



## **Town of Arnprior Staff Report**

**Subject:** 2022 DWQMS Audits and Management Review Results

**Report Number:** 23-02-27-02

**Report Author and Position Title:** Deanna Nicholson, Environmental Engineering Officer

**Department:** Operations - Engineering

**Meeting Date:** February 27, 2023

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### **Recommendations:**

That Council receive Report Number 23-02-27-02 authorizing the Chief Administrative Officer and the General Manager, Operations on behalf of Top Management, and the Mayor, on behalf of Council, to endorse the QMS Commitment and Endorsement Policy, to meet the requirements of the Town of Arnprior Drinking Water Quality Management System Operational Plan.

### **Background:**

The Town of Arnprior has an established Quality Management System (QMS) for its drinking water system. DWQMS is mandated through the Safe Drinking Water Act, 2002 (SDWA) with the specific requirements for the QMS coming from the document titled "Ontario's Drinking Water Quality Management Standard – Ver 2.0".

The intention of this staff report is to fulfill communication responsibilities listed between Top Management and the Owner (Council) as outlined in Element 12 of the QMS. Element 12 states:

"The status of the DWQMS and its effectiveness shall be communicated to the Owner by Top Management, or by the QMS Representative as directed by Top Management during scheduled Council meetings summary reports, e-mails, memos, etc."

### **Discussion:**

#### **Internal Audit Results**

The QMS rep undertook an internal audit of the Town's QMS system in October through December 2022, prior to the external audit. The results of the internal audit found four opportunities for improvement (OFI's) and one carried forward corrective action request (CAR) from 2020. The CAR's and OFI's are as follows:

<b>CAR/ OFI #</b>	<b>Requirement</b>	<b>Description</b>	<b>Correction / Improvement Plan</b>	<b>Anticipated Date of Completion</b>
OFI- 2022 - 01	The distribution System Plan shall be updated regularly to reflect any changes to the distribution system.	Appendix 6D – Distribution System Plan requires updating due to new residential developments.	Mostly updated in December 2022, some minor housekeeping issues to be addressed by summer student in 2023.  Due to the recent move to GIS online, staff could benefit from training on new system.	Summer 2023
OFI- 2022- 02	MECP's "Potential Hazardous Events..." document, as of 2022, requires the assessment of "cybersecurity threats".	Element 7&8 will require updating to include new requirement to assess "cybersecurity threats".	DWQMS Emergency Response procedures now includes cybersecurity as an agenda item for discussion. IT continues to address and maintain robust cybersecurity initiatives.	DWQMS OP was updated and QMS requirement was met in December 2022.  Further non-DWQMS, IT initiatives anticipated in 2023/2024.

CAR/ OFI #	Requirement	Description	Correction / Improvement Plan	Anticipated Date of Completion
OFI- 2022 - 03	<p>Element 16 of the DWQMS requires:</p> <p>A procedure that describes how sampling, <u>testing and monitoring results are recorded</u> and shared between the Operating Authority and the Owner, where applicable.</p>	<p>Hydrant numbering stickers have been identified as a opportunity for improvement to ensure sampling locations (hydrants) are more accurately and consistently described during sampling events, such as during chlorine residual monitoring.</p>	<p>Unique numbering stickers have been tested during previous winter season to ensure quality and will now be rolled out across all hydrants in Spring 2023 during flushing activities.</p>	<p>Late spring 2023.</p>
OFI- 2022- 04	<p>Element 17 - Measurement and Recording Equipment Calibration and Maintenance Procedure</p> <p>Section 8.3: The frequency of calibration shall be at a minimum, the frequency of calibration that is required by O.Reg. 170/03, or suggested by the manufacturer, whichever is more often. (Annually)</p>	<p>The QMS and regulatory requirements to calibrate meters is being met (each meter is calibrated annually); however 'best practices' suggest that confirming calibration through the use of 'secondary standards' on a regular basis should be considered. The frequency of using secondary standards to confirm accurate calibration throughout the year is driven by the amount of use of each meter is subjected to. The Town's handheld chlorine meters</p>	<p>Calibration standards should be purchased and put into use as soon as possible.</p> <p>A written procedure on how often confirmatory calibration should be undertaken should be developed.</p>	<p>Standards purchased and put into use in November 2022.</p> <p>A written procedure to be developed and added to the WTP Manual or DWQMS OP should be completed in 2023.</p>

