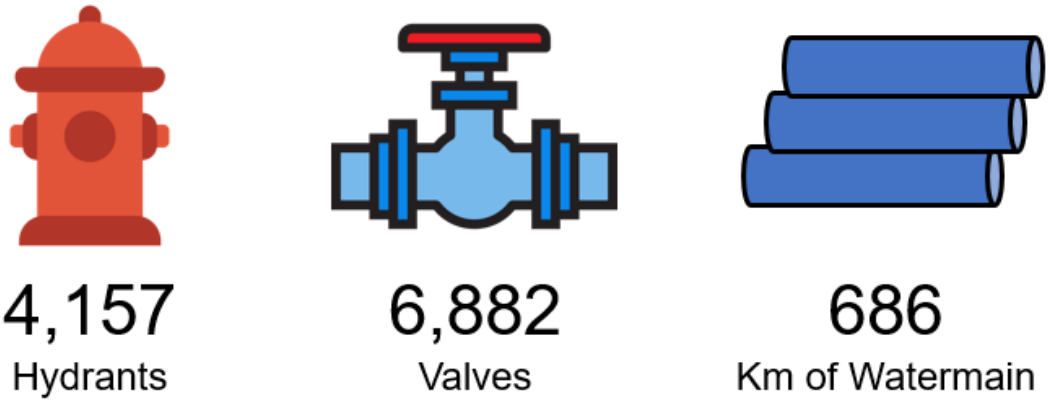
2.2.2.2 Water Supply - Surface Water Supply

In 2023, the Surface Water Supply Section completed the following significant maintenance activities associated with the SWTP:

- Cleaned and disinfected Chlorine Contact Tank (CCT) #2 & Reservoir #2.
- Completed pump and associated motor maintenance at Secondary Membrane Pump #1402 and Low Lift Pump #1.
- Completed associated motor maintenance at Low Lift Pump #4.
- Conducted multiple rounds of membrane repairs to maintain filter integrity and efficiency.
- Employed the use of remote submersible camera to complete video inspections of internal tanks and reservoirs.
- Contracted services to complete camera inspections of the raw water intake pipe.

## 2.3 Water Distribution Services

The quality of drinking water in the distribution system is ensured through ongoing water quality monitoring, and preventative and reactive maintenance completed by Water Distribution Services. Consisting of approximately 4,157 hydrants, 6,882 valves, and 686 kilometers of watermain, the City's distribution system continues to reliably direct potable water to the community.




### 2.3.1 Preventative Maintenance Highlights

Water Distribution Services conduct ongoing preventative maintenance to reduce reactive maintenance and sustain system performance. In 2023, approximately 15.03 km of watermain were cleaned in Pressure Zone 3N by scouring it with foam swabs as part of the Annual Swabbing Program. These areas were selected to be swabbed based on water quality data collected by field staff as well as feedback received from residents through the logging of water quality concerns associated with discoloured water.

To ensure the continued operability of valves within the System, routine valve exercising is conducted. In 2023, approximately 2,142 valves were exercised throughout the City including 236 Critical valves (400mm to 1200mm). A valve turning application is utilized to track the progress and number of valves turned, this is in cooperation with Information Technology (IT) staff and implemented to assist the operators. A hydrant inspection program is also maintained by the Water Distribution Services Section and includes any necessary replacement or repairs that are discovered.

### 2.3.2 Reactive Maintenance Highlights

Reactive maintenance in the event of infrastructure failure is an inevitability in the distribution system. In 2022, 24 watermain breaks occurred which is a 33% decrease compared to the number of watermain breaks in 2022.

Figure 3 illustrates the historical trend of watermain breaks that occurred in the last ten (10) years.

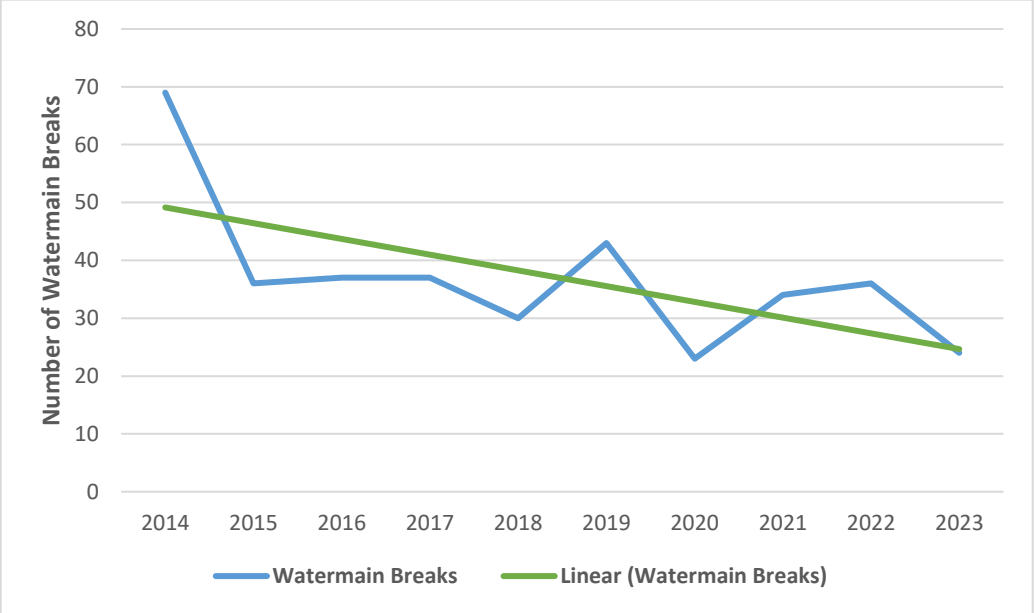



Figure 3. Number of Watermain Breaks (2014 to 2023)

### 2.3.3 System Growth, Rehabilitation and Renewal

New infrastructure is installed and commissioned in accordance with the City's Design Guidelines, in addition to the Ministry of Environment, Conservation and Parks (MECP) Watermain Disinfection Procedure.

Infrastructure works completed in the distribution system in 2023 are summarized as follows:

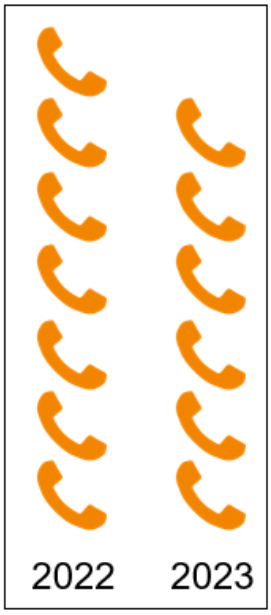
- Veterans Dr. from Salem Rd. to McKay Rd. – new 400mm and 500mm watermain installed.
- Tiffin St. from Anne St. South to Ferndale Dr. North – new 400mm watermain installed.
- Sunnidale Rd. from Wellington St. to Letitia St. – new 600mm watermain installed.
- Duckworth St. from Howard Cres. to Bell Farm Rd. – new 200mm and 300mm watermain installed.
- Cundles Rd. from Bayfield St. to Sunnidale Rd. and Little Ave. from McConkey Pl. to Huronia Rd. – relining project.
- Three (3) new subdivisions were commissioned – Watersands, Hewitt's Gate, and Mattamy Lockhart.
- Seven (7) watermain construction projects to service growth and renewal were completed.
- Nineteen (19) Industrial, Commercial, and Institutional (ICI) servicing projects were commissioned.
- Total new watermain commissioned in 2023 was 18.4 kilometres.
- Eighty-two (82) air, valve, and/or drain chambers inspected.
- Five (5) Auto flushers installed.
- One hundred and ninety-six (196) completed new project reviews, consisting of one hundred and thirty-two (132) ICI projects, forty (40) subdivision projects, and twenty-four (24) capital/reconstruction projects.
- Fourteen (14) residential services were replaced.
- One hundred and ninety-six (196) curb box replacements were completed.
- Twenty-four (24) watermain breaks were repaired.

- Thirty (30) service breaks were repaired.

## 2.4 Water Customer Services

Customer service continues to be a priority for the Branch. The Water Customer Services Section ensures our 159,521 residents have access to quality water at the tap. They also offer a wide range of services, such as conducting annual system maintenance and providing infrastructure locates of all corporately owned water, sanitary sewer, storm sewer, traffic light and streetlight cabling in the municipal right-of-way or on any of the City's easements.

### 2.4.1 Available Services

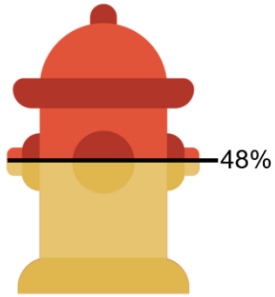



Customers have 24/7 access to required services such as routine inquiries and/or emergency requests. Calls made regarding water quality complaints averaged six (6) complaints per month in 2023. This is a slight decrease from 2022 which saw an average of seven (7) water quality complaints per month. Additionally, 1,470 chargeable service calls were completed, which includes long term meter gate valve installations, pool fills, and illegal water use charges.

Water Customer Services is also responsible for installing and maintaining water meters and their associated remote reading devices, as well as programs that improve their efficiency and reduce costs. In 2023, a total of 1058 new water meters were installed, and 1636 water meters were replaced, representing an increased number from 2022. The increase can be attributed to the ongoing development taking place in the south end of Barrie and the ongoing Water Meter Replacement Program which aims to replace both ICI and residential meters on a predetermined schedule. This replacement program is based on industry standards and ensures that meters continue to provide accurate consumption measurement while in use. Monitoring of water consumption in residential and ICI applications is accomplished through the Advanced Metering Infrastructure (AMI) system.

### 2.4.2 Preventative Maintenance Highlights

Watermain flushing maintains water quality within the distribution system thereby reducing the number of incoming water quality complaints. In 2023, Water Customer Services continued to focus its flushing efforts on areas of the distribution system that were prone to complaints and often associated with aging infrastructure. Accordingly, 1,995 hydrants were flushed in 2023, representing approximately 48% of the distribution system. Additionally, thirty-eight (38) flush boxes were deployed after April 2023 and remained in service until the end of October 2023. Each of these flush boxes operates daily on varying schedules and assist in maintaining adequate chlorine residuals and aesthetic water quality objectives within the distribution system.




### 2.4.3 Infrastructure Damage Prevention Program

The Branch has dedicated Utilities Technicians that ensure utility locates are provided for all corporately owned water, sanitary sewer, storm sewer, traffic light and streetlight cabling in the municipal right of way or on any of the City's easements. As an Ontario OneCall member and the associated provincial legislation, locate requests received are completed within the mandatory five (5) business days, unless otherwise negotiated with the locate requestor. The level of service achieved for locates was 94.2% in 2023.


2.5 Compliance and Technical Support

The Compliance and Technical Support (CTS) Section is responsible for regulatory conformance/compliance and reporting with respect to the System, as well as development and implementation of quality/risk management and optimization functions for the Branch. The core responsibilities of the CTS include the Computerized Maintenance Management System (CMMS), Quality Management System (QMS), inventory and materials management, and technical support as it relates to water infrastructure.

## 3 Quality Management System Summary

This section is a summary of the updates, changes, and pertinent information in relation to the requirements of the Safe Drinking Water Act and the City's QMS to meet the requirements of Staff Report 20-G-209, Delegation of Owner Representative for QMS and Safe Drinking Water Act Requirements. The Staff Report designates the Infrastructure Department head as the Owner Representative for the City's Drinking Water System for all matters related to the Safe Drinking Water Act and the QMS.

3.1 Adverse Water Quality Incidents (AWQI's)

There were six (6) AWQIs reported in 2023. Four (4) of (6) AWQIs indicated low pressure events caused by equipment failure or issues encountered during maintenance activities. One (1) AWQI was reported at the direction of the MECP Spills Action Center (SAC) during a Category 2 watermain break, however, no contamination was directed to users. One (1) AWQI indicated the presence of 1 Total Coliform in a treated water sample from Well Pump Station 17.

Each of these events were resolved to the satisfaction of the MECP and Simcoe Muskoka District Health Unit (SMDHU). Refer to Schedule B – 2023 Annual Report, Section 11 O. Reg 170/03 for more details on each AWQI.

3.2 Emergency Scenario

A water chlorine residual emergency event that occurred in the Pringle Subdivision on March 29, 2023, was used as a live emergency scenario for 2023. Given the nature of the incident and the potential impacts to the City, it provided an opportunity for the Branch to test their emergency response plan and associated documentation. The incident involved coordination of efforts from all staff within the City Branch, as well as assistance from the Corporate Asset Management Branch. Through diligent efforts by Staff, the Branch was able to ensure the delivery of safe drinking water to residents. An incident debrief meeting was held on April 19, 2023, where staff and management provided feedback on the incident and discussed opportunities for improvement. This debrief resulted in actioning four (4) opportunities for improvement which are in the process of being completed and/or have already been implemented.

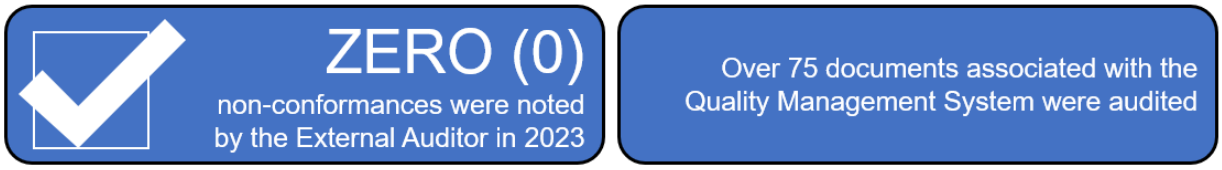
3.3 Internal Audit

Three (3) Internal Audits were conducted and focused on the QMS Procedures. The first audit focused on Element 11 (Personnel Coverage) and Element 12 (Communications). Results yielded two (2) non-conformances and three (3) opportunities for improvement related to the documentation of Overall-Responsible-Operators (ORO) and Operator-in-Charges (OIC) within the QMS. The second audit focused on Element 11 (Personnel Coverage) and Element 12 (Communications). Results yielded one (1) non-conformance and six (6) opportunities for improvement related to the eLogbook and the CMMS record

keeping methodology. The third audit focused on Element 12 (Communications) and Element 16 (Sampling, Testing and Monitoring). Results yielded zero (0) non-conformances and three (3) opportunities for improvement related to watermain commissioning activities. All items have been actioned and are in the process of being completed and/or have already been implemented.

### 3.4 External Audit

The 2023 External Audit conducted by a third party was a surveillance audit which consisted of an off-site desktop audit of the Operational Plan and associated documents and records. There were zero (0) non-conformances identified by the external auditor and accreditation was maintained until 2025.




### 3.5 Ministry of the Environment, Conservation and Parks (MECP) Inspection

The MECP conducted one (1) unannounced, focused inspection of portions of the System in 2023. There were two (2) non-compliances and one (1) opportunity for improvement identified in the inspection report. Refer to Schedule C – 2023 Annual Report, Schedule 22 O. Reg 170/03 for more details.

### 3.6 Alterations to the Drinking Water System (Forms 1, 2 and 3)

The Drinking Water Works Permit (DWWP) requires that alterations to the drinking water system be recorded on Forms published by the MECP. There were a variety of alterations made to the System between January 1 and December 31, 2023, that required a Form 1 or Form 2 to be completed.


Watermain Additions, Modifications, Replacements or Extensions are recorded on a Form 1 – Record of Watermains Authorized as a Future Alteration. During 2023, there were twelve (12) of these forms completed for the Drinking Water System.

Minor Modifications to the drinking water system may require a Form 2 – Record of Minor Modifications or Replacements to the Drinking Water System. There were twenty-six (26) of these forms completed for various work at the booster pump stations, water towers, well stations and the SWTP.

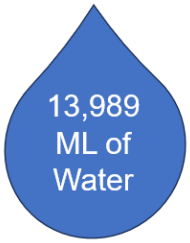
Equipment with Emissions to Air would require a Form 3 – Record of Addition, Modification or Replacement of Equipment Discharging a Contaminant of Concern to the Atmosphere to be completed. There were zero (0) Form 3s completed for the Drinking Water System for 2023.

### 3.7 Management Review

The Branch continued to implement procedural and process improvements in 2023. A component of the continual improvement process is Management Review, which identifies potential deficiencies and/or

opportunities for improvement and establishes action plans to address them. Management Review meetings were conducted on a quarterly basis on the following dates: May 26, September 11, and November 24, 2023, and scheduled for February 23, 2024.

In addition to the items noted in Sections 3.1 to 3.6 above, the following are additional highlights from the 2023 Management Review meetings:




1. Total annual production volume of 13,989 ML in 2023 remained consistent with usage trends over the last few years, with an increase in production compared to 2022.
2. Technology upgrades to the QMS which saw nearly 600 documents relocated to a web-based collaborative platform.
3. Continued use of the electronic logbooks and reports for all 3 subsystems allowing more real time updates for operators while they are working in the field, as well as staff working at the SWTP and remotely.
4. Implementation of chemical optimization projects, which utilize operational data to determine optimal chemical treatment and reduce costs.
5. Completion of electronic work order management system implementation across all operational sections to allow for more real time updates and providing efficiencies in reporting capabilities.

A copy of the 2022 Q4, 2023 Q1, Q2 and Q3 Management Review Meeting Minutes are included in Schedule E for reference. Note that the 2023 Q4 Management Review meeting is scheduled to take place on February 23, 2024, and as a result the meeting minutes are to be included in the 2024 Annual Report.

## 4 Closure

It is the belief that this report provides a summary of the operational and performance success of the Branch for 2023. If you have any questions concerning the contents of this report, please contact the Supervisor of Compliance and Technical Support.

# Schedule B

# 2023 Annual Report, Section 11

# Ontario Regulation 170/03

# City of Barrie
# Water Operations Branch

# Drinking Water System
# 2023 Annual Report
# Section 11, O.Reg. 170/03

For the Period of

**JANUARY 1ST, 2023 TO DECEMBER 31ST, 2023**

| | |
|---|---|
| ***System Rating:*** | Water Treatment Subsystem Class IV<br>Water Distribution and Supply Subsystem Class IV<br>Water Distribution Subsystem Class II |
| ***Drinking Water System No.:*** | 220001192 |
| ***Municipal Drinking Water Licence No.:*** | 014-101, Issue No. 6 |

Effective Date: 2023-02-06

## TABLE OF CONTENTS



## LIST OF TABLES

# 2023 Annual Report – Section 11, O.Reg. 170/03

## 1 Introduction

The City of Barrie Water Operations Branch (the Branch) prepared this Annual Report (Report) to satisfy the requirements of Section 11 of Ontario Regulation (O.Reg.) 170/03. Section 11 (1) requires that the owner of a drinking water system prepare a report in accordance with subsection (3) and (6) for the preceding calendar year. The annual report must be prepared no later than February 28th of each year.

This report covers the period of January 1st to December 31st, 2023, and the information provided complies with the reporting requirements outlined in Section 11 of O.Reg.170/03.