CAR/ OFI #	Requirement	Description	Correction / Improvement Plan	Anticipated Date of Completion
		are used frequently and would greatly benefit from additional confirmatory calibration checks.		
CAR # 2020-02	<p>This CAR was first identified in 2020. The DWQMS states the following:</p> <p>The Waterworks Supervisor maintains a schedule for when equipment requires maintenance such as calibration, as well as the service contractor that is responsible for completing the calibration.</p> <p>The frequency of calibration shall be at a minimum, the frequency of calibration that is required by O.Reg. 170/03, or suggested by the manufacturer, whichever is more often.</p>	<p>There continues to be difficulty scheduling and completing mechanical maintenance activities at the WFP, due to two issues:</p> <ul style="list-style-type: none"> <li>• Older maintenance tracking software that is no longer supported by the developer; and</li> <li>• The availability of reliable contracted millwright services to complete both large repair projects but also regularly required mechanical maintenance.</li> </ul>	<p>The 2023 budget includes funding for the hiring of a Mechanical Technician for the WTP.</p> <p>The 2023 budget includes funding for the completion of a Building Condition Assessment (BCA) of the WFP.</p> <p>The BCA will establish an inventory of the WFP's mechanical equipment and define their required maintenance schedules.</p> <p>The combination of the up to date BCA information and the new in-house Mechanical Technician, staff are confident that an effective WTP maintenance system will be developed to better manage the</p>	<p>2023 / 2024</p> <p>An assessment of the timeliness and completion rate of maintenance work orders should be undertaken in 2024 to gauge the effectiveness of the addition of the in-house Mechanical Technician and BCA outcomes.</p>

CAR/ OFI #	Requirement	Description	Correction / Improvement Plan	Anticipated Date of Completion
			WTP's mechanical maintenance requirements.	

As a reminder, items identified during the internal audit or management review processes should be looked upon positively, as they demonstrate to the external auditors that the Town reviews its processes critically and continually works to improve its QMS. Improvements made to the QMS help to proactively name issues with the Town's Drinking Water System, helping to ensure the continued delivery of safe drinking water in Arnprior.

For complete internal audit results, the internal audit checklist for 2022 is attached as Appendix 1.

### **External Audit Results**

On October 21, 2022, SAI Global, the Town's external auditor, completed a systems audit (an off-site desktop audit) of the Town's QMS for 2022.

On November 2, 2022 SAI Global, completed an on-site re-accreditation audit.

The 2022 audits were completed as Year 1 of the 3-year audit cycle. Next year's audit (for the year 2023) will be a Year 2 surveillance audit.

The audit reports provided by SAI Global found that there were no non-conformities identified. The auditor identified five (5) opportunities for improvement (OFI's) in the Systems audit and 4 OFI's during the Re-accreditation audit.

### **OFI's from External Desktop Audit**

Each OFI identified by the external auditor is shown in italics below.

***Element 1 - Consider including a copy of the Subject System Description Form in the OP and confirming that the OP version audited by the accreditation body is retained for 10 years.***

- The Subject system form was already included in the DWQMS OP and has been for several years. This form is a separate document that was mistakenly not included as part of the package provided to the auditor. A link to the form has now been built into the OP so it will not be missed in the future.

***Element 7 & 8: The OP should now include assessment of "cybersecurity threats".***

- Cybersecurity threats was added to the OP Risk Assessment under Element 7/8. Cybersecurity threats with respect to the drinking water system were assessed during the 2022 Risk Assessment exercise on December 12, 2022. Cybersecurity is already a key priority for IT staff with a robust monitoring system in place and continuous learning to keep current.

**Element 8 & 15:** Consideration should be given to setting the Critical Control Limit (CCL) for chlorine residuals in line with the “acceptable disinfectant concentration” definition included in the Ministry’s 2020 Watermain Disinfection Procedure.

- The auditors’ suggestion was thoroughly discussed both internally and with the auditor. Waterworks staff have established that an appropriate CCL for Arnprior’s distribution system is 0.75 mg/L. Various policies and forms in the DWQMS OP have been updated to reflect this adjustment.

**Element 11:** Consider describing in OP s.8.11 Personnel Coverage and/or PW-DWQMS-11 Personnel Coverage procedure the latest provisions and Ministry requirements in the use of “emergency substitute operators” as now more fully described in [O. Reg. 128/04](#) and [O. Reg. 129/04](#) (the links provided are to the Environmental Registry decision notices).

- The OP has been updated to provide a statement that O Reg 128/04 now provides for several allowances related to staffing and operator licencing during emergency and lock-out and strike situations. Management has confirmed that O. Reg. 128/04 allowances do not appear to conflict with the current collective bargaining agreement.