A summary of the City of Barrie's Municipal Drinking Water System (the System) description is outlined below:

- Drinking-Water System Number: 220001192
- Drinking-Water System Name: City of Barrie Drinking Water System
- Drinking-Water System Owner: Corporation of the City of Barrie
- Drinking-Water System Category: Large Municipal Residential

## 2 Reporting Requirements under Section 11 - O.Reg.170/03

Section 11 requires that the Report include the following information relating to the period covered by the report:

- Include a statement of where a Report prepared under Schedule 22 will be available for inspection by any member of the public during normal business hours without charge;
- Contain a brief description of the drinking water system, including a list of water treatment chemicals used by the system;
- Describe any major expenses incurred to install, repair, or replace required equipment;
- Summarize any reports made to the Ministry of Environment, Conservation and Parks (MECP) for Adverse Water Quality Incidents (AWQIs);
- Summarize the results of tests required under O.Reg. 170/03, or under an approval; Municipal Drinking Water Licence (MDWL) or order, including any Ontario Water Resources Act order, if tests required under this Regulation in respect of a parameter were not required during that period, summarize the most recent results of tests of that parameter;
- Specify the number of points sampled during the periods, the number of samples taken, and the number of points where samples exceeded the prescribed standard regarding Schedule 15.1 - Lead; and
- Describe any corrective actions taken.

## 3 Evidence of Compliance

### 3.1 Availability of the Annual Report

In accordance with Section 11 of O.Reg. 170/03, a copy of the Report is available to the public, free of charge from the City of Barrie website and from the Branch by request. The Schedule 22 Report is available to the public free of charge from the Branch by request.

The public will be advised of the Report's availability and how to obtain a copy, without charge, on the City of Barrie's website and on social media outlets by February 28, 2024.

### 3.2 Description of the Municipal Drinking Water System

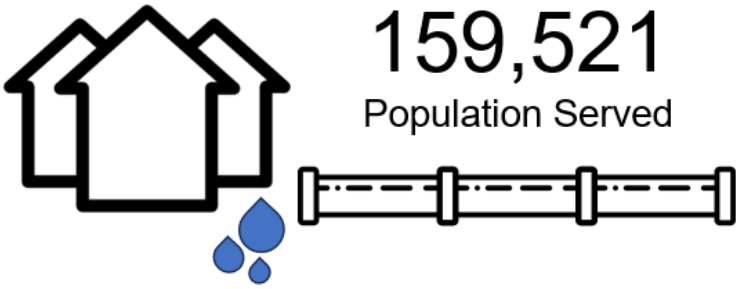
The System consists of a Surface Water Treatment Plant (SWTP) and associated low lift pumping station (LLPS), 12 groundwater wells, 3 in-ground storage facilities, 7 booster stations, and 3 elevated storage towers.

Treatment at the SWTP consists of primary screening, flocculation, membrane filtration, granular activated carbon contactors (for taste and odour control), and disinfection with chlorine gas. Primary disinfection is achieved through chlorine contact time (CT) in the four baffled wall chlorine contact chamber and reservoir. Secondary disinfection is achieved by boosting the chlorine residual of the treated water upon entry into the distribution system from the SWTP's reservoir. Re-chlorination to

maintain the chlorine residual in the distribution system is available at Harvie Road Booster Station/Reservoir and Mapleview Tower.

Treatment at each of the well stations consists of iron sequestration by addition of sodium silicate and disinfection with chlorine gas. Primary disinfection is achieved through CT prior to the first consumer, with the exception of Well 5, which uses ultraviolet disinfection. Secondary disinfection is maintained throughout the distribution system with booster chlorination applied at 7 locations throughout the distribution system.

The distribution system consists of approximately 4,157 hydrants and approximately 686 kilometers of watermain and transmission main ranging in sizes from 32mm to 1200mm and as of January 2024, delivering drinking water to a population of approximately 159,521 residents.




### 3.3 Water Treatment Chemicals

The following water treatment chemicals were used during the reporting period:

- Polyaluminum Chloride – Pre-filtration Coagulant – SWTP
- Chlorine – Primary and Secondary Disinfection – SWTP and Wells
- Sodium Silicate – Iron and Manganese Sequestration – Wells

### 3.4 Significant Expenses Incurred

A summary of the major expenses incurred during the reporting period to install, repair, or replace required equipment, and value of each, is included in Table 1.

Table 1 – Summary of Expenses Incurred

| ***Activity*** | **Costs Incurred (2023)** |
|---|---|
| Reservoir Repairs (Harvie Rd. Reservoir) | $125,000 |
| Well Pump Column Replacement (Well #13, Johnson Street) | $54,940 |
| Well Column Inspection (Well #12, Centennial Park) | $21,350 |
| Flow Meter & Valve Replacement (Big Bay Booster Pump Station) | $53,000 |
| Pump #3 Bowl Replacement (Innisfil Booster Pump Station) | $30,740 |
| Sluice Gate Repairs (Low Lift Pump Station) | $65,000 |
| Roof Fall Arrest System Engineering & Installation (Low Lift Pump Station) | $24,000 |
| Tank Repairs (Surface Water Treatment Plant) | $24,840 |
| Long Term Membrane Replacement (Surface Water Treatment Plant) | $249,996 |
| Strainer Rebuild (Surface Water Treatment Plant) | $23,460 |
| Watermain break repairs (24) | $228,540 |
| Hydro excavation contractors for water infrastructure repairs | $32,850 |

| | |
|---|---|
| Chamber re-habilitation | $98,780 |
| Advanced Metering Infrastructure (AMI) Service Agreement & Tower Maintenance | $124,200 |
| Meter Replacement Program | $641,450 |

### 3.5 Operational Checks, Sampling and Testing

In general, during the reporting period, operational checks were completed and drinking water samples were collected in accordance with O.Reg. 170/03 and the MDWL, with the exception of Well 3A which was not in service; therefore, only sodium samples were collected at that location. The Branch utilizes a subcontracted laboratory to analyze drinking water samples that have been collected throughout the System. The subcontracted laboratory switched in July of 2022 resulting in some differences in the Method Detection Limits (MDL) on data tables indicated by an asterisk (*). The laboratory results for all analyzed samples regulated by O.Reg. 170/03 and the MDWL are summarized in Table 2 through Table 10, included in Appendix A for reference.

Details of the sampling and testing conducted in 2023 are discussed below in Section 3.5.1 through 3.5.4, inclusive.

#### 3.5.1 Schedule 7 – Operational Checks – O.Reg. 170/03

Operational checks including free chlorine in treated water and free chlorine in distribution water, and raw water and treated water turbidity were conducted in accordance with Schedule 7 of O.Reg.170/03, except for Well 3A which was not in service. The data summarized in the table contains numbers reflective of analyzer calibration and maintenance activities and are not an indication of improperly treated water.

The operational checks conducted during this reporting period are summarized in Table 2, included in Appendix A for reference.

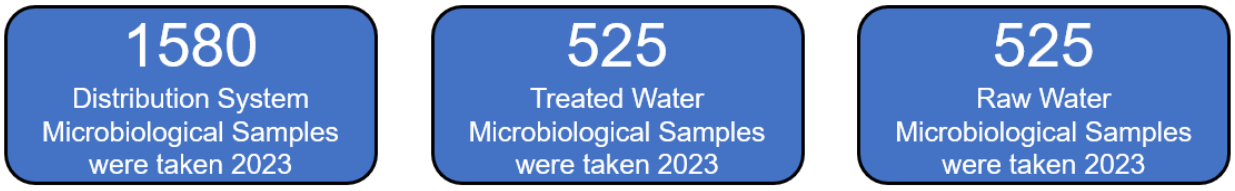
#### 3.5.2 Schedule 10 – Microbiological Sampling and Testing – O.Reg. 170/03

Raw, treated, and distribution water samples were analyzed for microbiological parameters specified in Schedule 10-2, 10-3 and 10-4 of O.Reg. 170/03 and Heterotrophic Plate Count (HPC), and Background bacteria (Background) pursuant to the Public Health Inspector's Guide (PHIG), dated 2021.

Laboratory results for most samples analyzed for E.coli, Total Coliforms and Background met the requirements and did not exceed the applicable standards stipulated in O.Reg. 169/03 and the PHIG. There were several raw water samples collected before treatment that indicated the presence of bacteria.

One (1) treated sample yielded a Total Coliform count. Total Coliforms are an indicator bacterium where their presence may indicate that disease-causing organisms (bacteria) may be present in the water. The one (1) treated water sample that had a Total Coliform count, had no E.coli present. The adverse result was reported as an AWQI as discussed in Section 3.6.

The samples analyzed for microbiological parameters during this reporting period are summarized in Table 3, included in Appendix A for reference.

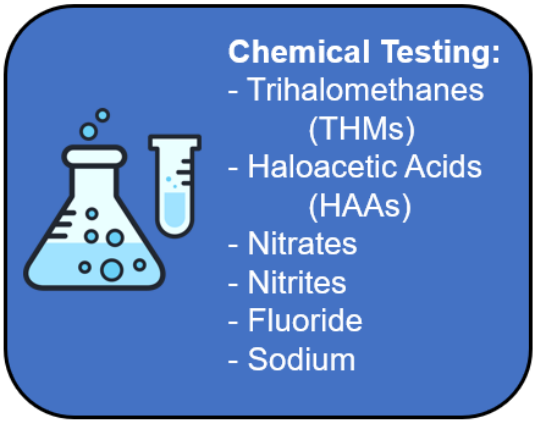



#### 3.5.3 Schedule 13 – Chemical Testing – O.Reg. 170/03

Treated water samples collected from the Water Distribution and Supply Subsystem were analyzed for organic and inorganic chemical parameters in accordance with O.Reg. 170/03, Schedule 13, Section 13.2 (Schedule 23), Section 13.4 (Schedule 24), Section 13.8, and Section 13.9. Analytical results for samples

analyzed for organic and inorganic chemical parameters met the requirements and did not exceed the applicable standards stipulated in O.Reg. 169/03.

Treated water samples collected from the distribution system were analyzed for Trihalomethanes (THMs) and Haloacetic Acids (HAAs) in accordance with O.Reg. 170/03, Schedule 13.6 and 13.6.1. Treated water samples collected from the well stations and SWTP were analyzed for nitrates, nitrites, fluoride, and sodium in accordance with Schedules 13.7, 13.8 and 13.9 of O.Reg.170/03 respectively. Laboratory results for all samples analyzed for THMs, HAAs, fluoride, nitrate and nitrite met the requirements and did not exceed the applicable standards stipulated in O.Reg. 169/03 and 170/03. Samples analyzed for sodium did exceed the applicable standards stipulated in O.Reg. 170/03; however, there were no reporting requirements of the results to the MECP during the 2023 reporting period.




The above noted results are summarized in Tables 4, 5, and 6 in Appendix A for reference.

If analysis required under O.Reg. 170/03 with respect to an analytical parameter was not required during the reporting period; the most recent analytical results for that parameter was included in this report, in accordance with O.Reg. 170/03, s.11 (6) (b).

### 3.5.4 Schedule 15.1 – Lead – O.Reg. 170/03

Lead samples are collected from the plumbing at five (5) industrial and commercial locations and ten (10) hydrants within the distribution system during the winter and summer sampling period in accordance with Schedule 15.1.

Samples were taken in accordance with Schedule D Table 2 of the Municipal Drinking Water License.

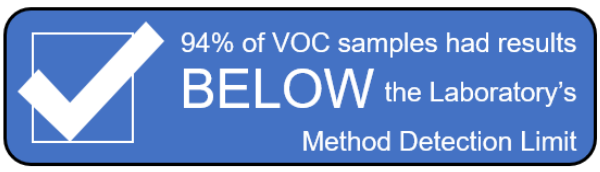
Analytical results indicated lead concentrations below the established limit of 10ug/L (0.01 mg/L) for all the locations sampled.

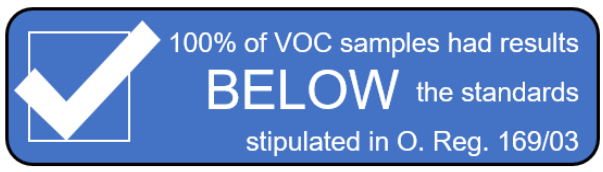
The samples analyzed for lead during this reporting period are summarized in Table 7 and included in Appendix A for reference.

### 3.5.5 Municipal Drinking Water Licence

In addition to the sampling and monitoring required by O.Reg. 170/03, specific conditions within the City's MDWL required additional sampling and monitoring at select locations for select Volatile Organic Compounds (VOCs), sodium, and UV disinfection at Well 5.

Analytical results for all samples analyzed for select VOCs were below the applicable standards stipulated in O.Reg. 169/03.




Samples analyzed for sodium did exceed the applicable standards stipulated in O.Reg. 170/03; however, there were no reporting requirements of the results to the MECP during the 2023 reporting period. Well 12 was not sampled for sodium during the sampling period due to being out of service.

The samples analyzed for select VOCs and sodium during the reporting period are summarized in Table 8 and Table 9, respectively, and included in Appendix A for reference. UV monitoring documented during this reporting period is summarized in Table 10 and included in Appendix A for reference.

### 3.6 Reporting and Corrective Actions

#### 3.6.1 Schedule 16 – Reporting of Adverse Test Results and Other Problems

There were six (6) AWQIs reported during the 2023 reporting period in accordance with Schedule 16 of O.Reg. 170/03.

#### 3.6.2 Schedule 17 – Corrective Actions

Corrective actions related to each of the reported AWQIs, as noted above, were completed in accordance with O.Reg. 170/03, Schedule 17. The Branch resolved the AWQIs in consultation with the Simcoe Muskoka District Health Unit (SMDHU) and the MECP in a timely manner.

The AWQIs and associated corrective actions that occurred during this reporting period are summarized in Table 12, included in Appendix A for reference.

## 4 Closure

It is the belief of the Branch that this report satisfies the requirements of Section 11 of O.Reg. 170/03. If you have any questions concerning the contents of this report, please contact the Supervisor of Compliance and Technical Support at the Branch.

# Appendix A - Tables

Table 2 – Schedule 7 Operational Checks*

| Sample Location | Sample Count | Free Chlorine | | Turbidity | | | |
|---|---|---|---|---|---|---|---|
| | | (min) | (max) | (min) | (max) | (min) | (max) |
| | | Treated Water | | Raw Water | | Treated Water | |
| Well 5 | **8760 | 0.18 | 4.30 | 0.00 | 2.92 | - | - |
| Well 7 | **8760 | 0.43 | 2.00 | 0.01 | 10.00 | - | - |
| Well 9 | **8760 | 0.56 | 1.41 | 0.00 | 6.27 | - | - |
| Well 11 | **8760 | 0.43 | 4.02 | 0.02 | 31.67 | - | - |
| Well 12 | **8760 | 0.59 | 1.57 | 0.02 | 0.66 | - | - |
| Well 13 | **8760 | 0.58 | 1.41 | 0.01 | 6.38 | - | - |
| Well 14 | **8760 | 0.33 | 3.24 | 0.02 | 3.33 | - | - |
| Well 15 | **8760 | 0.24 | 2.24 | 0.03 | 1.05 | - | - |
| Well 16 | **8760 | 0.28 | 4.06 | 0.01 | 9.99 | - | - |
| Well 17 | **8760 | 0.27 | 3.03 | 0.02 | 5.94 | - | - |
| Well 18 | **8760 | 0.02 | 5.00 | 0.01 | 9.99 | - | - |
| Surface Water Treatment Plant | **8760 | 0.00 | 5.00 | 0.00 | 162.75 | 0.01 | 4.51 |
| Bayfield Tower | **8760 | 0.00 | 3.09 | - | - | - | - |
| Ferndale Tower | **8760 | 0.00 | 2.16 | - | - | - | - |
| Mapleview Tower | **8760 | 0.00 | 1.88 | - | - | - | - |
| Anne Reservoir | **8760 | 0.00 | 2.26 | - | - | - | - |
| Harvie Reservoir | **8760 | 0.00 | 2.38 | - | - | - | - |
| Sunnidale Reservoir | **8760 | 0.00 | 5.00 | - | - | - | - |

Notes:

** 8760 - Represents continuous monitoring

-- - Analysis not required

NTU - Turbidity measured in Nephelometric Turbidity Units

mg/L - Free Chlorine measured in milligrams per litre

* Data used to populate this table contains numbers reflective of analyzer calibration and maintenance activities and are not an indication of improperly treated water

Table 3 – Schedule 10 Microbiological Sampling and Testing

| Sample Location | E.Coli | | Total Coliform | | Background | | HPC | | Sample Count |
|---|---|---|---|---|---|---|---|---|---|
| | (min) | (max) | (min) | (max) | (min) | (max) | (min) | (max) | |
| **Distribution System** | | | | | | | | | |
| North Sampling Points | 0 | 0 | 0 | 0 | - | - | <10 | 80 | 780 |
| South Sampling Points | 0 | 0 | 0 | 0 | - | - | <10 | 20 | 778 |
| Other (i.e., main breaks, maintenance) | 0 | 0 | 0 | 0 | 0 | 0 | - | - | 22 |
| | | | | | | | | Sub-Total Distribution Samples | 1580 |
| **Treated Water** | | | | | | | | | |
| Well 5 | 0 | 0 | 0 | 0 | 0 | 1 | 20 | 60 | 46 |
| Well 7 | 0 | 0 | 0 | 0 | 0 | 86 | 10 | 60 | 52 |
| Well 9 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | 10 | 45 |
| Well 11 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 10 | 52 |
| Well 12 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 10 | 7 |
| Well 13 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 40 | 24 |
| Well 14 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | 30 | 48 |
| Well 15 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 20 | 52 |
| Well 16 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 30 | 42 |
| Well 17 | 0 | 0 | 0 | 1 | 0 | 0 | 10 | 20 | 54 |
| Well 18 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 30 | 51 |
| Surface Water Treatment Plant | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 20 | 52 |
| | | | | | | | | Sub-Total Treated Samples | 525 |
| **Raw Water** | | | | | | | | | |
| Well 5 | 0 | 0 | 0 | 2 | 0 | 38 | - | - | 46 |
| Well 7 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | 52 |
| Well 9 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | 45 |
| Well 11 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | 52 |
| Well 12 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | 6 |
| Well 13 | 0 | 0 | 0 | 8 | 0 | 1 | - | - | 24 |
| Well 14 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | 48 |
| Well 15 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | 52 |
| Well 16 | 0 | 0 | 0 | 21 | 0 | 63 | | | 42 |
| Well 17 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | 54 |
| Well 18 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | 52 |
| Surface Water Treatment Plant | 0 | 14 | 0 | 31 | 3 | 140 | - | - | 52 |
| | | | | | | | | Sub-Total Raw Samples | 525 |

Notes:

CFU/100mL - E. coli, Total Coliform and Background results are expressed as Colony Forming Units (CFU)/100mL

CFU/1mL - Heterotrophic Plate Count (HPC) results are expressed as CFU/1mL

-- - Analysis not required

Table 4 – Schedule 13 Chemical Sampling and Testing – Inorganics and Organics

| | Sample Location | Well 5 | Well 7 | Well 9 | Well 11 | Well 12 | Well 13 | Well 14 | Well 15 | Well 16 | Well 17 | Well 18 | SWTP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date Sampled | 2021-04-12 | 2021-04-12 | 2021-04-12 | 2021-04-12 | 2021-04-12 | 2021-04-12 | 2021-04-12 | 2021-04-12 | 2021-04-12 | 2021-04-12 | 2021-04-12 | 2023-08-28 |
| | MDL | Analytical Result | | | | | | | | | | | |
| **Treated Water - Inorganic Parameters** | | | | | | | | | | | | | |
| Antimony | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Arsenic | 0.001 | 0.0003* | 0.0003* | <MDL | 0.0001* | 0.0002* | 0.0002* | 0.0001* | 0.0004* | 0.0003* | 0.0003* | 0.0004* | <MDL |
| Barium | 0.001 | 0.179 | 0.27 | 0.104 | 0.235 | 0.401 | 0.267 | 0.108 | 0.281 | 0.105 | 0.294 | 0.255 | 0.033 |
| Boron | 0.005 | 0.021 | 0.013 | 0.010 | 0.016 | 0.025 | 0.018 | 0.014 | 0.012 | 0.013 | 0.015 | 0.017 | 0.016* |
| Cadmium | 0.0001 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Chromium | 0.002 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | 0.002* |
| Mercury | 0.00002 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | 0.0003 |
| Selenium | 0.001 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | 0.001* |
| Uranium | 0.001 | 0.00039* | 0.00028* | 0.00099* | 0.00086* | 0.00036* | 0.00146* | 0.0009* | 0.00015* | 0.001* | 0.00033* | 0.0002* | <MDL |
| **Treated Water - Organic Parameters** | | | | | | | | | | | | | |
| Alachlor | 0.0003 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Atrazine+metabolites | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Azinphos-methyl | 0.001 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Benzene | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Benzo(a)pyrene | 0.00001 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Bromoxynil | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | -- |
| Carbaryl | 0.003 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Carbofuran | 0.004 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Carbon Tetrachloride | 0.0002 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Chlorpyrifos | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Diazinon | 0.001 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Dicamba | 0.01 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | -- |
| 1,2-Dichlorobenzene | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| 1,4-Dichlorobenzene | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| 1,2-dichloroethane | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| 1,1-Dichloroethylene (vinylidene chloride) | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Dichloromethane | 0.005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| 2,4-Dichlorophenol | 0.0002 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| 2,4-Dichlorophenoxy acetic acid (2,4-D) | 0.01 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | -- |
| Diclofop-methyl | 0.0009 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | -- |
| Dimethoate | 0.001 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Diquat | 0.005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Diuron | 0.01 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Glyphosate | 0.025 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Malathion | 0.005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| MCPA | 0.01 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | -- |
| Metolachlor | 0.003 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Metribuzin | 0.003 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Monochlorobenzene | 0.005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Paraquat | 0.001 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Pentachlorophenol | 0.0003 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Phorate | 0.0003 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Picloram | 0.015 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | -- |
| Polychlorinated Biphenyls (PCB) | 0.00006 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Prometryne | 0.0001 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Simazine | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Terbufos | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Tetrachloroethylene (perchloroethylene) | 0.005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| 2,3,4,6-Tetrachlorophenol | 0.0003 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Triallate | 0.01 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Trichloroethylene | 0.005 | <MDL | <MDL | <MDL | <MDL | <MDL | 0.0014 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| 2,4,6-Trichlorophenol | 0.0002 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Trifluralin | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |
| Vinyl Chloride | 0.002 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL* |

Notes:

mg/L - All units presented in milligrams per litre
MDL - Method Detection Limit for laboratory analysis
<MDL - Analytical Result did not exceed the laboratory Method Detection Limit (MDL)
SWTP - Surface Water Treatment Plant
* - Sample analyzed at a lab with a lower MDL than listed

Table 5 – Schedule 13 Chemical Sampling and Testing – Trihalomethanes & Haloacetic Acids

| Parameter | Running Annual Average |
|---|---|
| | 2023 |
| Trihalomethanes | 0.0375 |
| Haloacetic Acids | 0.0294 |

Notes:

mg/L - Reported in milligrams per litre

Table 6 – Schedule 13 Chemical Sampling and Testing – Sodium, Fluoride, Nitrite and Nitrate

| Parameter | MDL | Date Sampled | Analytical Results | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Location | Well 5 | Well 7 | Well 9 | Well 11 | Well 12 | Well 13 | Well 14 | Well 15 | Well 16 | Well 17 | Well 18 | SWTP |
| Sodium | 0.1 | 2019-09-16 | 17.8 | 10 | 43.7 | 94.2 | 140 | 54.2 | 61.9 | 22.7 | -- | -- | 9.9 | -- |
| | | 2019-12-09 | -- | -- | -- | -- | -- | -- | -- | -- | 10.4 | -- | -- | -- |
| | | 2020-03-02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 9.9 | -- | -- |
| | | 2021-08-30 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 32.0 |
| Fluoride | 0.2 | 2019-09-16 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | -- | -- | <MDL | -- |
| | | 2019-12-09 | -- | -- | -- | -- | -- | -- | -- | -- | <MDL | -- | -- | -- |
| | | 2020-03-02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | <MDL | -- | -- |
| | | 2021-08-30 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | <MDL |
| Nitrite | 0.05 | 2023-02-27 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | <MDL |
| | | 2023-03-06 | <MDL | <MDL | <MDL | <MDL | -- | <MDL | <MDL | <MDL | -- | <MDL | <MDL | -- |
| | | 2023-03-13 | -- | -- | -- | -- | -- | -- | -- | -- | <MDL | -- | -- | -- |
| | | 2023-04-03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | <MDL |
| | | 2023-05-29 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | <MDL |
| | | 2023-06-05 | <MDL | <MDL | <MDL | <MDL | -- | -- | <MDL | <MDL | <MDL | <MDL | <MDL | -- |
| | | 2023-08-28 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | <MDL |
| | | 2023-09-11 | -- | <MDL | <MDL | <MDL | -- | -- | <MDL | <MDL | <MDL | <MDL | <MDL | -- |
| | | 2023-09-28 | -- | -- | -- | -- | -- | <MDL | -- | -- | -- | -- | -- | -- |
| | | 2023-10-16 | <MDL | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | 2023-11-27 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | <MDL |
| | | 2023-12-04 | <MDL | <MDL | -- | <MDL | -- | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | -- |
| Nitrate | 0.05 | 2023-02-27 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.17 |
| | | 2023-03-06 | <MDL | <MDL | 3.83 | 0.47 | -- | 1.86 | 0.06 | <MDL | -- | <MDL | <MDL | -- |
| | | 2023-03-13 | -- | -- | -- | -- | -- | -- | -- | -- | 0.56 | -- | -- | -- |
| | | 2023-04-03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.31 |
| | | 2023-05-29 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.30 |
| | | 2023-06-05 | <MDL | <MDL | 2.77 | 0.65 | -- | -- | 0.07 | <MDL | 1.23 | <MDL | <MDL | -- |
| | | 2023-08-28 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.19 |
| | | 2023-09-11 | -- | <MDL | 2.72 | 0.78 | -- | -- | 0.13 | <MDL | 1.10 | <MDL | <MDL | -- |
| | | 2023-09-28 | -- | -- | -- | -- | -- | 2.32 | -- | -- | -- | -- | -- | -- |
| | | 2023-10-16 | <MDL | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | 2023-11-27 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | <MDL |
| | | 2023-12-04 | <MDL | <MDL | -- | 0.71 | -- | 2.37 | 0.13 | <MDL | 1.17 | <MDL | <MDL | -- |

Notes:

-- - Analysis not required
MDL - Method Detection Limit for laboratory analysis
<MDL - Analytical Result did not exceed the laboratory Method Detection Limit (MDL)
mg/L - All units reported in milligrams per litre
SWTP - Surface Water Treatment Plant

Table 7 – Schedule 15.1 – Lead

| Parameter | MDL | Sample Count | Range of Results | |
|---|---|---|---|---|
| | | | (min) | (max) |
| Lead (Plumbing) | 0.0001 | 20 | 0.0001 | 0.0064 |
| Lead (Distribution System) | | 20 | <MDL | 0.0005 |

Notes:

mg/L - All units reported in milligrams per litre

MDL - Method Detection Limit for laboratory analysis

Table 8 – Municipal Drinking Water Licence – Raw Water Sampling and Testing – Volatile Organic Compound

| Parameter | MDL | Analytical Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | (min) | (max) | (min) | (max) | (min) | (max) | (min) | (max) |
| **Sample Location** | | **Well 11** | | **Well 12** | | **Well 14** | | **Well 15** | |
| Benzene | 0.0002 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Carbon Tetrachloride | 0.0002 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| 1,2-Dichlorobenzene | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| 1,4-Dichlorobenzene | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| 1,2-Dichloroethane | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| 1,1-Dichloroethene | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Cis-1,2-Dichloroethene | 0.0005 | <MDL | <MDL | 0.001 | 0.001 | <MDL | 0.0009 | <MDL | 0.0018 |
| Dichloromethane | 0.005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Monochlorobenzene | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Tetrachloroethylene | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL |
| Trichloroethylene | 0.0005 | <MDL | <MDL | <MDL | <MDL | <MDL | 0.0014 | <MDL | <MDL |
| Vinyl Chloride | 0.0001 | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | <MDL | 0.0001 |

Notes:

mg/L - All units reported in milligrams per litre

MDL - Method Detection Limit for laboratory analysis

<MDL - Analytical result did not exceed the laboratory Method Detection Limit (MDL)

Table 9 – Municipal Drinking Water Licence – Raw Water Sampling and Testing - Sodium

| Sample Location | Sodium | |
|---|---|---|
| | (min) | (max) |
| *Well 3A | 42.0 | 50.0 |
| Well 9 | 53.0 | 59.0 |
| Well 11 | 97.0 | 101.0 |
| Well 12 | -- | -- |
| Well 13 | 21.1 | 58.0 |
| Well 14 | 54.0 | 70.0 |

Notes: mg/L - All units reported in milligrams per litre

* - Although 3A was not in service, analytical results required as a condition of the MDWL

-- - Well 12 was out of service during the sampling period.

Table 10 – Municipal Drinking Water Licence – Ultra Violet Monitoring*

| Parameter | Minimum | Well 5 | |
|---|---|---|---|
| | | (min) | (max) |
| UV Dosage *Monitored Continuously* | 40 | 0 | 131.4 |
| UVT *Monitored Weekly* | 85 | 86.2 | 99.5 |

Notes: ($mJ/cm^2$) - UV Dosage measured in millijoules per centimeter squared

% - UVT measured in percent

* Data used to populate this table contains numbers reflective of analyzer calibration and maintenance activities and are not an indication of improperly treated water

# Schedule C

# 2023 Municipal Summary Report, Schedule 22

# Ontario Regulation 170/03

# City of Barrie
# Water Operations Branch

# Drinking Water System
# 2023 Municipal Summary Report
# Schedule 22. O.Reg. 170/03

For the Period of

**JANUARY 1ST, 2023 TO DECEMBER 31ST, 2023**

| | |
|---|---|
| **System Rating:** | Water Treatment Subsystem Class IV<br>Water Distribution and Supply Subsystem Class IV<br>Water Distribution Subsystem Class II |
| **Drinking Water System No.:** | 220001192 |
| **Municipal Drinking Water Licence No.:** | 014-101, Issue No. 6 |

Effective Date: 2024-02-06

## TABLE OF CONTENTS

# Municipal Summary Report – Schedule 22-2, O.Reg. 170/03

## 1 Introduction

The City of Barrie Water Operations Branch (the Branch) has prepared this summary report to satisfy the requirements of Schedule 22-2 of Ontario Regulation 170/03 (O.Reg.170/03). Schedule 22-2 (1) and (1)(a) require that the owner of a drinking water system (the System) ensure that a report is prepared in accordance with subsections (2) and (3) for the preceding calendar year. The summary report must be provided to the members of the municipal council, in the case of drinking water systems owned by a municipality and must be available no later than March 31st of each year.

This report includes the period from January 1st to December 31st, 2023, and the information provided complies with the reporting requirements outlined in Schedule 22-2 (2) and (3) of O.Reg.170/03.

## 2 Schedule 22-2 Reporting Requirements

Schedule 22-2 requires that the report include the following:

- Schedule 22-2 (2) requires:
  - List the requirements of the Safe Drinking Water Act (SDWA), the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the System that were not met at the time during the period covered by the report; and
  - For each requirement referred to above that was not met, specify the duration of the failure and the measures that were taken to correct the failure.
- Schedule 22-2 (3) requires:
  - A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows; and
  - A comparison of the summary referred to above to the rated capacity and flow rates approved in the System's approval, drinking water works permit or municipal drinking water licence.

## 3 Evidence of Compliance

### 3.1 Compliance with Schedule 22-2 (2)

The following sections discuss the requirements in Schedule 22-2 (2).

#### 3.1.1 Orders

The System was not issued any orders during the 2023 reporting period.

#### 3.1.2 Ministry of Environment, Conservation and Parks (MECP) Drinking Water System Inspection


The MECP conducted one (1) unannounced, focused inspection of the System. The inspection was from November 2022 to November 2023. Following the System inspection, the MECP issued a report summarizing the findings, including regulatory non-compliances, best practice issues, and recommendations.

##### 3.1.2.1 2023 Drinking Water System Inspection Findings

There were two (2) non-compliances with regulatory requirements and one (1) recommendation reported in the 2023 MECP Inspection Report (Report) issued on November 15, 2023.

The first non-compliance identified in the inspection findings noted that haloacetic acid water quality monitoring requirements prescribed by legislation were not conducted within the required frequency. The Branch responded by immediately conducting the required haloacetic acid sampling outlined in Subsection 13-6.1 Schedule 13 of O. Reg. 170/03. The Branch has adjusted the sampling window of

opportunity during each quarter to ensure adequate time to observe, review, and check that sampling has been conducted and is complete.

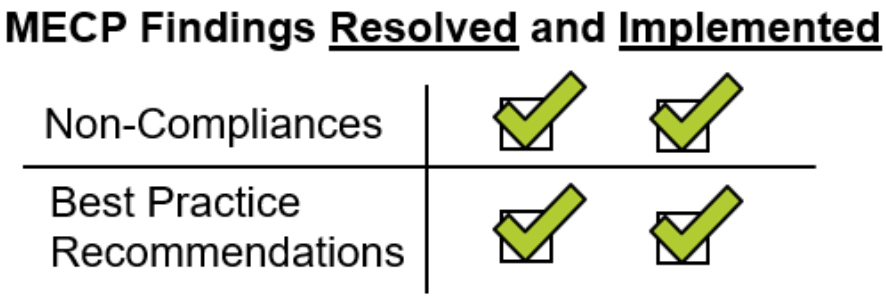
The second non-compliance identified in the inspection findings noted that trihalomethane water quality monitoring requirements prescribed by legislation were not conducted within the required frequency. The Branch responded by immediately conducting the required trihalomethane sampling outlined in Subsection 13-6.1 Schedule 13 of O. Reg. 170/03. The Branch has adjusted the sampling window of opportunity during each quarter to ensure adequate time to observe, review, and check that sampling has been conducted and is complete.

The one (1) recommendation outlined in the Report identified two best practice issues.

The first best practice noted that for adverse water quality incident (AWQI) #163918, the City of Barrie had submitted the required Notices of Adverse Test Results and Issue Resolution (Schedule 16), but the version was an older version, Form 4444E (2020/04). It is strongly recommended that the City consider using the updated notification form, 4444E (2022/10). The Branch has updated all staff access points to the 4444E to ensure that the most current version of the form is utilized.

The second best practice was noted on the day of physical inspection and identified unsecured access hatches at Sarjeant Drive Well #7 as well as a container of coolant near a floor drain. It was also noted that at Johnson Street Well #9 that a container of mineral oil was observed near the facility door and the spill containment dike contained spilled silicate material. It is recommended that the City consider installing a lock on the Sarjeant Drive East hatch and improve housekeeping efforts including the appropriate storage of maintenance fluids. The Branch has taken action to address all the best practice issues. Locks were added to the access hatches at Sarjeant Drive Well #7. Chemicals stored near floor drains were removed and placed in proper chemical storage at Sarjeant Drive Well #7 and Johnson Street Well #9. The spill containment dike at Johnson Street Well #9 was cleared of spilled sodium silicate.

A copy of the MECP Drinking Water System Inspection Summary is included in Appendix A for reference.




3.1.2.2 Historical Drinking Water System Inspection Findings

The Branch summarized the regulatory non-compliances and MECP recommendations for best practices that were presented in the historical Drinking Water System Inspection Reports, along with actions taken by the Branch in response to inspection findings on the MECP Drinking Water System Inspection Summary, which spans the 2019 to 2023 reporting periods, inclusive.

A copy of the MECP Drinking Water System Inspection Summary is included in Appendix A for reference.

3.2 Compliance with Schedule 22-2 (3)

3.2.1 Drinking Water System Production and Flow Rates

In accordance with Schedule 22-2 (3) and to assist the Owner in assessing the capability of the System to meet existing and planned uses of the system, the Branch prepared a summary of the quantities of water supplied during the reporting period, including monthly average and maximum daily flows in comparison

to the rated capacities. The flows presented below are reported in Megalitres (ML) to reflect the large quantities of water produced by the system.

The Branch supplied 13,989 ML of water in the reporting period. The average monthly flow from all sources within the System was 1,166 ML, which ranged from 521 ML (SWTP) to 5.84 ML at Well 12.

The Branch was approved to supply a total of 148.26 ML (148,264,000 L) of water per day from fifteen (15) sources, with approved capacity of each source ranging from 6.55 ML/day (various sources) to 65 ML/day (SWTP). The maximum volume of water supplied in any day (maximum day flow) from each source ranged from 3.50 ML (Well 13) to 29.04 ML (SWTP) during the reporting period, as illustrated in the Flow Summary graph included in Appendix B. Each source was operated within its respective permitted capacity during the reporting period, except for Well 3A, 4A and 19 which were not operated in 2023.

## 4 Closure

It is the belief of the Branch that this report satisfies the requirements of O.Reg. 170/03, Schedule 22. If you have any questions concerning the contents of this report, please contact the Supervisor of Compliance and Technical Support.