**Element 17:** Consider updating s.8.2 of PW-DWQMS-17 to also reflect the calibration requirements specified in the MDWL’s Schedule C s.4.0 Calibration of CT Monitoring System.

- The QMS OP has been updated with the addition of section 8.1 of element 17 to reflect the MDWL calibration requirements.
- Operators have identified issues with respect to calibrating the elevation of a transducer in Clearwell #2. This sensor is not used in normal plant flow and therefore not expected to impact CT calculations. Establishing a known elevation to accurately calibrate the sensor is a work in progress. The QMS rep was able to confirm that the transducer in Clearwell #1 (that is normally used for CT calculations) can be properly calibrated.

### **OFI’s from Onsite – External Audit Report**

**El. 5:** Consider using SharePoint to improve availability of documented information to operators (noted Microsoft products are used – SharePoint may be an available option through corporate Microsoft account).

- No Action will be taken with respect to El. 5. SharePoint does not work with Filehold the Town’s digital filing system.

**El. 15:** Consider including the chlorinators’ annual service on a maintenance reminder schedule.

- The Waterworks supervisor will set a digital reminder to schedule the chlorinators maintenance in 2023 and for the Chlorinator to be serviced annually.
- The BCA being undertaken in 2023 will capture this equipment. The BCA outcomes and Mechanical Technician position will specifically address this and other similar maintenance issues from re-occurring.

**El. 17:** Consider using DPD-Chlorine-LR Secondary Standards for ongoing verification of colorimeters (and note the certificate of analysis included inside that confirms acceptable ranges specific to the lot #).

- DPD Chlorine secondary standards were ordered & received in November 2022 and have been in use since. The waterworks department goal, both for the treatment and distribution chlorine analyzers is to undertake secondary standard calibration confirmation monthly.
- The QMS representative will confirm in spring 2023 that the monthly use of the secondary standards has been implemented.

**El. 17:** Consider adding the level transducer for Clearwell #1 and #2 (as back-up) to the list of calibrated equipment that forms part of the monitoring system for CT (as required by MDWL Schedule C s.4.0 Calibration of CT Monitoring System).

- The QMS OP has been updated to include the clearwell level transducers in section 8.0 of of element 17 to reflect the MDWL calibration requirements.

The Systems Audit and Re-accreditation Audit reports are attached as Appendix 2 and 3.

### Top Management Review

The Top Management review meeting was completed on December 13, 2022. This meeting covered both DWQMS activities of 2021 and 2022. A Top management meeting was not previously held for 2021; however as the 2021 activities were addressed during this meeting and before the end of the 2022, a CAR was not required to be issued.

Action items discussed during the Top Management Review that require follow up by Staff in 2023 include:

<b>ACTION PLAN:</b>	<b>ASSIGNED TO:</b>	<b>COMPLETION DATE</b>
Confirmation of elevation of water level transducer in clearwell #2 – work in progress	ScM	QMS Review fall 2023
Chlorinator servicing reminder	ScM	QMS Review fall 2023
Monthly use of secondary standards for chlorine colorimeter	ScM & StM	Beginning Dec 2022
CAR # 2020-02 – GM Operations to arrange meeting with union to discuss mechanical technician position in 2023.	JS	2023, re-assess in Fall
Distribution System Plan updating – Requires printing to meet requirements. Future map to include hydrant numbering.	JS/QMS Rep/ Summer Student	Immediate & summer 2023 with student

<b>ACTION PLAN:</b>	<b>ASSIGNED TO:</b>	<b>COMPLETION DATE</b>
IT cybersecurity updates, continuous monitoring and training initiatives ongoing throughout 2023.	WS	ongoing
Hydrant sticker numbering – to be completed during spring 2023 flushing	StM	Spring 2023

## **Commitment and Endorsement by the Owner**

Element 3 of the Standard states that the Owner and Top Management are responsible for ensuring that the Quality Management System is implemented through their commitment and endorsement of the DWQMS.

A copy of the Commitment and Endorsement Policy is attached for your review (Appendix 3). The policy must be endorsed by the CAO and the General Manager, Operations (Top Management) and by the Mayor on behalf of Council as the Owner.

The Operational Plan for the Town of Arnprior, titled "Town of Arnprior Walter E. Prentice Water Filtration Plant and Distribution System, Drinking Water Quality Management Standard Operational Plan" is available for your review in hard copy or digital from the Environmental Engineering Officer (QMS Rep).

### **Options:**

N/A

### **Policy Considerations:**

This report is in keeping with the Strategic Plan's Vision of Improved infrastructure and Guiding Principle of Accountability, Dependability and Reliability.

Ontario's Drinking Water Quality Management Standard (Ver 2)

Safe Drinking Water Act (SDWA), 2002.

- O. Reg. 170/03
- O. Reg. 128/04

### **Financial Considerations:**

N/A

### **Meeting Dates:**

N/A

### **Consultation:**

John Steckly - General Manager, Operations  
Scott Matthews - Waterworks Supervisor  
Steve McLean - Supervisor, Roads and Services

### **Documents:**

#### **Attached**

Appendix 1 – Internal Audit Checklist – 2022

Appendix 2 – SAI Global, Re-accreditation Report – November 18, 2020

**Referenced Documents/By-laws:**

Town of Arnprior Walter E. Prentice Water Filtration Plant and Distribution System, Drinking Water Quality Management Standard Operational Plan

**Signatures**

**Reviewed by Department Head:** John Steckly, General Manager, Operations

**Reviewed by General Manager, Client Services/Treasurer:** Jennifer Morawiec

**CAO Concurrence:** Robin Paquette

**Workflow Certified by Town Clerk:** Maureen Spratt



<b>Policy No.</b>	<b>PW-DWQMS-FR7</b>
<b>Policy/Procedure/Document:</b>	Appendix 19A - Internal Audit Checklist
<b>Author:</b>	QMS Representative
<b>Approval Authority:</b>	Owner and Top Management
<b>Date of Original Procedure:</b>	October 1, 2009
<b>Date of Last Review:</b>	October 18, 2022
<b>Date of Last Update:</b>	December 5, 2017

<b>Date</b>	<b>Auditor</b>	<b>Elements Reviewed</b>
October & November 2022	Deanna Nicholson	Element 1 - 21

<b>Opening Meeting</b>	<b>Date:</b>	<b>Staff:</b>
Comments: Agenda:		

<b>Closing Meeting</b>	<b>Date:</b>	<b>Staff:</b>
Comments:		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<b>1. Quality Management System</b> PLAN – the Operating Authority shall document a Quality Management System that meets the requirements of this Standard  DO – The Operating Authority shall establish and maintain the Quality Management System in accordance with the requirements of this Standard and the policies and procedures documented in the Operational Plan.	<ul style="list-style-type: none"> <li>- Version # on front page after previous update in 2021 not updated/correct. Now updated to correct version number.</li> <li>- Directors directions – Subject System Description Form Schedule C, while previously included with the OP in early 2021, was missing from the binder in this audit. A hyperlink in references section and a copy of the form has now been added to Element 1 and Appendix 5F to ensure it is not missed in future updates.</li> </ul>	X		
<b>2. Quality Management System Policy</b> PLAN – The Operational Plan shall document a Quality Management System Policy that provides the foundation for the Quality Management System, and: <ul style="list-style-type: none"> <li>a.) includes a commitment to the maintenance and continual improvement of the Quality Management System,</li> <li>b.) includes a commitment to the consumer to provide safe drinking water,</li> <li>c.) includes a commitment to comply with all</li> </ul>	No comments	X		

DWQMS Requirement	Findings	Degree of Conformance		
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<p>legislation and regulations, and d.) is in a form that provides for ready communication to all Operating Authority personnel, the Owner and the public.</p> <p>DO – The Operating Authority shall establish and maintain a Quality Management System that is consistent with the Policy.</p>				
<p><b>3. Commitment and Endorsement</b> PLAN – The Operational Plan shall contain a written endorsement of its contents by top Management and the Owner</p> <p>DO – Top Management shall provide evidence of its commitment to an effective Quality Management System by:</p> <ul style="list-style-type: none"> <li>a.) ensuring that a Quality Management System is in place that meets the requirements of this Standard,</li> <li>b.) ensuring that the Operating Authority is aware of all applicable legislative and regulatory requirements,</li> <li>c.) communicating the Quality Management System according to the procedure for communications, and</li> </ul>	Recent & signed endorsement page available (last date (March 29, 2022)	X		