# Appendix A MECP Drinking Water System Inspection Summary

# Ministry of Environment, Conservation & Parks
# Drinking Water System Inspection Summary

| Item No | Applicable Requirement | MECP Non-Compliance With Regulatory Requirements | Actions Taken | MECP Recommendations and Best Practice Issues | Actions Taken | Status |
|---|---|---|---|---|---|---|
| **2023** | | | | | | |
| 1 | Subsection 13-6.1 of Schedule 13 and Subsection 6-1.1 of Schedule 6 of O. Reg. 170/03 | The latest HAA sample obtained on October 17, 2023, exceeded the required sampling window of 120 days from the previous sample. | The Branch immediately conducted the required haloacetic acid sampling. | | Adjust the sampling window of opportunity during each quarter to ensure adequate time to observe, review, check that sampling is upcoming, has been conducted and is complete and accurate. | Complete |
| 2 | Subsection 13-6.1 of Schedule 13 and Subsection 6-1.1 of Schedule 6 of O. Reg. 170/03 | The latest THM sample obtained on October 17, 2023, exceeded the required sampling window of 120 days from the previous sample. | The Branch immediately conducted the required trihalomethane sampling. | | Adjust the sampling window of opportunity during each quarter to ensure adequate time to observe, review, check that sampling is upcoming, has been conducted and is complete and accurate. | Complete |
| 3 | | | | Adverse Water Quality Incident #163918 was submitted on an older version of the form 4444E (2020/04**)** | A link to the MECP form was added to the QMS Home Page for Operational Staff to always access the most current version of the form | Complete |

| Item No | Applicable Requirement | MECP Non-Compliance With Regulatory Requirements | Actions Taken | MECP Recommendations and Best Practice Issues | Actions Taken | Status |
|---|---|---|---|---|---|---|
| 4 | | | | The following items were noted during the physical inspection:<br>- WPS07 access hatches were unsecured without a lock.<br>- WPS07 & WPS09 had antifreeze/coolant/mineral oil being stored near a floor drain without proper containment.<br>- WPS09 spill containment dike for sodium silicate had a spilled volume of material on the floor | Locks were added to access hatches at WPS07.<br>Chemicals stored near floor drains were placed in proper chemical storage or removed from the property at WPS07 & WPS09.<br>WPS09 spill containment dike was cleared of spilled sodium silicate. | Complete |
| **2022** | | | | | | |
| | | Not Applicable | | Not Applicable | | Complete |
| **2021** | | | | | | |
| | | Not Applicable | | Not Applicable | | Complete |
| **2020** | | | | | | |

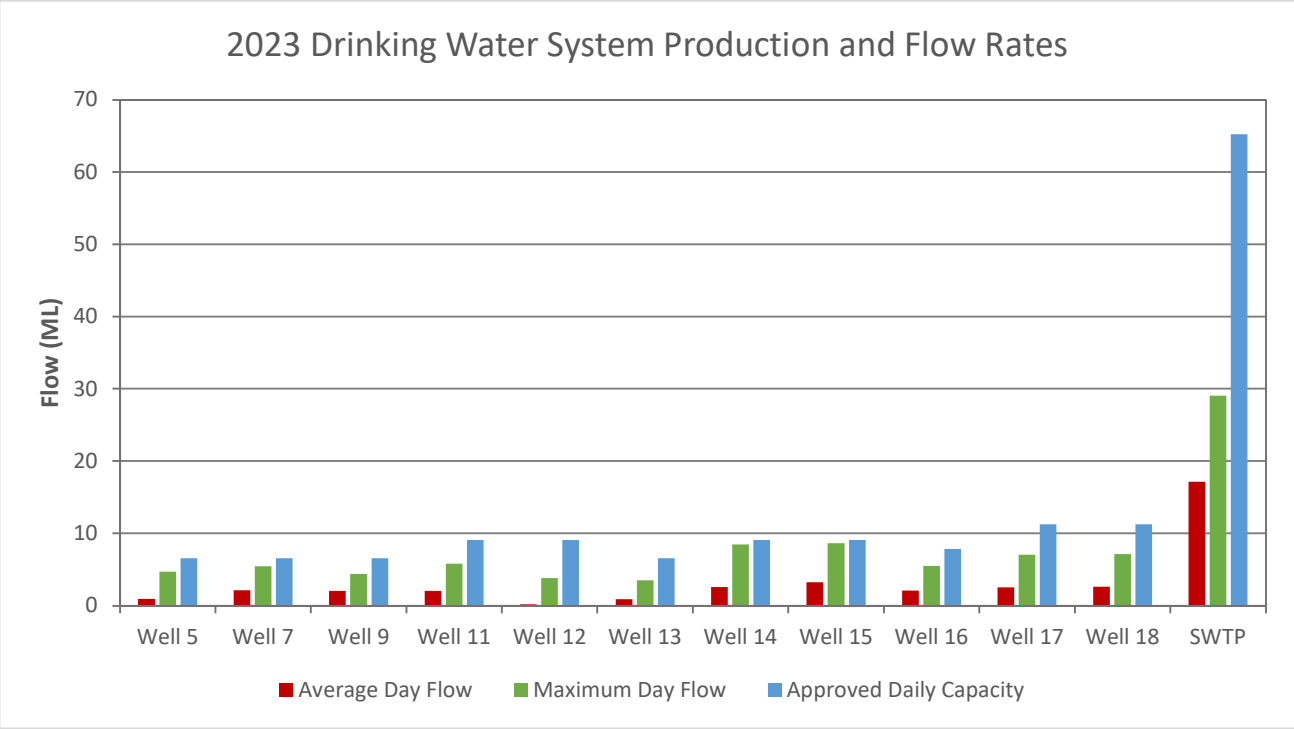
| Item No | Applicable Requirement | MECP Non-Compliance With Regulatory Requirements | Actions Taken | MECP Recommendations and Best Practice Issues | Actions Taken | Status |
|---|---|---|---|---|---|---|
| 1 | Subsection 1-2 (2)4 of Schedule 1 of O. Reg. 170/03 | Records did not confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated so that at all times and all locations in the distribution system the chlorine residual was never less than 0.05 mg/L free or 0.25 mg/L combined | Residuals were verified, and water was able to mix in the reservoir with water of acceptable residual and microbiological samples collected | | | Complete |
| **2019** | | | | | | |
| 1 | Schedule E of Drinking Water Licence #014-101, Issue Number 6 | All UV Sensors were not checked and calibrated as required | Created a recurring work order within the municipal maintenance management system to ensure that the reference sensors are checked and calibrated as required. A work order was also created for the Master Reference Assembly to be checked and calibrated at a minimum frequency based on the manufacturer's recommendations | | | Complete |
| 2 | Condition 5 of Schedule C of Drinking Water Licence #014-101, Issue Number 6 | All water quality monitoring requirements imposed by the MDWL or DWWP issued under Part V of the SDWA were not being met | Notified the MECP officer upon identification of all instances of non-compliance and applied appropriate corrections at the time of the incident | | | Complete |

| Item No | Applicable Requirement | MECP Non-Compliance With Regulatory Requirements | Actions Taken | MECP Recommendations and Best Practice Issues | Actions Taken | Status |
|---|---|---|---|---|---|---|
| 3 | | | | Owner did not have a harmful algal bloom monitoring plan in place (requirement to be in place on or before April 1, 2020) | Microsystin samples were being collected at the low lift pumping station and the highlift pumping station during the months of July and August. Plan was implemented in Spring 2020 | Complete |

# Appendix B Tables and Figures

## Drinking Water System Usage

| Source | Approved Daily Capacity (ML/day) | Maximum Day Flow (ML/day) | Average Day Flow (ML/day) | Monthly Average Flow (ML/month) | Annual Total Volume (ML) |
|---|---|---|---|---|---|
| Well 5 | 6.55 | 4.71 | 0.91 | 27.82 | 333.89 |
| Well 7 | 6.55 | 5.47 | 2.12 | 64.46 | 773.50 |
| Well 9 | 6.55 | 4.40 | 2.06 | 62.70 | 752.37 |
| Well 11 | 9.10 | 5.80 | 2.02 | 61.59 | 739.09 |
| Well 12 | 9.10 | 3.81 | 0.19 | 5.84 | 70.12 |
| Well 13 | 6.55 | 3.50 | 0.87 | 26.34 | 316.04 |
| Well 14 | 9.10 | 8.47 | 2.57 | 78.13 | 937.61 |
| Well 15 | 9.10 | 8.64 | 3.22 | 97.91 | 1,174.92 |
| Well 16 | 7.86 | 5.49 | 2.09 | 63.57 | 762.89 |
| Well 17 | 11.23 | 7.04 | 2.51 | 76.24 | 914.87 |
| Well 18 | 11.23 | 7.14 | 2.63 | 80.06 | 960.71 |
| SWTP | 65.20 | 29.04 | 17.13 | 521.06 | 6,252.76 |
| System | 158.12 | 93.50 | 38.33 | 1,165.73 | 13,988.74 |



# Schedule D

# Ministry of Environment, Conservation and Parks

# Standard of Care

# TAKING CARE OF YOUR DRINKING WATER

## A Quick Guide For Members Of Municipal Councils

If you are a municipal councillor, this quick guide is intended to help you better understand the Safe Drinking Water Act, 2002 (SDWA) and provide information about your statutory standard of care responsibilities. You are encouraged to also read ***Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils***. It provides more details about these responsibilities as well as information about how Ontario's drinking water is protected.

Ontarians expect safe, high quality drinking water. It is a matter vital to public health. As a member of a municipal council, you have an important role to play to ensure that your community has access to safe, high quality drinking water — and you are legally obliged to do so.

### THREE THINGS TO REMEMBER AS A MUNICIPAL COUNCILLOR:

**It's Your Duty.** The Safe Drinking Water Act, 2002 includes a statutory standard of care for individuals who have decision-making authority over municipal drinking water systems or who oversee the operating authority of the system. This can extend to municipal councillors. There are legal consequences for not acting as required by the standard of care, including possible fines or imprisonment.

**Be Informed.** Ask questions. Get answers. You don't have to be an expert in drinking water operations, but you do need to be informed about them. Your decisions can have an impact on public health. Seek advice from those with expertise and act prudently on that advice.

**Be Vigilant.** Complacency can pose one of the greatest risks to drinking water systems. It is critical that you never take drinking water safety for granted or assume all is well with the drinking water systems under your care and direction. The health of your community depends on your diligent and prudent oversight of its drinking water.

> *"Water is unique as a local service. It is, of course, essential to human life and to the functioning of communities, (and) the consequences of a failure in the water system (are) most seriously felt by those who depend on it locally. Municipal ownership, and the ensuing responsibilities, should provide a high degree of public accountability in relation to the local water system."*
> — Justice Dennis O'Connor,
> 2002 Report of the Walkerton Inquiry

**Legal Disclaimer** – This quick guide should not be viewed as legal or other expert advice. For specific questions regarding the legal application of the Safe Drinking Water Act, 2002 and its regulations, please consult a lawyer and/or consult the text of the Act at ***www.e-laws.gov.on.ca***.



Ontario

# Key Sections of the SDWA for Municipal Councillors

### Section 11: Duties of Owners and Operating Authorities

Section 11 of the SDWA describes the legal responsibilities of owners and operating authorities of regulated drinking water systems. It is important for you to understand the scope of your municipality or operating authority's day-to-day responsibilities.

Owners and operators are responsible for ensuring their drinking water systems:

- provide water that meets all prescribed drinking water quality standards
- operate in accordance with the act and its regulations, and are kept in a fit state of repair
- are appropriately staffed and supervised by qualified persons
- comply with all sampling, testing and monitoring requirements
- meet all reporting requirements

### Examples of actions required of owners and operators under Section 11:

- Sampling and testing of drinking water with a frequency appropriate to the type, size and users of the system in accordance with the act and corresponding regulations
- Using an accredited and licensed laboratory for drinking water testing services
- Reporting of adverse test results that exceed any of the standards in the Ontario Drinking Water Quality Standards Regulation, both verbally and in writing, to the local medical officer of health and the Ministry of the Environment and Climate Change (MOECC)
- Obtaining a drinking water licence for a municipal residential drinking water system from the MOECC, which includes a financial plan
- Ensuring the drinking water system is operated by an accredited operating authority
- Hiring certified operators or trained persons appropriate to the class of the system
- Preparing an annual report to inform the public on the state of the municipality's drinking water and the system providing it, and an annual summary report for the owners of the drinking water system

## Section 19: Your Duty and Liability – Statutory Standard of Care

Section 19 of the SDWA expressly extends legal responsibility to people with decision-making authority over municipal drinking water systems and those that oversee the accredited operating authority for the system. It requires that they exercise the level of care, diligence and skill with regard to a municipal drinking water system that a reasonably prudent person would be expected to exercise in a similar situation and that they exercise this due diligence honestly, competently and with integrity.

### Meeting your statutory standard of care responsibilities

Meeting the statutory standard of care is the responsibility of:

- the owner of the municipal drinking water system
- if the system is owned by a municipality, every person who oversees the accredited operating authority or exercises decision-making authority over the system – **potentially including but not limited to members of municipal councils**
- if the municipal drinking water system is owned by a corporation other than a municipality, every officer and director of the corporation

### Maintaining an Appropriate Level of Care

Standard of care is a well-known concept within Ontario legislation.

For example, the Business Corporations Act requires that every director and officer of a corporation act honestly and in good faith with a view to the best interests of the corporation and exercise the care, diligence and skill that a reasonably prudent person would in comparable circumstances.

Statutory standards of care address the need to provide diligent oversight. What is considered to be an appropriate level of care will vary from one situation to another. As a municipal councillor, it is important to educate yourself on this statutory requirement and to gain an understanding of the operation of drinking water systems in your community to help you meet the standard of care requirements.

**You are not expected to be an expert in the areas of drinking water treatment and distribution.** Section 19 allows for a person to rely in good faith on a report of an engineer, lawyer, accountant or other person whose professional qualifications lend credibility to the report.

## Enforcing the Statutory Standard of Care

As a municipal councillor, you need to be aware that not meeting your statutory standard of care responsibilities comes with serious consequences. Section 19 provides the province with an enforcement option when needed.

A provincial officer has the authority to lay a provincial offence charge against a person to whom the standard applies. The range of penalties includes maximum fines of up to $4 million for a first offence and provision for imprisonment for up to five years. No minimum penalties are established. Actual penalties would be decided by the courts depending on the severity and consequences of the offence.

It is important to note the difference between the provision of the Municipal Act, 2001, that limits the personal liability of members of municipal councils and officials, and the standard of care imposed under the SDWA. Under sections 448-450 of the Municipal Act, 2001, municipal council members and officials have relief from personal civil liability when they have acted in good faith. However, despite that protection, municipal councillors and officials that are subject to the duty imposed by Section 19 of the SDWA could be penalized if a prosecution is commenced and a court determines they have failed to carry out the duty imposed under that section.

## ☑ Actions You Can Take – to be better informed about your drinking water oversight responsibilities.

### General

- ☐ Read ***Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils,*** which provides more details about your responsibilities as well as information about how Ontario's drinking water is protected and reference material on drinking water.
- ☐ Consider taking the Standard of Care training with the Walkerton Clean Water Centre. Get course details and session offerings at **www.wcwc.ca** or by phoning toll free 1-866-515-0550.
- ☐ Learn about drinking water safety and its link to public health. Speak to water system and public health staff to learn more.
- ☐ Become familiar with your municipal drinking water system. Ask your water manager to give a presentation to council and/or arrange a tour of your drinking water facilities.
- ☐ Review the reports of the Walkerton Inquiry, specifically sections related to municipal government (Chapter 7 in Report I, Chapters 10 and 11 in Report II). The reports are available online at **www.attorneygeneral.jus.gov.on.ca/english/about/pubs/walkerton**.
- ☐ Become further acquainted with drinking water legislation and regulations, available on the Ontario Government e-Laws website at **www.e-laws.gov.on.ca**.

### Drinking Water Operational Plan

- ☐ Ask your operating authority to speak to your municipal council about your operational plan.
- ☐ Consider and act on any advice (including identified deficiencies and action items) identified during the annual management review process.
- ☐ Review the Quality Management System policy in your operational plan and its commitments.
- ☐ Ask your operating authority to show how it is meeting these commitments.

## Drinking Water Reports and Inspections

- ☐ Obtain and thoroughly review copies of the most recent annual and summary reports.
- ☐ Ask for explanations of any information you don't understand.
- ☐ Consider, act on and correct any deficiencies noted in the reports.
- ☐ Review your annual inspection results and ask questions if there is any indication of declining quality.
- ☐ Clarify any technical terms.
- ☐ Ask how deficiencies are being addressed.
- ☐ Review your system's standing in the ratings reported in the Chief Drinking Water Inspector's Annual Report. If your rating is less than 100 per cent, ask why.
- ☐ Consider, act on and correct any deficiencies highlighted in the inspection.

## Infrastructure Planning

- ☐ Find out what maintenance, rehabilitation and renewal plans are in place for your drinking water system.
- ☐ Ask your operating authority to present the findings of its annual infrastructure review.

## Communicating with Your Operating Authority

- ☐ Determine when and how your operating authority will communicate to you as an owner.
- ☐ Find out what information is made available to the public and how.

## Emergency Planning for Drinking Water

- ☐ Ask your operating authority to review the drinking water emergency plan with council and to explain what responsibilities have been assigned to the owner.
- ☐ Know who will be the spokesperson during a drinking water emergency.
- ☐ Ensure critical staff have taken necessary training on emergency procedures and have participated in testing.

## Drinking Water System Operators

- ☐ Ensure there are sufficient resources for appropriate levels of training for municipal staff involved in operating a drinking water system.
- ☐ Confirm that an overall responsible operator (ORO) has been designated and that procedures are in place to ensure all required staff and contractors are certified.
- ☐ Check to see if drinking water operator succession planning is being done and that measures are taken to address any current or anticipated challenges to recruiting skilled employees.
- ☐ Ensure your municipality or operating authority has contingency plans in place for situations where your certified operators may not be available (e.g. labour disputes, illnesses, vacancies, etc.) and, if activated, confirm that these contingency plans have been, where required, approved by the Ministry of the Environment and Climate Change and are working.

## Source Protection Planning

- ☐ Review the source protection plan for your area and find out what actions are being taken to protect vulnerable areas around your drinking water sources.
- ☐ Find out if your municipality has appointed risk management officials and inspectors to support source protection planning and whether you are sharing these duties with other municipalities or delegating to a local source protection authority.