DWQMS Requirement	Findings	Degree of Conformance		
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d.) determining, obtaining or providing the resources needed to maintain and continually improve the Quality management System				
<b>4. Quality Management System Representative</b>  PLAN – The Operational Plan shall identify a Quality Management System representative.  DO – Top Management shall appoint and authorise a Quality Management System representative who, irrespective of other responsibilities, shall: <ul style="list-style-type: none"> <li>a.) administer the Quality Management System by ensuring that processes needed for the Quality Management System are established and maintained,</li> <li>b.) report to Top Management on the performance of the Quality Management System and any need for improvement,</li> <li>c.) ensure that the current version of documents required by the Quality Management System are being used at all times,</li> <li>d.) ensure that personnel are aware of all applicable legislative and regulatory requirements that pertain to their duties for the operation of the subject system, and</li> </ul>	QMS Rep Identified in Element 4 & 9 <ul style="list-style-type: none"> <li>• Resolution No. 457-13 Appointment of QMS Representative and Implementation Lead (December 9, 2013)</li> <li>• Resolution No. 513-09 appointment of QMS Representative and Implementation Lead Alternate.</li> </ul>	X		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
e.) promote awareness of the Quality Management System throughout the Operating Authority				
<b>5. Document and Records Control</b>  PLAN – The Operational Plan shall document a procedure for document and records control that describes how: <ul style="list-style-type: none"> <li>a.) documents required by the Quality Management System are:               <ul style="list-style-type: none"> <li>i. kept current, legible and readily identifiable</li> <li>ii. retrievable</li> <li>iii. stored, protected, retained and disposed of.</li> </ul> </li> <li>b.) Records required by the Quality Management System are:               <ul style="list-style-type: none"> <li>i. kept legible and readily identifiable</li> <li>ii. retrievable</li> <li>iii. stored, protected, retained and disposed of.</li> </ul> </li> </ul> DO – The Operating Authority shall implement and conform to the procedure for document and records control and shall ensure that the Quality Management System documentation for the subject	Two documents were discovered during the internal audit that were incorrectly saved over in filehold with the wrong document (Element 12 & Appendix 15D).  “Ver” function links in filehold allowed previous correct versions of the documents to be identified and restored.  Future QMS reps to be informed of importance utilizing Appendix 5F links to navigate the OP when editing.  All documents making up the OP have been reviewed or updated to Oct 2022.  Element 10, 18, & 19 policy documents were not locked.	X		

DWQMS Requirement	Findings	Degree of Conformance		
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<p>system includes:</p> <ul style="list-style-type: none"> <li>a.) the Operational Plan and its associated policies and procedures,</li> <li>b.) documents and records determined by the Operating Authority as being needed to ensure the effective planning, operation and control of its operations, and the results of internal and external audits and management reviews</li> </ul>				
<p><b>6. Drinking –Water System</b></p> <p><b>PLAN – The Operational Plan shall document, as applicable:</b></p> <ul style="list-style-type: none"> <li>a) for the Subject System: <ul style="list-style-type: none"> <li>i) the name of the Owner and Operating Authority,</li> <li>ii) if the system includes equipment that provides Primary Disinfection and/or Secondary Disinfection: <ul style="list-style-type: none"> <li>A. a description of the system including all applicable Treatment System processes and Distribution System components,</li> <li>B. a Treatment System process flow chart,</li> <li>C. a description of the water source, including:</li> </ul> </li> </ul> </li> </ul>	<p>Key information has been updated in Element 6, including population (census), hydrant / valve/ watermain numbers.</p> <p>Appendix 6D – Distribution System Plan requires some updating. Recent move to GIS online requires staff training on new system.</p> <p>Appendix 6B – Water Filtration Plant Process Flow – updated with comments ID'ing legacy equipment not in use.</p>	<p>X</p> <p>X</p>	<p>OFI-2022-01</p>	

DWQMS Requirement	Findings	Degree of Conformance		
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<ul style="list-style-type: none"> <li>I. general characteristics of the raw water supply,</li> <li>II. common event-driven fluctuations, and</li> <li>III. any resulting operational challenges and threats.</li> </ul> <p>iii) if the system does not include equipment that provides Primary Disinfection or Secondary Disinfection:</p> <ul style="list-style-type: none"> <li>A. a description of the system including all Distribution System components, and</li> <li>B. a description of any procedures that are in place to maintain disinfection residuals.</li> </ul> <p>b) if the Subject System is an Operational Subsystem, a summary description of the Municipal Residential Drinking Water System it is a part of including the name of the Operating Authority(ies) for the other Operational Subsystems.</p> <p>c) if the Subject System is connected to one or more other Drinking Water Systems owned by different Owners, a summary description of those systems which:</p>				