---

For more information, call the Ministry of the Environment and Climate Change at **1-800-565-4923**
Email: **drinking.water@ontario.ca**

PIBS 9810e

# Schedule E

# Quality Management System
# Management Review Meeting Minutes

# Meeting Minutes

## Meeting Details

| Date |
|---|
| 2023-02-22 |
| **Start Time** |
| 9:00:00 AM |
| **End Time** |
| 12:00:00 PM |
| **Type** |
| Management Review |

## Attendance

| Attendee Role | Initials | Name |
|---|---|---|
| Facilitator | BAF | Astop-Ford, Brittany |
| Recorder | GG | Gilbank, Gwen |
| Attendee | BM | Miller, Brenden |
| Attendee | DM | Moreau, Diane |
| Attendee | DS | Smith, Diana |
| Attendee | AIP | Inglis-Petahtegoose, Amanda |
| Attendee | JD | Dumais, Jeanette |
| Attendee | JG | Giffen, Jason |
| Attendee | LH | Hywarren, Lenita |
| Attendee | MV | Vandergeest, Mark |
| Regrets | JA | Adams, Jamey |

## Meeting Minutes

| Agenda Item | Action Item No | Description |
|---|---|---|
| 01) Review of Previous Meeting Minutes | | Meeting minutes were already previously reviewed and accepted. |
| 02) 2022 Q3 Action Item Follow-Up | 525 | Conduct research on whether the health of a distribution system can be measured by establishing a percentage of "Inoperable" valves and determining our COB benchmark.<br>JD notes that so far, the research indicates that no other municipality has got this far or has published papers on connecting percent inoperable to the overall health of the distribution system as a number.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 2023-03-01<br>Technical Lead: JG Completion Date: |
| | 633 | Add the auto flushers as assets in Cityworks and are available for staff to view via a saved search.<br>Auto flushers were added to Cityworks.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: BAF Due Date: 2022-10-01<br>Technical Lead: Completion Date: 2022-11-14 |
| | 666 | Update the Sectional Work Order Summary graph on slide 45 to a bar graph to more clearly illustrate what this data represents.<br>Bar graph presented was reviewed and accepted.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: BAF Due Date: 2023-02-01<br>Technical Lead: Completion Date: 2023-02-22 |
| | 668 | Consider making improvements to the Operations Report (for Annual Report) to provide more details on the nature of any AWQI's that took place during the year (per Sherry Diemert's comment in Q4 Management Review).<br>There were no AWQI's reported in 2022. A note has been placed in the template for the 2023 Annual report.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: DS Due Date: 2023-01-01<br>Technical Lead: Completion Date: 2023-02-22 |
| | 720 | Update all CMMS Lead Hand and Operator Manuals to include how to update the work order category and include the category definitions (Preventative, Corrective, Emergency and Urgent) in the manuals.<br>Work will be completed in Q1 & Q2 on this Action Item. WOB currently has definitions for the 4 main categories being used in the Operational Plan definitiosn section and looking to add a definition for sampling. Thought was to put reference to the definitions in the Operational Plan.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: DS Due Date: 2023-07-01<br>Technical Lead: Completion Date: |
| | 721 | Ensure WDS Mobility Lead Hand and Operator Manuals include how to update the work order category and the category definitions (Preventative, Corrective, Emergency and Urgent) in the manuals.<br>Work will be completed in Q1 & Q2 on this Action Item. WOB currently has definitions for the 4 main categories being used in the Operational Plan definitions section and looking to add a definition for samplign. Thought was to put reference to the definitions in the Operational Plan.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: BAF Due Date: 2023-07-01 |

| | | | |
|---|---|---|---|
| | | Technical Lead: | Completion Date: |
| 722 | Review work order categorization for all WDS work orders.<br>Work will be completed in Q1 & Q2 on this Action Item.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: JG | Due Date: 2023-07-01<br>Completion Date: |
| 723 | Review work order categorization for all WCS work orders.<br>Work will be completed in Q1 & Q2 on this Action Item.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: DS<br>Technical Lead: BM | Due Date: 2023-07-01<br>Completion Date: |
| 724 | Review work order categorization for all SWS work orders.<br>Work will be completed in Q1 & Q2 on this Action Item.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: DS<br>Technical Lead: JA | Due Date: 2023-07-01<br>Completion Date: |
| 725 | Review work order categorization for all GWS work orders.<br>Work will be completed in Q1 & Q2 on this Action Item.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: DS<br>Technical Lead: MV | Due Date: 2023-07-01<br>Completion Date: |
| 737 | For Water Loss Summary slides created for Management Review presentations, include a separate category for interdepartmental billing in the Billed Water Category.<br>Changes were completed as requested and presented to attendees.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: | Due Date: 2023-01-01<br>Completion Date: 2023-02-22 |
| 759 | Review changes to Critical Control Points in 2022 Risk Assessment to confirm if staff are aware of new Critical Control Point deviations that require labels in the eLogbook. Coordinate review with staff if applicable.<br>T08-02 – Critical Control Point Summary has been updated accordingly and is under review by Top Management. Communication will be made to staff via document change, however logging WDS/WCS deviations in the logbook will not be necessary.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: BM | Due Date: 2023-04-01<br>Completion Date: |
| 764 | Investigate the report used to determine number of meters replaced. This report is used for tracking a WCS KPI and there is concern that it is not capturing the numbers accurately.<br>BAF confirmed with Kelly Wagg that one of the two reports used for meter replacements are redundant and not in working order. Report was removed from Cityworks by Annie Zhang. Other meter replacement report is in working order, as confirmed by BM.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: | Due Date: 2023-01-01<br>Completion Date: 2023-02-22 |
| 786 | On the Watermain Break slides for Management Review, instead of percentage of watermain breaks each month, include actual number of watermain breaks.<br>Changes were made and presented to attendees.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: | Due Date: 2023-01-01<br>Completion Date: 2023-02-22 |
| 787 | For the Valve Exercising slides in Management Review, include legends of what all the symbols mean on the Valve Exercising app.<br>Legend was created and added to Valve Exercising slides.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: | Due Date: 2023-01-01<br>Completion Date: 2023-02-22 |
| 788 | Update colours of the axis titles (e.g., Percent of Calls Resolved) to match the corresponding line on the Summary of Consumer Feedback graph.<br>Colour changes were completed as requested.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: | Due Date: 2023-01-01<br>Completion Date: 2023-02-22 |

| | | |
|---|---|---|
| | 789 | Investigate if report can be received from Service Barrie to compile all of the complaint data received each quarter.<br>BAF was able to locate a method of retrieving information through the Incident number on the Nova Networks website, that provides greater detail than the Service Barrie Report. Information was utilized this quarter for the After-Hours Water Quality Complaints.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: BAF Due Date: 2023-01-01<br>Technical Lead: Completion Date: 2023-02-22 |
| | 790 | Determine a process for reviewing both SOPs and WO templates, including the required frequency to review and update each.<br>BAF reports that this action item is currently in progress.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: BAF Due Date: 2023-06-01<br>Technical Lead: DM Completion Date: |
| | 791 | Meet with Top Mangement to further discuss how WOB would like to proceed with the WDS and WCS Critical Control Points and associated Limits.<br>Meeting with Top Management occurred February 8, 2023. WDS and WCS Critical Control Points were confirmed, and Critical Control Limits were identified.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: BAF Due Date: 2023-01-01<br>Technical Lead: Completion Date: 2023-02-22 |
| 03) Incidents of Adverse Drinking Water Tests | | There were zero AWQI's in 2022! |
| 04) Deviations from SCADA Critical Control Limits - SWS | | There were zero deviations to report for SWS in 2022 Q4. |
| 05) Deviations from SCADA Critical Control Limits - GWS | | There were zero deviations to report for GWS in 2022 Q4. |
| 06) Deviations from SCADA Critical Control Limits - WCS/WDS | | Three CCPs have been established for WCS/WDS including Distribution Disinfection, Infrastructure Failure, and Backflow Prevention.<br><br>The Critical Control Limits (CCL) and the Q4 results were discussed and are detailed below:<br><br>Distribution Disinfection:<br>CCL = <0.2mg/L Cl (F) at startup<br># deviations in Q4 = 14 of 478 Work Orders had deviations<br><br>Infrastructure Failure:<br>CCL = Acceptance testing during watermain commissioning<br># deviations in Q4 = None, all acceptance testing was completed<br><br>Backflow Prevention:<br>CCL = # of Disconnection Letters and Actual Disconnections<br># deviations in 2022= 671 Notices of Disconnection. 8 Water supply disconnections |
| 07) Deviations from Critical Control Limits - Flushing Activities (<0.2 Cl (F) at Start Up) | | In Q4, 14 out of 478 Work Orders (2.93%) were with deviations.Despite the removal of flush boxes in October, Top Management decided that it is still beneficial to display the flush boxes on the map.<br><br>For the year 2022, 43 out of 2878 Work Orders (1.49%) were with deviations. |
| 08) Flushing Summary - Quarterly Summary Flushing Activities (>100m3) | | In Q4, 93 out of 478 Work Orders (19.5%) were with deviations. |
| 09) Flushing Summary - Annual Summary Flushing Activities (>100m3) | | For the year 2022, 634 out of 2878 Work Orders (22.0%) were with deviations. |

| | | |
|---|---|---|
| 10) Flushing Summary - Quarterly Summary Flushing Activities (>3NTU Turbidity at Start Up) | | In Q4, 119 out of 478 Work Orders (24.9%) were with deviations. |
| 11) Flushing Summary - Annual Summary Flushing Activities (>3NTU Turbidity at Start Up) | | For the year 2022, 594 out of 2878 Work Orders (20.6%) were with deviations. |
| 12) 2022 Flushing Activity Summary by Zone | | An annual flushing activity summary was presented. Of note, Zone 3S experienced the least amount of deviations, at 72% of Work Orders with no deviation. Zone 2N experienced the highest percentage of turbidity deviations.<br><br>The following new Action Item was created: |
| | 833 | Review and discuss the current flushing program with Brenden Miller and consider making some improvements.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 2023-06-01<br>Technical Lead: DM Completion Date: |
| 13) Preventative vs. Corrective Flushing Work Orders | | There was an increase in the number of preventative flushing work orders compared to 2021. By contrast, fewer corrective work orders were issued in 2022 than the previous year. |
| 14) Operational Performance - System-wide Production | | In Q4, the monthly production for each month exceeded the 5-year average.<br><br>Temperature and precipitation averages were slightly higher in Q4 for each month compared to the 5-year average. |
| 15) Operational Performance - SWS and GWS Production Trending | | In Q4, GWS produced more water than SWS each month.<br><br>Production trends for GWS and SWS are now parallel and are no longer converging. |
| 16) Operational Performance - Closed Pressure Zones in Q4 | | Zone 3S Closed<br>2022-06-30 – 2022-11-22<br>Mapleview Tower was offline for new painter rail installation & interior liner replacement. |
| 17) Operational Performance - SWS vs. GWS ICI and RES Production | | SWS ICI consumption was consistently higher than GWS throughout 2022.<br><br>For residential consumption, both GWS and SWS produced nearly identical results throughout the year, with the exception of January - February, when GWS residential consumption was 4m3/meter apart. |
| 18) 2022 Water Loss Summary | | Water loss for 2022 totalled 4.56%, a decrease from the 6.34% calculated in 2021.<br><br>A detailed breakdown of "other" water loss was presented, which includes flush boxes, GWS Maintenance, Flushing, Interdepartmental Usage, among other sources.<br><br>There was discussion about the interdepartmental water loss and how it gets billed. BM noted that a number of the facilities on the list have meters installed and should be regularly billed by WOB.<br><br>There was discussion that commissioning and swabbing volumes are not included in the water loss calculation. It was also noted that the volumes from the auto-flushers may not be included the water loss calculations.<br><br>The following new Action Items were created: |
| | 834 | Investigate how the interdepartmental facilities (from Water Loss slides in Q4 Management Review presentation) are being billed for water usage.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 2023-04-01<br>Technical Lead: BM Completion Date: |

| | | |
|---|---|---|
| | 835 | Determine how to calculate total water loss from commissioning activities (e.g., recorded on an inspection?) including swabbing as part of commissioning. Add water loss from commissioning activities to the water loss summary spreadsheet and graph going forward.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 2023-04-01<br>Technical Lead: JG Completion Date: |
| | 836 | Add auto flusher water loss volume to water loss calculation. Currently only flush box water volume is recorded in the calculation.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 2023-04-01<br>Technical Lead: BM Completion Date: |
| 19) Operational Performance - Average Monthly Efficiency of the SWTP | | The SWTP has a rated efficiency of 98%. In Q4, the plant efficiency was as follows:<br>October: 97.2%<br>November: 97.75%<br>December: 97.71% |
| 20) Operational Performance - Sectional Work Order Summary - GWS | | There were two Sampling work orders that were identified as being outstanding, however, in both cases the Well was indicated as being Out of Service (OOS).<br>Total Number of Outstanding Activities: 130<br>Total Number of Cancelled Activities: 307 |
| 21) Operational Performance - Sectional Work Order Summary - SWS | | One Sampling work order was identified as being Outstanding. However, this was for voluntary aluminum sampling.<br>Total Number of Outstanding Activities: 144<br>Total Number of Cancelled Activities: 275 |
| 22) Operational Performance - Sectional Work Order Summary - WCS | | There were 3 Emergency Maintenance work orders identified as being Outstanding. BAF subsequently provided the 3 work order numbers to DM and BM.<br>Total Number of Outstanding Activities: 475<br>Total Number of Cancelled Activities: 396 |
| 23) Operational Performance - Sectional Work Order Summary - WDS | | During a review of the WDS work order summary, there were 6 Urgent work orders identified as being outstanding. Additionally, there were 12 sampling Work Orders identified as outstanding. However, these Sampling Work Orders are all related to projects.<br>There was some discussion about creating a cancellation report to investigate the number of cancelled work orders.<br>The following new Action Items were created: |
| | 837 | Provide JG and DM with further details on which 6 Urgent WDS Work Orders were identified as Outstanding in the Q4 Management Review.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: BAF Due Date: 2023-03-01<br>Technical Lead: Completion Date: 2023-02-02 |
| | 853 | Request the OPA's to create a cancellation report in CMMS to investigate the number of cancelled work orders.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 2023-07-01<br>Technical Lead: SC Completion Date: |
| 24) Operational Performance - Sectional Work Order Summary - Created vs. Completed | | A new graph was presented to display the Sectional Work Order Summary. Top Management would like to continue using this new graph. |
| 25) Operational Performance - Backflow | | 89% of the backflow device testing was considered up to date as of 2023-01-27. |

| | | |
|---|---|---|
| Prevention Program | | |
| 26) Operational Performance - Locates | | In October 2022, locates completed were below the 5-year average. However, in November and December of 2022, the 5-year average was surpassed.<br><br>In a year-over-year comparison, overall, in 2022, the total number of locates completed was slightly below the amount completed in the previous year. |
| 27) Operational Performance - Watermain Breaks | | There were 4 instances in 2022 of watermain breaks that occurred more than once at the same location.<br><br>Note: Some took place the same day, and others a couple weeks/months apart. The following 4 locations impacted were:<br><br>10 Murray St<br>16 Gloria St<br>228 Edgehill Dr.<br>Fox Run & Broadfoot<br><br>The following new Action Item was created: |
| | 838 | Forward the map presented in the Q4 Management Review of the 4 watermain break locations that experienced more than one break in 2022 to the CAM group for review. WOB would like to prioritize fixing these areas.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Technical Lead: JG Due Date: 2023-04-01 Completion Date: |
| 28) Operational Performance - Watermain Breaks - Annual Comparison | | In 2022, there were a total of 36 watermain breaks. By comparison in 2021, there were 34.<br><br>A heat map of watermain breaks by year was presented.<br><br>There was a discussion about segmenting issues when only a section of a watermain is replaced, but it is not represented properly in CMMS currently. WOB would like to see if this can be improved. Proposal to focus on the main problem areas highlighted in the Annual Comparison Watermain Break map rather than the whole City (e.g., can focus on Bayfield and areas east of Bayfield).<br><br>The following new Action Item was created: |
| | 839 | Meet with GIS to consider solutions to deal with segmenting issues in CMMS when only a portion of watermain is replaced.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Technical Lead: JG Due Date: 2023-05-01 Completion Date: |
| 29) Operational Performance - Valve Exercising | | Non-critical Valves in the Northeast Quadrant: WOB's goal (WDS KPI for 2022)is to complete valve turning for 100% of non-critical valves in the NE corridor. This goal was 94% reached. Discussion to consider renaming "critical valves" to "valves >400mm".<br><br>Critical Valves: WOB's goal (WDS KPI) is to complete valve turning for 50% of the critical valves. WOB achieved 43% in 2022.<br><br>Discussion about how it may be beneficial for OPC's to be granted read-only access to GIS. |
| 30) Operational Performance - 2019 to 2023 Action Item Summary | | Of the Action Items opened since 2019, 87% have been closed. Of the 13% that remain open, 81% were generated in 2022. |
| 31) Operational Performance - Action Item >2 Years Old | | Three Action Items remain open which are greater than 2 years old.<br><br>19-128: Has a target date set for 2023-03-01<br><br>20-326: This action item has since been completed<br><br>20-443: This action item has since been completed |

| | | |
|---|---|---|
| 32) Operational Performance - Action Item Closure Rate | | Of the Action Items opened between 2019 - 2023, 58% were able to be closed within 5 months of initiating the item. |
| 33) CIP Summary | | There are a total of 6 CIPs that are open and greater than 1 year old. Of these 6, 2 CIPS are considered Preventative, and 4 are considered Corrective. |
| 34) CIP Summary - Preventative | | There are 2 Preventative CIPs open which are greater than 1-year old. One was opened in November 2019, and the second was opened in October 2021.<br><br>CIP 76: This CIP was recently closed on 2023-02-13.<br><br>CIP 150: A meeting has been booked with the OPA's on 2023-02-28 to work on the open action items associated with this CIP. |
| 35) CIP Summary - Corrective | | There are 4 Corrective CIPs open which are greater than 1-year old, all of which were initiated in 2021.<br><br>CIP 140: There are still 2 open action items associated with this CIP.<br><br>CIP 144: All action items are complete, this CIP is now in the assessment period.<br><br>CIP 145: All action items are complete, this CIP is now in the assessment period.<br><br>CIP 151: This CIP was recently closed. |
| 36) Raw Water Supply and Drinking Water Trends - Sodium Trending 2020 to Q4 2022 | | Centennial Well 12 continues to be the Well which is closest to reaching the 200 mg/L Canadian Guideline for Drinking Water Quality. |
| 37) Drinking Water Quality Trends - Sodium Trending 2012 - 2022 | | There was a discussion about how a trajectory was calculated for Well 12 and based on the current trajectory, this Well may exceed the 200mg/L limit by approximately 2030. |
| 38) Drinking Water Quality Trends -THMs | | The quarterly average from Q3 to Q4 saw a decrease from 39.8ug/L to 35ug/L. The Running Annual Average (RAA) also saw a decrease from 40ug/L to 36ug/L.<br><br>There was a discussion about the 25ug/L result from the Cloughley Sample Station in Q4, and what may have been contributing factors for this lower result. No known contributing factors were identified during the meeting. |
| 39) Drinking Water Quality Trends - HAAs | | The Q4 HAA quarterly average decreased from 36.8ug/L to 31.5ug/L. However, the RAA slightly increased from 28ug/L in Q3, to 28.7ug/L in Q4. |
| 40) Drinking Water Quality Trends - GWS General Chemistry | | The 2022 Average Colour results for all Well locations are lower than the previous 2 years except Well 9. |
| 41) Drinking Water Quality Trends - VOCs | | In 2022, there were zero exceedances above the established internal VOC limits. Discussion that the limits can be found in eRIS and are unique to each location based on historical values. In most cases for the majority of VOC parameters, the results have not exceeded the Method Detection Limit (MDL) historically, so the limit is set up to flag anything greater than the MDL. However, there are a few exceptions to this.<br><br>The following new Action Item was created: |
| | 840 | On the Data Water Quality Trends - VOCs slide in Management Review, include a summary of what the established VOC limits are.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 2023-04-01<br>Technical Lead: Completion Date: |
| 42) Q4 Sampling Review | | A quarterly sampling review was conducted and noted the following:<br><br>For UV transmittance, October 31st shows a value of 83.8%. MOE Inspector was informed of incident.<br><br>Well 16 was Out of Service during one microbiological sampling event in December, which was identified in Cityworks and the eLogbook.<br><br>There was no record of aluminum sampling from the primary header of the SWTP during the week of December 5th, however this is voluntary sampling. |