DWQMS Requirement	Findings	Degree of Conformance		
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<ul style="list-style-type: none"> <li>i) indicates whether the Subject System obtains water from or supplies water to those systems,</li> <li>ii) names the Owner and Operating Authority(ies) of those systems, and</li> <li>iii) identifies which, if any, of those systems that the Subject System obtains water from are relied upon to ensure the provision of safe drinking water.</li> </ul> <p><b>DO</b> – The Operating Authority shall ensure that the description of the Drinking Water System is kept current.</p>				
<p>7. Risk Assessment</p> <p><b>PLAN</b> – The Operational Plan shall document a risk assessment process that:</p> <ul style="list-style-type: none"> <li>a) Considers potential hazardous events and associated hazards, as identified in the Ministry of the Environment and Climate Change document titled Potential Hazardous Events for Municipal Residential Drinking Water Systems, dated February 2017 as it may be amended. A copy of this document is available at <a href="http://www.ontario.ca/drinkingwater">www.ontario.ca/drinkingwater</a>.</li> </ul>	<p>Element 7&amp;8 will require updating to include new requirement to assess “cybersecurity threats”. Item identified by external auditor.</p> <p>Risk assessment not completed in 2021 (was ‘reviewed by QMS rep’); however we generally go over and above the standard by completing a full risk assessment annually vs every 36 months.</p> <p>The next risk assessment (to be</p>	<p>OFI-2022-02</p> <p>X</p>		

DWQMS Requirement	Findings	Degree of Conformance		
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<ul style="list-style-type: none"> <li>b) identifies potential hazardous events and associated hazards,</li> <li>c) assesses the risks associated with the occurrence of hazardous events,</li> <li>d) ranks the hazardous events according to the associated risk,</li> <li>e) identifies control measures to address the potential hazards and hazardous events,</li> <li>f) identifies critical control points,</li> <li>g) identifies a method to verify, at least once every calendar year, the currency of the information and the validity of the assumptions used in the risk assessment,</li> <li>h) ensures that a risk assessment is conducted at least once every thirty-six months, and</li> <li>i) considers the reliability and redundancy of equipment.</li> </ul> <p><b>DO</b> – The Operating Authority shall perform a risk assessment consistent with the documented process.</p>	completed before the end of 2022) should consider “cybersecurity threats” as this hazardous event was added in spring 2022 as part of the MECP’s “Potential Hazardous Events...” document.			
<p><b>8. Risk Assessment Outcomes</b></p> <p><b>PLAN</b> – The Operational Plan shall document:</p> <ul style="list-style-type: none"> <li>a.) the identified potential hazardous events and associated hazards</li> <li>b.) the assessed risks associated with the</li> </ul>	As above			

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<p>occurrence of hazardous events,  c.) the ranked hazardous events,  d.) the identified control measures to address the potential hazards and hazardous events,  e.) the identified critical control points and their respective critical control limits,  f.) procedures and/or processes to monitor the critical control limits,  g.) procedures to respond to deviations from the critical control limits, and  h.) procedures for reporting and recording deviations from the critical control limits.</p> <p><b>DO</b> – The Operating Authority shall implement and conform to the procedures.</p>				
<p><b>9. Organisational Structure, Roles. Responsibilities and Authorities</b></p> <p><b><u>PLAN – The Operational Plan shall:</u></b></p> <p>a) describe the organizational structure of the Operating Authority including respective roles, responsibilities and authorities,  b) delineate corporate oversight roles, responsibilities and authorities in the case</p>	Updated Element 9 flow chart to reflect new OIT Distribution operators (3 new)	X		

DWQMS Requirement	Findings	Degree of Conformance		
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<p>where the Operating Authority operates multiple subject systems,</p> <p>c) identify the person, persons or group of people within the management structure of the organization responsible for undertaking the Management Review described in Element 20,</p> <p>d) identify the person, persons or group of people, having Top Management responsibilities required by this Standard, along with their responsibilities, and</p> <p>e) identify the Owner of the subject system.</p> <p><b>DO</b> – The Operating Authority shall keep current the description of the organizational structure including respective roles, responsibilities and authorities, and shall communicate this information to Operating Authority personnel and the Owner.</p>				
<p><b>10. Competencies</b></p> <p>PLAN – The Operational Plan shall document:</p> <p>a.) competencies required for personnel performing duties affecting drinking water quality.</p> <p>b.) activities to develop and maintain</p>	<p>Reviewed Operator Licences for renewal dates:</p> <p><u>Treatment</u></p> <p>2 WFP operators have licences expiring in early 2024. - Confirmed both operators have plans in place to ensure continuity of licence.</p>	X		