| | | |
|---|---|---|
| 43) Health Canada Guideline Technical Document Review | | A consultation on Antimony was proposed with a closing date of 2023-03-08. The proposal was to maintain the current MAC of 0.006 mg/L. WOB results over the last 5 years indicate levels that are well below the proposed MAC, in fact nothing above detection limit appeared in the historical results.<br><br>A second consultation document opened in Q4 on "Draft guidance on sampling and mitigation measures for controlling corrosion". The intent is to provide regulatory authorities and decision-makers with guidance on sampling and mitigation measures for controlling corrosion in drinking water distribution systems, specifically highlighting corrosion concerns for lead service lines and fittings.<br><br>Protocol appears to pertain more to residential lead sampling. Currently the COB has an exemption for residential lead sampling and is not required to take samples from residential plumbing. |
| 44) Calibration and Verification Work Order Review | | A calibration and verification Work Order review was completed for 2022. All of the assets which were reviewed (37 chlorine analyzers identified as "regulatory") are to be calibrated at a minimum monthly. The review resulted in the following conclusions:<br><br>The average number of calibrations completed per month per asset in the GWS section is 5.<br><br>The average number of calibrations completed per month per asset in the SWS section is 4.<br><br>The following new Action Item was created: |
| | 841 | Reach out to GIS to determine if a "Regulatory" field can be added in the GIS Asset table to the chlorine analyzers to indicate that these assets are considered regulatory. Alternatively, see if a field can be renamed to "regulatory" instead of creating a new field.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 2023-04-01<br>Technical Lead: Completion Date: |
| 45) Summary of Consumer Feedback - Response Efficiency | | In Q4 each month, more calls were consistently able to be resolved over the phone rather than in-person. The efficiency of resolving over the phone ranged from 80% - 87.5% over the quarter. |
| 46) After-Hours Water Quality Complaints | | In Q4, WOB received a total of 25 after-hours water quality complaints; a slight decrease from the 27 received in Q3. |
| 47) Water Operations KPIs | | Water Distribution Services has the following KPIs:<br>1a. Exercise 100% of non-critical valves in the NE corridor: Achieved 94%.<br>1b. Exercise 50% of critical valves Citywide: Achieved 43%<br>2.100% valve/drain and chamber inspections completed annually: Achieved 100%<br>3. Complete System Swabbing for Zone 3N: Completed 1.17 kms of swabbing<br><br>Groundwater Supply has the following KPIs:<br>1. Reducing number of callouts annually: The target number is less than 300, and GWS has currently received 80 callouts for the year.<br>2. Target of 0% well station down time annually: In 2022 6 Wells experienced downtime.<br><br>Surface Water Supply has the following KPIs:<br>1. Achieve average monthly efficiency of 98%: The Q4 average efficiency was 97.55%. The 2022 average was 97.61%<br><br>Water Customer Services has the following KPIs:<br>1. Replace 900 meters annually: In 2022, WCS replaced 951 meters, resulting in achieving 106% of this KPI<br>2. Ensure 90% of water consumed is accounted for: 4.56% water loss<br><br>Compliance and Technical Support have the following KPIs:<br>1. Have renewals sent to OWWCO with 6 weeks lead time: Goal reached 67% in Q4, and 71% for 2022. There was a lot of catch-up training that was delayed during the pandemic.<br>2. Increase QMS engagement by 5% by December 31, 2023: Current view count is 5368 since launch. |
| 48) Operational Plan, Currency and Updates | | All Elements have been reviewed for 2022. |
| 49) SOP Review | | Reviewed the SOP review for each section. There are still several outstanding SOPs to be reviewed. |
| 50) Results of Infrastructure Review | | DM received documentation from Sherry Diemert recently. To be presented in the Q1 2023 Management Review presentation. |

Meeting Details
Meeting Date 2023-02-22
Meeting Type Management Review

| | | | | |
|---|---|---|---|---|
| 51) Summary of MOE Inspection | | In November 2022, an annual MOE inspection was conducted. No best management practices were recommended, and no non-compliances were identified. WOB achieved 100% on Inspection Risk Rating. | | |
| 52) Results of External Audit | | An external audit was conducted in December 2022. All 21 Elements were audited and found to be in conformance.<br>No opportunities for improvement were noted in the report. | | |
| 53) Resources Needed to Maintain QMS | | The following items were discussed:<br><br>A changing staff profile, with experienced staff that have retired or are due to retire in the next few years.<br><br>Learning Management System: Database will reach its capacity at some point, and WOB will need a method to track training, actions items, etc.<br><br>QMS Software: InSite is not as user-friendly as we hoped. Using SharePoint has been put on hold. It would be great to have an updated system to facilitate the QMS. | | |
| 54) ORO Qualified Staff List | | A list of ORO qualified staff was presented for each subsystem.<br><br>Going forward, BMT would like this presented in Q3 instead of Q4. The Management Review Tracking Spreadsheet has subsequently been updated to reflect this request. Ther was also discussion on submitting the ORO List with the blank Annual on-call Lists that are sent to each Supervisor for the upcoming year. | | |
| 55) Changes Affecting QMS (Q4) | | Bucket Change: OPCs to switch elemental responsibilities in April 2023.<br><br>Staffing Change: Maternity leave for GG, so the OPC team will be down to 4 for some time.<br><br>WDS Mobility: Last cycle went live 2023-01-24. WOB is now fully mobile.<br><br>QMS Homepage: Successful launch of homepage. Challenges with maintaining InSite and QMS Homepage.<br>Would like to continue to maintain the homepage.<br>There was a decision that WOB would like to move forward with implementing a Microsoft Form for the Notice of Change to On-Call Form (F11-03).<br><br>The following new Action Item was created: | | |
| | 842 | Create and implement the use of a Microsoft Form for the Notice of Change to On-Call Form (F11-03).<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: AIP<br>Technical Lead: | Due Date: 2023-03-01<br>Completion Date: |
| 56) New Business | | No new business to discuss. | | |

Note:
These meeting minutes have been reviewed and approved by the meeting attendees noted at the top of the document.

# Meeting Minutes

Meeting Details

| Date |
|---|
| 5/26/2023 |
| Start Time |
| 9:30:00 AM |
| End Time |
| 12:00:00 PM |
| Type |
| Management Review |

Attendance

| Attendee Role | Initials | Name |
|---|---|---|
| Facilitator | JD | Dumais, Jeanette |
| Attendee | DM | Moreau, Diane |
| Recorder | DS | Smith, Diana |
| Attendee | LH | Hywarren, Lenita |
| Attendee | MV | Vandergeest, Mark |
| Attendee | JG | Giffen, Jason |
| Regrets | BM | Miller, Brenden |

Meeting Minutes

| Agenda Item | Action Item No | Description |
|---|---|---|
| 01) Introduction to 2023 Q1 Management Review Meeting | | - There were a few issues with data collection that rendered reporting difficult for some key topics. |
| 02) Meeting Agenda - Quarterly Topics to be Covered | | - JD reviewed topics that will be covered during 2023 Q1. |
| 03) Meeting Agenda - Annual Topics to be Covered | | - JD provided a review of the topics that will be covered during 2023 Q1 including results of internal audit, resources needed to maintain the QMS and Staff suggestions. |
| 04) Review of Minutes from the Previous Meeting - Q4 2022 | | - Meeting minutes from 2023-02-22 were reviewed and approved with minor changes. |
| 05) Review and Status of Action Items due at this Meeting (22-763 to 23-838) | 525 | Conduct research on whether the health of a distribution system can be measured by establishing a percentage of "Inoperable" valves and determine our COB benchmark.<br>- JD reports that this is currently not a water industry measurable. To set a KPI for ourselves would be “innovative”.<br>- JD suggests this item gets amalgamated into the work that Brittany Astop-Ford is completing alongside the new definition of “critical” and the valve turning program as a whole.<br>- JG is working with the OPA's to see if we can obtain numbers of inoperable valves from the system as a whole now that we have completed valve turning within the whole system over the past 4 years.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: BAF Due Date: 8/1/2023<br>Technical Lead: JG Completion Date: |
| | 759 | Review changes to Critical Control Points in 2022 Risk Assessment to confirm if staff are aware of new Critical Control Point deviations that require labels in the eLogbook. Coordinate review with staff if applicable.<br>- Brittany Astop-Ford reported prior to this meeting that the Critical Control Points table was revised and approved by Top Management.<br>- Updates to the document included: ensuring there is a critical control limit for each control point established.<br>- This information was then communicated to staff through the March 2023 Document Change email that was sent to staff in April 2023.<br>- No additional Logbook training is required as the limits are tracked and monitored through other methods.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: BAF Due Date: 4/1/2023<br>Technical Lead: BM Completion Date: 5/26/2023 |
| | 763 | Find something to replace the old Branch picture that was hanging in the front entrance (e.g., tv, pictures, etc.).<br>- LH reports that this item is no longer required. Not a priority.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: GG Due Date: 1/1/2023<br>Technical Lead: DM Completion Date: 5/26/2023 |
| | 838 | Forward the map presented in the Q4 Management Review of the 4 watermain break locations that experienced more than one break in 2022 to the CAM group for review. WOB would like to prioritize fixing these areas.<br>- JD reports that the 2022 Q4 slide details were sent to JG to send forward to Corporate Asset Management.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 4/1/2023 |

| | | | | |
|---|---|---|---|---|
| | | | Technical Lead: JG | Completion Date: 5/26/2023 |
| | 840 | On the Data Water Quality Trends - VOCs slide in Management Review, include a summary of what the established VOC limits are.<br>- Gwen Gilbank reported prior to this meeting that the item is complete and the results will appear in the 2023 Q1 presentation.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 4/1/2023<br>Completion Date: 5/26/2023 |
| | 841 | Reach out to GIS to determine if a "Regulatory" field can be added (via renaming an existing, unused field) in CMMS to the chlorine analyzers to indicate that these assets are considered regulatory.<br>- JD reports that this item was going to be satisfied in the maintenance cycle. Unfortunately the attribute “Regulatory” was applied to ALL in this Entity group so now a YES or NO needs to be applied to distinguish those that are regulatory versus those that are not regulatory.<br>- JD to follow-up to ensure this action gets complete and is accurate.<br>- DM indicated that the attribute field can be moved among the attribute list so that it is not the last attribute in the list, more important to have it earlier in the list of attribute fields on the asset.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: |
| 06) Review and Status of Action Items Due at this Meeting (23-836 to 23-839) | 834 | Investigate how the interdepartmental facilities (from Water Loss slides in Q4 Management Review presentation) are being billed for water usage.<br>- JD reports that Scott Foster receives the details, pulls the data into Energy Cap. The cost centres and GLs are applied in Finance. The movement of money is happening between cost centres as per billing cycles.<br>- Sub-metering is done for the energy staff to ensure irrigation (Parks) is not being paid for by a Recreation Centre (Rec.)<br>- The water is metered and all accounted for but not available in the finance spreadsheet that is used to obtain water loss numbers for all other metered/billed water usage.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: BM | Due Date: 4/1/2023<br>Completion Date: 5/26/2023 |
| | 835 | Determine how to calculate total water loss from commissioning activities (e.g., recorded on an inspection?). Add water loss from commissioning activities to the water loss summary spreadsheet and graph going forward.<br>- JG reports a common industry standard is to calculate 3 times the pipe volume and apply this as the loss amount.<br>- This value could be collected using a Cityworks Inspection. JD to initiate this work to have the inspection template created or updated to include the volume. JG – would like to see the pipe volume calculation added into the Work Order's Inspection three times to cover the event of failures (e.g. have the option to complete the commissioning of the pipe three times).<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: JG | Due Date: 8/1/2023<br>Completion Date: |
| | 836 | Add auto flusher water loss volume to water loss calculation. Currently only flush box water volume is recorded in the calculation.<br>- BM reports that the Iperl (inline/direct bury) meter could be used on the auto flushers. Installation would be done by WDS.<br>- Pitot flow could also be done but would be much less accurate and much more labour intensive and requires a conversion.<br>- Could also strap on a mag meter onto the copper two-inch discharge line as another option we could explore.<br>- Suggestion to place an Iperl meter onto the next autoflusher installation. BM to coordinate with JG for the next installation which will possibly be down by the LLPS.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: BM | Due Date: 8/1/2023<br>Completion Date: |
| | 839 | Meet with GIS to consider solutions to deal with segmenting issues in CMMS when only a portion of watermain is replaced.<br>- JG reports that he has shared his needs with John Cochrane.<br>- A common industry standard is to segment watermain into predetermined cuts such as hydrant to hydrant when adding into GIS. Currently Water Operations is not added into GIS like this.<br>- John Cochrane is going to review this issue and let Water Operations know what can and cannot be accomplished for adding in segments of water mains when only a portion has been replaced.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: JG | Due Date: 2/1/2024<br>Completion Date: |
| 07) Incidents of Adverse Drinking Water Test - Title Slide | | | | |
| 08) Incidents of Adverse Drinking Water Tests - | | - There were no AWQI's to report for 2023 Q1. | | |

| | | | | |
|---|---|---|---|---|
| Q1 2023 Summary | | | | |
| 09) Deviations from Critical Control Points Limits and Response Actions - Title Slide | | | | |
| 10) Deviations from SCADA Critical Control Limits - SWS | - There was no use of the ""CCP Deviation" Label in the SWS elogbook. | | | |
| 11) Deviations from SCADA Control Limits - GWS | - There was no use of the ""CCP Deviation" Label in the GWS elogbook. | | | |
| 12) Deviations from Critical Control Limits - WCS/WDS | - There were 2 instances where the "CCP Deviation" label was used in the WD logbook however neither instance was an actual CCP deviation observed by staff.<br>- The definitions for CCP deviation in the Risk Assessment Table (T08-02) and the elogbook are different and may require updating.<br>- There were 6 pinned entries in the WD logbook dating back to 2022-06. Discussion around who is reviewing the pinned entries to ensure they are being kept current. Decision that for GWS/SWS the OIC would be reviewing the pinned entries and for the WD logbook the WCS and WDS Supervisor and Lead Hands would be reviewing the pinned entries. eLogbook protocol to be updated to include this information.<br><br>The following new action items were created: | | | |
| | 864 | Update the CCP deviation label definition in the WD elogbook to match the definition in the Critical Control Point Summary Table (T08-02) | | |
| | | - The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: |
| | 865 | Update the eLogbook protocol (P12-01) to include the process for reviewing pinned entries. For the GWS and SWS logbooks, the OIC for GWS (WDS) and SWS (WT) will review the pinned entries. For the WD logbook the Lead Hand/Supervisor of WDS and WCS will review the pinned entries | | |
| | | - The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: |
| 13) Deviations from Critical Control Limits - Flushing Activities over 100m3 | - 30 work orders out of 253 or 11.8% had deviations.<br>- More autoflushers are being installed and it is being reflected on the map with less areas with deviations. | | | |
| 14) Deviations from Critical Control Point Limits - Turbidity over 3 NTU @ Start up | - 62 work orders out of 253 or 24.5% had a deviation during start up.<br>- There are still some key areas that require the addition of autoflushers within the system and or need to address with swabbing in the area. | | | |
| 15) Deviations from Critical Control Point Limits - Free Chlorine less than 0.2 mg/L @ Start up | - 1 work order out of 253 or 0.4% had a deviation.<br>- JD reports that this one instance should have come up in the WD logbook under the CCP deviation label. | | | |
| 16) Operational Performance - Title Slide | | | | |
| 17) Operational Performance - System Wide Production | - No comments were received. | | | |
| 18) Operational Performance - SWS vs GWS Production | - No flushing has commenced this year so no change in usage can be seen on the graph. Seems to be following the normal pattern of usage. | | | |
| 19) Operational Performance - GWS vs SWS ICI Production | - No comments received. | | | |
| 20) Operational Performance - GWS vs SWS RES Production | - A dip in production took place in February for both GWS and SWS residential meters. No known reason for the dip. | | | |

| | | |
|---|---|---|
| 21) Operational Performance - Sectional Work Order Summary | | - Now that all sections are remote for work orders would it make sense to start reviewing this on a quarterly basis. Discussion that there would be value in reviewing this on a more frequent basis to see where each section is with regards to work order completion. Decision to review quarterly and look into other options.<br>- Suggestion to do a yearly project plan and then update quarterly to see how the work is being spread throughout the year (Review what Peel Region is doing). Investigate some options of what could be done for this.<br><br>The following new action item was created: |
| | 866 | Review what other Municipalities are doing with regards to Annual Maintenance plans and monitoring throughout the year to come up with a plan for reviewing of maintenance activities (yearly plan with quarterly reviews).<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 1/1/2024<br>Technical Lead: DM Completion Date: |
| 22) Operational Performance - Locates | | - Unable to obtain this report from OPA's as the Crystal report was not working.<br>- The report has since been fixed and data is available. JD to send data to Top Management for review and include in 2023 Q2 presentation.<br>- Decision to look at collecting some of this data monthly instead of quarterly to identify reports that are not working earlier and avoid reporting issues. |
| 23) Operational Performance - Watermain Breaks Monthly | | - Number of breaks for Feb and Mar are higher than 5 year average. |
| 24) Operational Performance - Valve Exercising | | - Concentrating on SE quadrant currently. Great progress on the quadrant for valve turning during Q1.<br>- JD noted that some of the data is misrepresented on the app currently. JD has been working with GIS to clean this up and get more accurate data moving forward.<br>- It was found that some connections for representing data were lost and have been since re-established within the valve turning app.<br>- Currently the progress gauges are always representing the whole City and not the quadrant once you select a quadrant. GIS is working to update this so that once a quadrant is selected the information updates on the page for the selected quadrant.<br>- The total Valves number is incorrect (currently about 50 valves are in the total number that should not be there). GIS is working on identifying the valves that should not be included in the calculation.<br>- Some symbols are on the map that were previously not there (e.g. orange, purple dots). JD had discussion with GIS and it was identified that there was a request made at some point to add these to the map. JD is going to work with GIS to ensure the symbols are identified as to their meaning and that they meet AODA standards.<br><br>The following new action item was created: |
| | 867 | Work with GIS to clean up the Valve turning app including updating the progress gauges to represent a quadrant once selected, updating the total number of valves to be accurate, identifying symbology and ensuring it meets AODA standards<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 8/1/2023<br>Technical Lead: Completion Date: |
| 25) Operational Performance - CIP Summary | | - Currently there are 10 CIPs that are greater than 1 year old. The Compliance Coordinators are working on cleaning this information up.<br>- 2 CIPs (#144 and #145) have been completed and are just waiting for acknowledgement. |
| 26) Operational Performance - CIP Summary - Preventative | | - Currently have 5 preventative CIPs that are greater than 1 year old. |
| 27) Operational Performance - CIP Summary - Corrective | | - Currently have 6 CIPs that are greater than 1 year old. 2 have been completed and just waiting for acknowledgement. |
| 28) Raw Water Supply and Drinking Water Quality Trends - Title Slide | | |
| 29) Raw Water Supply and Drinking Water Quality Trends - Sodium | | - Heritage Well 11 had the highest result for the quarter (as indicated by the star on the slide).<br>- Centennial Well 12 was OOS during Q1 round of sampling so no result was obtained. |