DWQMS Requirement	Findings	Degree of Conformance		
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<p>competencies for personnel performing duties directly affecting drinking water quality, and</p> <p>c.) activities to ensure that personnel are aware of the relevance of their duties and how they affect safe drinking water.</p> <p>DO – the Operating Authority shall undertake activities to:</p> <p>a.) meet and maintain competencies for personnel directly affecting drinking-water quality and shall maintain records of these activities, and</p> <p>d.) ensure that personnel are aware of the relevance of their duties and how they affect safe drinking water, and shall maintain records of these activities.</p>	<ul style="list-style-type: none"> <li>One upgrading licence, has already passed exam just requires filing.</li> <li>One (WW Supervisor) has training plan in place for 2023.</li> </ul> <p>1 WFP Operator (currently on leave) has licence expiring in early 2023. Top Management is aware.</p> <p><u>Distribution</u> 3 new OIT's in 2022</p> <p>3 Existing operator licences expiring in mid – late 2023. QMS Rep working with Roads and Services Supervisor to ensure training plan in place to ensure continuity of licences. Distribution staff training tracking spreadsheet updated Oct 26 2022.</p> <p>Confined Space Training Required for all operators – Distribution and Treatment. Other regulatory H&amp;S courses (working at heights) not listed in OP should probably be explored at same time.</p>			

DWQMS Requirement	Findings	Degree of Conformance		
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<b>11. Personnel Coverage</b>  PLAN – The Operational Plan shall document a procedure to ensure that sufficient personnel meeting the identified competencies are available for duties that directly affect drinking water quality,  DO – The Operating Authority shall implement and conform to the procedure.	Carried Forward CAR # 2020-02  The audit noted that there continues to be difficulty completing scheduled mechanical maintenance activities at the WFP. Larger mechanical maintenance and repairs are currently being completed by an external mechanical contractor; however many regular preventative mechanical maintenance tasks were not completed as scheduled. The QMS rep understands that the Town made efforts in 2017 to recruit a Mechanical Technician, but were unsuccessful in finding a qualified candidate. The decision was made at the time to recruit an additional operator and to complete maintenance tasks through a combination of internal operators and external contractors when necessary. Due to a lack of capacity and mechanical abilities of internal operators along with a lack of capacity of sub-contracted mechanics, this approach is not proving to be effective.			CAR # 2020-02

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
	<p>This matter was discussed during the most recent round of Collective Bargaining Agreement (CBA) negotiations with the Union and it was agreed that the two parties would meet during the term of the agreement to develop an entry level Mechanical Technician position without water/wastewater treatment accreditation. The purpose is to allow for the position to be filled by an employee without water/wastewater treatment accreditation but to establish a process by which the employee will acquire the accreditations.</p> <p>The Town is currently recruiting for a licenced operator position. Upon the completion of the hiring of a new licenced operator (Fall 2022), discussions should begin with respect to the creation of a Mechanical Technician position for the WFP in order improve the manner in which preventative maintenance work orders are completed.</p> <p>WFP has developed an online on-call</p>	X		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
	<p>schedule that is regularly shared – noted as good Continual Improvement initiative.</p> <p>Distribution staffing schedule posted in garage.</p> <p>Roads and Services Supervisor noted staffing challenges in 2021 due to COVID and other leaves of absence.</p> <p>Three new distribution operators recently received OIT certification.</p> <p>Treatment operator hiring underway.</p> <p>Garage staffing hours updated in OP Operator contact information updated in OP</p>	<p>X</p> <p>X</p> <p>X</p> <p>X</p> <p>X</p>		
<p><b>12. Communications</b></p> <p>PLAN – The Operational Plan shall document a procedure for communications that describes how the relevant aspects of the Quality Management System are communicated between Top Management and:</p> <p>a.) the Owner,</p>	<p>A)</p> <ul style="list-style-type: none"> <li>The WW Supervisor provided the annual DWQMS council update on March 28, 2022</li> <li>Incoming Councillors (Chris Couper &amp; Billy Denault) informed of requirement to attend Standard of Care Training on November 23, 2022.</li> </ul>	X		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<p>b.) Operating Authority personnel, c.) Suppliers, and d.) The public.</p> <p>DO – The Operating Authority shall implement and conform to the procedure.</p>	<p>B)</p> <ul style="list-style-type: none"> <li>3 new OITs attended in-house “Intro to DWQMS” training. All current operators have now received the training.</li> <li>2021 DWQMS staff report posted in WFP and Garage</li> </ul> <p>C) DWQMS requirements for developers added into the Subdivision Agreement template to ensure developers are made aware of DWQMS requirements up front. No new suppliers identified.</p> <p>D) Abridged DWQMS Operational Plan updated and posted to Arnprior.ca (personal, system sensitive and emergency planning information not provided in public version). Previous version posted was out of date.</p>	<p>X</p> <p>X</p> <p>X</p> <p>X</p>		
<p><b>13. Essential Supplies and Services</b></p> <p>PLAN – The Operational Plan shall:</p>	<p>Essential suppliers list reviewed and contact information updated throughout.</p>	<p>X</p>		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<p>a.) identify all supplies and services essential for the delivery of safe drinking water and shall state, for each supply or service, the means to ensure its procurement, and</p> <p>b.) include a procedure by which the Operating Authority ensures the quality of the essential supplies and services, in as much as they may affect the drinking water quality.</p> <p>DO – The Operating Authority shall implement and conform to the procedure.</p>	<p>Caduceon Lab Accreditation Confirmed</p> <p>Content of Developer Letter added into Subdivision Agreement states requirements for chemicals ect... to be AWWA/ANSI/NSF certified for use in drinking water systems</p>	<p>X</p> <p>X</p>		
<p><b>14. Review and Provision of Infrastructure</b></p> <p><b>PLAN</b> – The Operational Plan shall document a procedure for reviewing the adequacy of the infrastructure necessary to operate and maintain the Subject System that:</p> <p>a) Considers the outcomes of the risk assessment documented under Element 8, and</p> <p>b) Ensures that the adequacy of the infrastructure necessary to operate and maintain the Subject System is reviewed at least once every calendar year.</p>	<p>Review and Provision of Infrastructure meeting held Oct 11, 2022. Outcomes:</p> <ul style="list-style-type: none"> <li>• New Summer dead end flushing procedure having positive impact. No red water complaints in area in 2021-2022.</li> <li>• Olympia build out / draw keeping residuals in optimal range now without flushing.</li> <li>• 3 phases still to come @ Marshalls Bay</li> <li>• Uncommitted Reserve Capacity Discussed. Watson Growth Report, Stantec Master Plan,</li> </ul>			