| | | | | |
|---|---|---|---|---|
| 30) Raw Water Supply and Drinking Water Quality Trends - THMs | | - There seems to be a downward trend for results from Q1. | | |
| 31) Raw Water Supply and Drinking Water Quality Trends - HAAs | | - The results seem to be pretty consistent with a linear trend line. | | |
| 32) Raw Water Supply and Drinking Water Quality Trends - Lead | | - Sampling was conducted in January 2023. No exceedances were found.<br>- Highest result recorded was 0.0039 mg/L which is still below 1/2 MAC. | | |
| 33) Raw Water Supply and Driking Water Quality Trends - VOCs | | - We had 1 result from Well 12 for Cis-1, 2-Dichloroethylene that was above our internal established limit, however there is no MAC for the parameter.<br>- Limits were set up to give us an indication of when something might be changing within the system.<br>- Want to continue highlighting any results that hit above our established limits and include the location and result in the management review presentation. | | |
| 34) Raw Water Supply and Drinking Water Quality Trends - Sampling Review Overview | | - UV Transmittance report was not working correctly so unable to obtain the data.<br>- OPA's have fixed the report and data is now available so JD will review and send out to Top Management.<br>- In house General Chemistry was not completed in Jan as scheduled as there was no lab tech support at that time.<br>- MV reported that there may have been a missed UVT on March 20th from the Well station that was marked OOS and Work Order not assigned once the well station was brought back online.<br><br>The following new action item was created: | | |
| | 868 | Review UVT Report from 2023 Q1 Management Review to see if there are any discrepancies for data missing on March 20th where a well was taken OOS and then put back into service and the work order was not reassigned once the station was back in service<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: MV | Due Date: 8/1/2023<br>Completion Date: |
| 35) Raw Water Supply and Drinking Water Quality Trends - Health Canada Guideline Technical Document Reviews | | - Technical Document on PFAS was up for review. PFAS was reviewed during 2019 and no concerns with sources in the City of Barrie at that time. Water reviewed with Barrie Fire the foam that they use for fire fighting and it was determined that it was not a contaminatant of concern at that time.<br>- PFAS has had lots of research done recently so maybe an opportunity to look into PFAS again to determine if there are any new sources that we should be considering.<br>- DS reported that there was lots of discussion around PFAS at the recent CIBI Conference. Amanda Inglis attended the sessions related to PFAS.<br>- JD to reach out to Natalia to see if we can get cost from contracted lab for sample analysis.<br><br>The following new action items were created: | | |
| | 869 | Ask Natalia to reach out to contracted lab to determine price for obtaining PFAS sample analysis<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: |
| | 870 | Look at presentation from CIBI conference from April 2023 to see what was discussed in relation to PFAS and sources. Reach out to Amanda Inglis to see if she has any notes from the recent conference on the topic.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: DS<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: |
| 36) Raw Water Supply and Drinking Water Quality Trends - Golder and Assoc. Report Summary | | - Nothing to report yet (MV to continue to inquire with Environmental Compliance for the report).<br>- Pumping rates were updated for the 2022 report as they had not been updated in a long time. | | |
| 37) Summary of Consumer Feedback - Core Business Hours | | - No Work Orders were associated with any of the calls received during business hours.<br>- BM made a comment about whether this increase is due to the new call time capture service requests. JD to review this with BM to ensure this data is correct.<br><br>The following new action item was created: | | |

| | | |
|---|---|---|
| | 871 | Review the Summary of Consumer feedback from 2023 Q1 Management Review to determine if the increase is due to the new call time capture service requests<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 8/1/2023<br>Technical Lead: BM Completion Date: |
| 38) Summary of Consumer Feedback - Afterhours | | - There were 4 missing service requests in Cityworks from after hours calls received during 2023 Q1.<br>- It was noted that one of the calls had a mainbreak work order created and assigned to Mike Street (previous Lead Hand for WDS).<br><br>The following new action items were created: |
| | 872 | Look into what work order template was used for the watermain break that took place at 60 Mary Street on 2023-03-18<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 8/1/2023<br>Technical Lead: Completion Date: |
| | 873 | Review the 4 missing service requests for after hours calls for water quality complaints that took place during 2023 Q1 according to the report from Nova networks<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 8/1/2023<br>Technical Lead: Completion Date: |
| 39) Review of Asset Maintenance, Verification and Calibration | | - Asset attribute field has been added but need to mark as a yes/no in the attribute field so that the regulatory assests can be marked with the regulatory field correctly. Once this has been completed, information from the work orders can be reviewed and presented. |
| 40) Key Performance Indicators - Title Slide | | |
| 41) KPIs - WDS | | - WDS had 3 KPI's during 2022. For 2023, WDS is going to keep 2 of the KPI's - Valves exercised and Swabbing within the system. Will remove the valve chamber inspections from KPI list.<br>- Valve chamber inspections is a project and would like an update on the project but not have this as a KPI.<br>- Will update the swabbing KPI to report on the km of watermain swabbed annually instead of % of system. JG would like to set a target of 40 km for the year.<br>- It is recognized that swabbing will not be required in the south end for the next while and some areas in the north end can't be completed as this would cause further issues with the mains in the system.<br><br>The following new action item was created: |
| | 874 | JG to provide update to CC regarding the 2 KPI's for Management Review for WDS for 2023 (% valves exercised annually and kms swabbed)<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 8/1/2023<br>Technical Lead: JG Completion Date: |
| 42) KPIs - GWS | | - Going to continue with the same 2 KPI's from 2022 (# call outs annually and % well station downtime).<br>- MV provided information that was missing on the slides:<br>1. 43 call outs for Q1<br>2. % downtime for each station based on the quarter (90 days):<br>Well 5 - 5.5%<br>Well 7 - 0%<br>Well 9 - 0%<br>Well 11 - 0%<br>Well 12 - 54.4%<br>Well 13 - 36.6%<br>Well 14 - 0%<br>Well 15 - 0%<br>Well 16 - 83.3%<br>Well 17 - 0%<br>Well 18 - 0% |
| 43) KPIs - WCS | | - Will keep the same 2 KPS's from 2022 (# meters replaced annually and volume of water consumed and accounted for).<br>- Would like to update # meters replaced to 1400 for 2023.<br><br>The following new action item was created: |
| | 875 | Update WCS KPI's for 2023 Q2 Management Review presentation to show # meters replaced annually with a target of 1400 for the year |

| | | | | |
|---|---|---|---|---|
| | | - The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: |
| 44) KPIs - SWS | | - Will keep the same KPI from 2022.<br>- Unable to report out of average monthly efficiency as the report in eRIS was not working and is being worked on by the SUEZ development team. This report will be run monthly in the future to help find any issues with the report earlier. | | |
| 45) KPIs - CTS | | - Will keep 1 KPI from 2022 (decrease time to gather renewal application information).<br>- Remove the QMS engagement KPI as InSite is migrating to the cloud before the end of 2024 and will be difficult to collect information for the QMS engagement KPI. Will reassess after the migration of QMS to the cloud.<br><br>The following new action item was created: | | |
| | 876 | Update the CTS KPI for 2023 Q2 Management Review presentation to only include the decrease time to gather renewal application information. No other KPI for CTS for 2023 at this time. | | |
| | | - The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: |
| 46) Operational Plan, Currency and Updates Overview | | - 67% of documentation has been reviewed during Q1.<br>- Elements 6, 7, 8, 10, 11, 18 and 21 remain to be reviewed. | | |
| 47) Operational Plan, Currency and Updates - SOP Review | | - WCS is leading the way with 22 SOP's reviewed during Q1. | | |
| 48) Results of Internal Audit - OFIs | | 3 OFI's were noted:<br>1. Consider including procedures and processes in the Contingency plan for OROs during a labour shortage and when an engineer acts as OIC.<br>2. Consider reviewing the applicable legislation to confirm that having an operator with a certificate one class lower than the WDS subsystem on the T11-02 may represent non-compliance.<br>3. Consider revising how time is logged in the elogbook to ensure that ORO and OIC coverage is documented showing coverage 24 hours per day.<br>- These will be discussed further | | |
| 49) Results of Internal Audit - Non-Conformances | | 2 Non-Conformances were identified:<br><br>CIP 164 - Operator assigned ORO shifts on the F11-01 but not recorded on the ORO list (T11-02)<br><br>CIP165 - Current version of F11-01 was not being used all of the time<br><br>- Both will be reviewed during their respective CIP meetings and any further actions documented there. | | |
| 50) Results of Infrastructure Review - Overview | | - 4 projects were proposed and approved by Council in 2022 and appear in the 2023 Capital plan.<br>- Only 4 intake forms were submitted and approved for the 2023 budget. There may be further projects added during 2023 and if so then they will be added to the Management Review presentation.<br>- Provide updates on each project when we report on the Results of Infrastructure | | |
| 51) Results of Infrastructure Review - 2023-2027 Requested and Forecasted Capital Budget | | - Graph that was presented showing that water infrastructure has requested 4% of the capital budget for 2023. | | |
| 52) Summary of Staff Suggestions | | - WD subsystem staff have worked together to create an after hours call out procedure that has been approved and is being tested in Q2.<br>- Any suggestions that are brought to the Labour Management Committee can be added to Management Review as long as they relate to QMS. | | |
| 53) Changes Affecting QMS | | - Staffing: Compliance Coordinators are usually 5 and currently only have 3. Recruitment is under way to backfill Gwen Gilbank while she is on maternity.<br>- HR: Operations Project Coordinator job title changed to Compliance Coordinator.<br>- Technology: Migration of QMS to the Cloud as Insite will be obsolete by 2023-12-31. | | |
| 54) New Business and Thank you | | - No new business | | |

# Meeting Minutes

| Meeting Details | | |
|---|---|---|
| | Meeting Date | 5/26/2023 |
| | Meeting Type | Management Review |

Note:
These meeting minutes have been reviewed and approved by the meeting attendees noted at the top of the document.

# Meeting Minutes

Meeting Details

| Date |
|---|
| 9/11/2023 |
| Start Time |
| 1:30:00 PM |
| End Time |
| 3:00:00 PM |
| Type |
| Management Review |

Attendance

| Attendee Role | Initials | Name |
|---|---|---|
| Facilitator | JD | Dumais, Jeanette |
| Recorder | SB | Bradt, Sarah |
| Attendee | DM | Moreau, Diane |
| Attendee | LH | Hywarren, Lenita |
| Attendee | MV | Vandergeest, Mark |
| Attendee | BM | Miller, Brenden |
| Attendee | JG | Giffen, Jason |

Meeting Minutes

| Agenda Item | Action Item No | Description | | |
|---|---|---|---|---|
| 01) Presentation Title Slide | | Attendees were greeted and thanked for their attendance. | | |
| 02) Meeting Agenda | | Group reviewed the list of quarterly topics to be covered. | | |
| 03) Review of Annual Topics | | Group reviewed the list of annual topics to be reviewed this quarter. | | |
| 04) Review of Q1 Management Review Meeting Minutes | | Group opened the meeting minutes, reviewed comments and accepted the meeting minutes with minor grammatical revisions. | | |
| 05) Q2 Follow-up - Action Items Due | 525 | Conduct research on whether the health of a distribution system can be measured by establishing a percentage of "Inoperable" valves and determine our COB benchmark.<br>Amalgamated with the complete review of the valve turning app and program. An update on this to be proposed in Q4.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: JG | Due Date: 1/1/2024<br>Completion Date: |
| | 720 | Update all CMMS Lead Hand and Operator Manuals to include how to update the work order category and include the category definitions (Preventative, Corrective, Emergency and Urgent) in the manuals.<br>Large undertaking, to be reported on in Q4.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: DS<br>Technical Lead: | Due Date: 1/1/2024<br>Completion Date: |
| | 721 | Ensure WDS Mobility Lead Hand and Operator Manuals include how to update the work order category and the category definitions (Preventative, Corrective, Emergency and Urgent) in the manuals.<br>Large undertaking, to be reported on in Q4.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: | Due Date: 1/1/2024<br>Completion Date: |
| | 722 | Review work order categorization for all WDS work orders.<br>Large undertaking, to be reported on in Q4.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: JG | Due Date: 1/1/2024<br>Completion Date: |
| | 723 | Review work order categorization for all WCS work orders.<br>Large undertaking, to be reported on in Q4.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: DS<br>Technical Lead: BM | Due Date: 1/1/2024<br>Completion Date: |
| | 724 | Review work order categorization for all SWS work orders.<br>Large undertaking, to be reported on in Q4.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: DS<br>Technical Lead: MV | Due Date: 1/1/2024<br>Completion Date: |

| | | | |
|---|---|---|---|
| 725 | Review work order categorization for all GWS work orders.<br>Large undertaking, to be reported on in Q4.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: DS<br>Technical Lead: MV | Due Date: 1/1/2024<br>Completion Date: |
| 790 | Determine a process for reviewing both SOPs and WO templates, including the required frequency to review and update each.<br>Large undertaking, to be reported on in Q4.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: BAF<br>Technical Lead: | Due Date: 1/1/2024<br>Completion Date: |
| 833 | Review and discuss the current flushing program with Brenden Miller and consider making some improvements.<br>JD Met with BM on 2023-08-01 – action plan established that includes 4 new action items.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: BM | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 835 | Determine how to calculate total water loss from commissioning activities (e.g., recorded on an inspection?). Add water loss from commissioning activities to the water loss summary spreadsheet and graph going forward.<br>JD met with staff and OPA's. Data collection details have been added to CW template for “Pressure Test”. JD will gather the data and add to water loss graphing. JD to provide findings for Q4 Management Review when data collected from this item can be reviewed.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: JG | Due Date: 1/1/2024<br>Completion Date: |
| 836 | Add auto flusher water loss volume to water loss calculation. Currently only flush box water volume is recorded in the calculation.<br>- Data collection details have been added to City Works template for work order "Check Auto Flusher"<br>- BM is looking at options to best capture the water loss data for the auto flushers. Manufacturer may be able to add a meter to the auto flusher.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: BM | Due Date: 1/1/2024<br>Completion Date: |
| 841 | Reach out to GIS to determine if a "Regulatory" field can be added (via renaming an existing, unused field) in CMMS to the chlorine analyzers to indicate that these assets are considered regulatory.<br>- 37 assets were identified as "regulatory" and have been indicated as such in City Works<br>- DM inquired about the validation process of the 37 regulatory assets, MV and Jamey Adams were involved during the process.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 853 | Request the OPA's create a cancellation report in CMMS to investigate the number of cancelled work orders.<br>Report is ready and available for a first review. Information covered on slide 22 of the 2023 Q2 management review presentation.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: SC | Due Date: 7/1/2023<br>Completion Date: 9/11/2023 |
| 864 | Update the CCP deviation label definition in the WD elogbook to match the definition in the Critical Control Point Summary Table (T08-02)<br>- Definition was updated to match the T08-02.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 865 | Update the eLogbook protocol (P12-01) to include the process for reviewing pinned entries. For the GWS and SWS logbooks, the OIC for GWS (WDS) and SWS (WT) will review the pinned entries. For the WD logbook the Lead Hand/Supervisor of WDS and WCS will review the pinned entries<br>- Updates to the document have been completed and have been sent to LH for approval.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 10/1/2023<br>Completion Date: |
| 867 | Work with GIS to clean up the Valve turning app including updating the progress gauges to represent a quadrant once selected, updating the total number of valves to be accurate, identifying symbology and ensuring it meets AODA standards<br>- Completed. JD met with GIS and concerns have been addressed. | | |

| | | | |
|---|---|---|---|
| | - The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 868 | Review UVT Report from 2023 Q1 Management Review to see if there are any discrepancies for data missing on March 20th where a well was taken OOS and then put back into service and the work order was not reassigned once the station was back in service<br>- UVT Report reviewed. eLogbook comments reviewed. Research gathered and sent to MV.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: MV | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 869 | Ask Natalia to reach out to contracted lab to determine price for obtaining PFAS sample analysis<br>- Action Item reviewed on slide 40 of the 2023 Q2 management review presentation.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 870 | Look at presentation from CIBI conference from April 2023 to see what was discussed in relation to PFAS and sources. Reach out to Amanda Inglis to see if she has any notes from the recent conference on the topic.<br>- Discussed on slide 37, 38 and 39 of 2023 Q2 management review presentation.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: DS<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 871 | Review the Summary of Consumer feedback from 2023 Q1 Management Review to determine if the increase is due to the new call time capture service requests<br>- JD discussed that the report was inaccurate and a request was sent to Annie Zhang for repair.<br>- Repair was completed and corrected values sent to BM on 2023/07/25.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: BM | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 872 | Look into what work order template was used for the watermain break that took place at 60 Mary Street on 2023-03-18<br>- JD indicated that it appears to be the correct WO template, “Repair Watermain Break” and there appears to be no reason retired Mike Street was selected to receive it. Anomaly.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 873 | Review the 4 missing service requests for after hours calls for water quality complaints that took place during 2023 Q1 according to the report from Nova networks<br>- JD indicated that these have been corrected. 2 cleaned up by Aidan Brennan. 1 cleaned up by Adam Marion. 1 added to WO 512413 for Repair Watermain Break (Mary St.). And 1 corrected typo from NOVA and then added to WO 512413 also.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 874 | JG to provide update to CC regarding the 2 KPI's for Management Review for WDS for 2023 (% valves exercised annually and kms swabbed)<br>- Action Item discussed on slides 48 and 49 of 2023 Q2 management review presentation.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: JG | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 875 | Update WCS KPI's for 2023 Q2 Management Review presentation to show # meters replaced annually with a target of 1400 for the year<br>- Action Item discussed on slide 51 of 2023 Q2 management review presentation<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 876 | Update the CTS KPI for 2023 Q2 Management Review presentation to only include the decrease time to gather renewal application information. No other KPI for CTS for 2023 at this time.<br>- Action Item discussed on slide 53 of the 2023 Q2 management review presentation<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: | Due Date: 8/1/2023<br>Completion Date: 9/11/2023 |
| 06) Incidents of Adverse Drinking Water Tests - Q2 Summary | One incident that occurred on 2023/06/01 for Low Pressure (CIP 167) was discussed. | | |

| | |
|---|---|
| 07) Deviations from SCADA Critical Control Limits - SWS | There was no use of the label "CCP Deviation" noted during the Q2 period of review for SWS. |
| 08) Deviations from SCADA Critical Control Limits - GWS | -There was no use of the label "CCP Deviation" noted during the Q2 period of review for GWS.<br>- MV indicated that GWS will add it to the logbook for WPS18 for the low pressure AWQI #162058. |
| 09) Deviations from Critical Control Limits - WCS/WDS | - There was no use of the label "CCP Deviation" noted during the Q2 period of review.<br>-BM indicated WCS should be using the label in the WD eLogbook. LH/DM that use of the tag should be included in internal audit being conducted by JD.<br>-BMT to discuss CCP definitions for all Sections. |
| 10) Quarterly Summary of Flushing Activities - (flushed over 100m3) | 305 Work Orders of 1036 Work Orders or 29% |
| 11) Quarterly Summary of Flushing Activities (over 3NTU @ start-up) | 272 Work Orders of 1036 Work Orders or 26% |
| 12) Deviations from Critical Control Point Limits (less than 0.2 free chlorine @ start-up) | 1 Work Orders of 1036 or 0.1%<br>- JD to provide the Work Order number and the value to BM upon the closure of this meeting. |
| 13) Operations Performance - System-Wide Production | No comments received. |
| 14) Operational Performance - GWS vs SWS Production | No comments received. |
| 15) Operational Performance - GWS vs SWS ICI Production | No comments received. |
| 16) Operational Performance - GWS vs SWS Residential Production | No comments received. |
| 17) NEW! Operational Performance - Sectional Work Order Summary - Cancelled | - JD to send cancelled reports and unfinished reports to DM upon the closure of this meeting. |
| 18) NEW! Operational Performance - Sectional Work Order Summary - Unfinished | - Need to determine who's inbox the workorders get sent back to (Operator versus Lead Hand) for each section.<br>- MV suggested this report may be valuable for the Lead Hands.<br>-DM suggested that the work orders that have been cancelled with open inspections be removed from the list. These inspections should have been cancelled at the time the work order was cancelled.<br>- BMT to review the report and provide feedback.<br>- SB and OPAs to investigate. |
| 19) Sectional Work Order Summary - Closed | No comments received. |
| 20) Operational Performance - System Flushing Progress | No comments received. |

# Meeting Minutes

Meeting Details

| | |
|---|---|
| Meeting Date | 9/11/2023 |
| Meeting Type | Management Review |

| | |
|---|---|
| 21) Operational Performance - Locates | No comments received. |
| 22) Operational Performance - Watermain Breaks - Monthly | No comments received. |
| 23) Operational Performance - Valve Turning | - JD reviewed the updates that have been made to the valve turning app. |
| 24) Operational Performance - CIP Summary (all OPEN CIPs) | - LH to schedule follow up meetings to review CIP's that are older than 1 year. |
| 25) Operational Performance - CIP Summary - Preventative | No comments received. |
| 26) Operational Performance - CIP Summary (Corrective) | No comments received. |
| 27) Drinking Water Quality Trends - Sodium | No comments received. |
| 28) Drinking Water Quality Trends - THMs | THM's are down trending. |
| 29) Drinking Water Quality Trends - HAAs | No comments received. |
| 30) Drinking Water Quality Trends - VOCs | No exceedances in Q2. |
| 31) Drinking Water Trends - PFAS | - DM indicated PFAS is an emerging topic to be further discussed.<br>- Natalia Contreras investigated the sampling requirements and cost of testing.<br>- BMT to discuss further. |
| 32) Q2 Sampling Review | - MV to follow up on unfinished Sampling Work Orders. |
| 33) Q2 Sampling Review - HC Guideline Technical Document Review | No comments received. |
| 34) Raw Water Supply and Drinking Water Quality Trends - Golder and Assoc. Report Summary | No comments received. |
| 35) Summary of Consumer Feedback - Core Business Hours | - OSA's are resolving most calls over the phone. |
| 36) Summary of Consumer Feedback - Afterhours | - BM and JG to follow up on afterhours requests that are not entered in CMMS. |
| 37) Review of Asset Maintenance Verification and Calibration | - MV indicated the Background Tables and Work Orders are being updated to provide consistent naming convention. |
| 38) Water Operations KPI - WDS | No comments received.<br>- The math required to determine the percentage for WDS KPI #1 needs to be done manually versus the progress gauge in the app.<br>A discussion regarding the difference between valve turning and the Work Order titled “Check Valve” was discussed. JG explained that before a swabbing run, staff are sent to check valves – this involves landing the valve key on the valve nut to determine it is ready to be operated if it is needed ie: not full of debris. |
| 39) Water Operations KPI - GWS | No comments received.<br><br>*Need to correct value for WPS12* |

Meeting Details
Meeting Date 9/11/2023
Meeting Type Management Review

| | | | | |
|---|---|---|---|---|
| | | KPI # 1 - progressing well.<br>KPI #2 - KPI to be discussed by BMT. KPI should be unplanned downtime and should not include downtime for planned maintenance. Total days = 181 is both Q1 and Q2 combined. | | |
| 40) Water Operations KPI - WCS | | KPI 1 is at 32% of goal.<br>KPI 2 will be reported Q4 (volume produced versus accounted for). | | |
| 41) Water Operations KPI - SWS | | The report remains unavailable and with the development team for repair. | | |
| 42) Water Operations KPI - CTS | | KPI is at 100% | | |
| 43) Operational Plan, Currency and Updates | | 100% Complete. | | |
| 44) SOP Review | | No comments received. | | |
| | | | | |
| 45) Results of Relevant Emergency Response Testing | | Discussed positive actions from the event. | | |
| 46) Efficacy of the Risk Assessment Process - OFIs Identified | | Discussed opportunities for improvement from the event. | | |
| 47) Summary of Staff Suggestions | | None received to Water QMS. | | |
| 48) Changes Affecting QMS (Q2) | | Reviewed the List of ORO's, no changes. | | |
| 49) New Business | 903 | Review of Flushing Program. Refer to system optimization group that previously existed in GWS. Review historical flushing, complaints received and areas of improvement. | | |
| | | - The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: BM | Due Date: 4/1/2024<br>Completion Date: |
| | 904 | Review the flushing program and complaints are validated using the resolution field in service requests. | | |
| | | - The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: BM | Due Date: 7/1/2024<br>Completion Date: |
| | 905 | Review of flushing program and possibility to target Zone 3N for ATP Analysis | | |
| | | - The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: BM | Due Date: 10/1/2024<br>Completion Date: |
| | 906 | Review flushing program and ways it can be improved using water modelling, water age and the strategic movement of water. | | |
| | | - The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: BM | Due Date: 1/1/2025<br>Completion Date: |

Note:
These meeting minutes have been reviewed and approved by the meeting attendees noted at the top of the document.

# Meeting Minutes

Meeting Details

| Date |
|---|
| 11/24/2023 |
| Start Time |
| 9:30:00 AM |
| End Time |
| 12:00:00 PM |
| Type |
| Management Review |

Attendance

| Attendee Role | Initials | Name |
|---|---|---|
| Facilitator | SB | Bradt, Sarah |
| Recorder | JD | Dumais, Jeanette |
| Attendee | DM | Moreau, Diane |
| Attendee | LH | Hywarren, Lenita |
| Attendee | MV | Vandergeest, Mark |
| Attendee | BM | Miller, Brenden |
| Regrets | JG | Giffen, Jason |
| Attendee | SD | Diemert, Sherry |

Meeting Minutes

| Agenda Item | Action Item No | Description |
|---|---|---|
| 01) Review Q2 Management Review Meeting Minutes | | Comments in the meeting minutes reviewed. Meeting Minutes accepted with minor revisions. |
| 02) Q2 Follow-up - Action Items | 865 | Update the eLogbook protocol (P12-01) to include the process for reviewing pinned entries. For the GWS and SWS logbooks, the OIC for GWS (WDS) and SWS (WT) will review the pinned entries. For the WD logbook the Lead Hand/Supervisor of WDS and WCS will review the pinned entries<br>AI 865 - complete - P12-01 was updated and approved for use by WOB on 2023-09-28.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Due Date: 10/1/2023<br>Technical Lead: Completion Date: 9/28/2023 |
| 03) Incidents of Adverse Drinking Water Tests - 2023 Q3 Summary | | One AWQI occurred in Q3. Low pressure occurred on 2023-08-30 during maintenance swabbing activities. Resulted in CIP 170. Root Cause Analysis meeting held on 2023-09-06. |
| 04) CCP Limits - SWS | | The CCP Deviation Label was not used in the SW Log Book between July 1, 2023 and September 30, 2023. |
| 05) CCP Limits - GWS | | The CCP Deviation Label was not used in the GW Logbook between July 1, 2023 and September 30, 2023. |
| 06) CCP Limits - WCS/WDS - Q3 Summary | | The CCP Deviation Label was not used in the WD Logbook between July 1, 2023 and September 20, 2023.<br><br>Discussed what the CCP Deviation Label is for the WD Logbook and if it should be changed in the future. Currently the label is used for Chlorine Residuals but discussion if pressure needs to become a CCP in the 2024 Risk Assessment Process. |
| 07) Quarterly Flushing Activities - greater than 100m3 | | In Q3, 343 out of 1101 Work Orders (31.2%) were with deviations. |
| 08) Quarterly Flushing Activities - greater than 3 NTU | | In Q3, 212 out of 1101 Work Orders (19.3%) were with deviations.<br><br>LH - questioned if these heat maps are useful. It appears that the areas of concern are increasing rather than decreasing.<br>MV - commented that turnover, sodium silicate dosing and iron sampling are showing that the water in our system is improving. Many factors contribute to these maps are not easy to identify or isolate. |
| 09) Q3 Flushing Activities - less than 0.2 free chlorine @ start-up | | In Q3, 1 out of 1101 Work Orders (0.0009%) were with deviaitons. Residuals are being maintained - the flush box program appears to be effective. |
| | 925 | Ensure the CCP Deviation label is added in the WD eLogbook for the one (1) low chlorine flushing event noted on slide 15 of Q3 Management Review.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: SB Due Date: 3/1/2024<br>Technical Lead: BM Completion Date: |

| | | |
|---|---|---|
| 10) System Wide Production | | Production during Q3 was below average during July and August and slightly above average in September. The decrease may be climate related. There was a lot of rain this summer. |
| 11) SWS vs GWS Production | | In Q3, GWS produced more water than SWS each month. This follows the typical trend. |
| 12) SWS vs GWS ICI Meters | | SWS ICI consumption was higher than GWS throughout Q3.<br>DM - questioned if there is still value in these graphs.<br>BM - discussed the value he sees in these. Since COVID we can draw some correlation to usages during and since the Pandemic. |
| 13) SWS vs GWS Residential Meters | | Residential consumption was nearly identical for both GWS and SWS in Q3. |
| 14) Average Monthly Efficiency of the SWTP | | This report was unavailable for Q1 and Q2 of 2023 so Q3 is our first look at this report this year. There is a large dip in March 2023, followed by a smaller dip in July.<br>MV - commented that there was reservoir cleaning and a leak repair contractor in the Plant during the period in March. |
| | 926 | Investigate the SWTP monthly efficiency dip that occurred in July of 2023 as noted on slide 21 of the Q3 Management Review Presentation.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: SB Technical Lead: MV Due Date: 3/1/2024 Completion Date: |
| 15) Closed pressure Zone in Q3 | | Zone 3S was a closed pressure zone on August 29, 2023 to August 30, 2023 for a flow meter replacement. |
| 16) Locates | | BM commented that COB is well above the industry standard currently of 4%. COB locate increases are at 30%. |
| 17) Watermain Breaks - Monthly | | 3 Watermain breaks ocured in Q3. |
| 18) Valve Exercising - Progress in the SE Quadrant | | 63% of valves turned in the South East Quadrant as of the end of Q3. JG noted that this quadrant has significant new development, and those valves are not included in the valve turning program yet.<br><br>BM asked the group if the new symbology is helpful. Although JG was not present to respond, SB was able to comment that it is helpful to the WDS Lead Hand. |
| | 927 | WOB BMT to clarify and work through: active vs non-active assets versus assumed and not assumed, and how to address this infrastructure and maintenance required during these contruction/assumption phases of development<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: SB Technical Lead: DM Due Date: 5/1/2024 Completion Date: |
| 19) Valve Exercising - Progress with Critical Valves | | 79% of Critical Valves have been turned as of the end of Q3. |
| 20) Valve Turning Program | | The group took an overview look at the Program document. This document is with Jason Giffen to review/refine/approve.<br><br>BM commented that service valves are not included in the document.<br>JD commented that service valves are not included in the valve turning app either.<br>BM commented that small valves and hydrant valves should be removed from the document. |
| 21) CIP Summary | | Review of the 15 open CIPs. 7 are preventative and 8 are corrective. 6 are older than 1 year.<br><br>DM commented that the CTS group has made strides in this area, good job team, closure of these are improving.<br><br>SB reviewed the action items details and the progress of them, highlighting to the group that most CIPs are now in the assessment phase. |
| 22) Sodium Trend | | Wells 9, 3A,14 and 12 are following typical trends. Well 13 has decreased while Well 11 has increased. |
| 23) THMs | | Q3 Sampling Window was missed. Sampling took place immediately following discovery. Trends are remaining consistent. |
| 24) HAAs | | Q3 Sampling Window was missed. Sampling took place immediately following discovery. Trends are remaining consistent. |
| 25) Lead | | Lead sampling was conducted in July 2023 on 5 ICI properties, 1 sample was above half MAC. |
| 26) GWS General Chemistry | | DM commented that a review of the internal and external General Chemistry report would be of value once per annum, presented in Q4 Management Review. |
| | 928 | Review internal and External Gen. Chem. Reports. Denote any red highlighted values and present findings in Q4 each year. Add this detail to the Management Review reference documents to be completed by the CC responsible for Sampling.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: JD Technical Lead: Due Date: 3/1/2024 Completion Date: |

| | | |
|---|---|---|
| 27) VOCs | | No exceedances recorded in Q3. |
| 28) Q3 Sampling Review Table | | A quaterly sampling review was completed and noted the following:<br>- WPS12 was out of service<br>- THM/HAA sampling window was missed<br>- Aluminum sampling is not listed on the T16-02 |
| 29) Sampling Review - Health Canada Guideline Technical Document - Iron | | Health Canada Guideline reviewed for the first time since 1978. The literature confirms no need to change the already established Aesthetic Objection or to establish a health-based guideline |
| 30) Summary of Consumer Feedback | | OSA's continue to resolve 80% of calls over the phone, with only 20% needing a truck to be rolled. |
| 31) Afterhours Calls | | In Q3, 24 after-hours calls were received.<br><br>SB - questioned how to resolve the inaccuracies remaining from Q2 Management Review as there are no address and no phone number so we cannot track this in Cityworks.<br>BJ - believes calls may have went to service Barrie during the event in May 2023. |
| | 929 | Request a Service Barrie call log query for May 31st. If calls have addresses recorded, record these in CW, if not calls will be deemed unrecordable and removed from on-call results.<br>- The QMS Action Log was revised to reflect the following: OPC Responsible: SB Due Date: 3/1/2024<br>Technical Lead: BM Completion Date: |
| 32) WDS - KPIs | | Water Distribution Services has the following KPIs:<br>1a. Exercise 100% of non-critical valves in the SE corridor: 59% complete as of end of Q3<br>1b. Exercise 50% of critical valves Citywide: 80% complete as of end of Q3<br>2. . Complete System Swabbing for Zone 3N: Completed 25km as of end of Q3 |
| 33) GWS KPIs | | Groundwater Supply has the following KPIs:<br>1. Reducing number of call outs annually: Target number is less than 300, currently at 171 callouts<br>2. % of Well Station Downtime: 5 wells have had down time so far this year. |
| 34) SWS KPIs | | Surface Water Supply has the following KPI:<br>1. Achieve average monthly efficiency of 98% or greater: The Q3 average was 96.2% |
| 35) WCS KPIs | | Water Customer Service has the following KPI's:<br>1. Replace 1400 meters annually: WCS has replaced 449<br>2. Ensure 90% of water produced is accounted for: To be reported on in Q4. |
| 36) CTS KPIs | | Compliance and Technical Support have the following KPI's:<br>1. Have renewals sent to OWWCO within 6 weeks of lead time: 1 of 2 in Q3 |
| 37) Operational Plan, Currency and Updates | | All Elements have been reviewed for 2023. |
| 38) SOP Review | | WCS has completed a review of all their SOPs. All other groups have documentation yet to review. LH reminded the group of the review period being extended to a three year cycle to accommodate CW Work Orders, Manuals, all reference documentation including SOPs. |
| 39) Internal Audit Schedule | | Review of the schedule for internal audit to ensure all 21 elements are covered in the 3 year cycle |
| 40) Results of Q3 Internal Audit | | 1 non-conformance and 6 OFIs.<br><br>BMT reviewed the six proposed OFIs. BMT will accept all OFIs except #4. |
| 41) Results of Q4 Internal Audit - commissioning and main breaks supporting documentation and communication | | BMT reviewed the OFIs proposed. Of the three OFIs - number three (3) will not be considered.<br><br>BMT - refine OFI#2: Consider ensuring that both the Work Order and the COC clearly state the nature of sampling to be performed as either "live" or "isolated". At minimum have staff determine the preferred vernacular to use to clearly display when water IS and IS NOT directed to users. |
| | 931 | Refine OFI #2 from the Q4 Internal Audit Report to better describe how the instruction for this work is communicated and recorded by staff so that the COC relates clearly and properly |

# Meeting Minutes

Meeting Details | Meeting Date: 11/24/2023 | Meeting Type: Management Review

| | | | | |
|---|---|---|---|---|
| | | demonstrates WOB due diligence.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: JD<br>Technical Lead: LH | Due Date: 3/1/2024<br>Completion Date: |
| 42) Summary of Staff Suggestions | | Nosuggestions from staff received. | | |
| 43) Changes affecting QMS | | Group viewed the new Water Ops Team on Sharepoint online. Training for BMT and staff to be scheduled. | | |
| 44) List of Overall Responsible Operators | | MV - Dave Walker and Brandon Schmid will be acting as ORO at the end of 2023 due to vacations (no one else available). Once they get their WT4 they will be added to the 2024. MV to work with CCs to document why they are acting this year despite not being on the ORO list.<br><br>BM - Tyler Lunau to be added as WD3 Operator to the 2024 roster. | | |
| 45) New Business | | Meeting group discussed recording the Competencies required for staff to achieve OIC experience. WCS seeks to record this on OTJ forms when a staff member enters into a mentorship with a senior staff member. | | |
| | 932 | Develop the appropriate on the job forms for WCS and WDS to document the competencies and hourly requirements to become an OIC.<br>- The QMS Action Log was revised to reflect the following: | OPC Responsible: DS<br>Technical Lead: BM | Due Date: 3/1/2024<br>Completion Date: |

Note:
These meeting minutes have been reviewed and approved by the meeting attendees noted at the top of the document.