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<b>DO</b> – The Operating Authority shall implement and conform to the procedure and communicate the findings of the review to the Owner.	Census, approved developments, Nylene. <ul style="list-style-type: none"> <li>• 500+ meters replaced in last few years</li> <li>• Rate study underway</li> <li>• Craig,Hugh, Alicia reconstruction</li> <li>• Water tower cleaning/painting completed 2021</li> <li>• River crossing watermain / Sawmill Flats</li> <li>• Main river crossing #2 Construction in 2023 (directional drilling being considered)</li> <li>• SCADA upgrades</li> <li>• 2024 Building Condition Assessment</li> <li>• New PTTW in 2022</li> <li>• 2022 MECP Inspection – no issues</li> <li>• City Wide - \$5 WM &gt;80 years old</li> </ul>			
<b>15. Infrastructure Maintenance, Rehabilitation and Renewal</b>  <b>PLAN</b> – The Operational Plan shall document: a) a summary of the Operating Authority’s infrastructure maintenance, rehabilitation and	Form 1’s - Record of Watermains Authorized as Future Alterations, for all new watermains constructed in 2021/2022 were available and saved to filehold prior to auditors request.	X		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<p>renewal programs for the Subject System, and b) a long term forecast of major infrastructure maintenance, rehabilitation and renewal activities.</p> <p><b>DO</b> – The Operating Authority shall: a) keep the summary of the infrastructure maintenance, rehabilitation and renewal programs current, b) ensure that the long term forecast is reviewed at least once every Calendar Year, c) communicate the programs to the Owner, and d) monitor the effectiveness of the maintenance program.</p>	<p>Forms 2's - Record of Minor Modifications or Replacements to the Drinking Water System were not initially available. Upon request by the QMS rep, 5 - Form 2's were completed and were saved to filehold. Of note, a Form 2 for SCADA system upgrades was completed; however, a recent MECP guidance document suggests that Forms 2's for this kind of maintenance may not be required. If any level of doubt exists in the guidance document interpretation or from previous MECP direction, QMS rep suggested that the Form 2 be completed just in case. All Form 2's should be completed prior to placing equipment into service.</p> <p>No Schedule C's required/created during audit period.</p> <p>10 Year Capital Forecast provided by GM Operations (last approved by Council – Jan 2022). 10 Year Capital actively being worked on at time of audit, anticipate many changes compared to last approved</p>	<p>X – No OFI Issued, existing procedure caught non-conformance.</p> <p>X</p>		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non- conforming
	<p>version.</p> <p>Planned Maintenance - Treatment (mechanical maintenance &amp; staffing) – see Element 11 CAR-2020-02</p> <p>Planned Maintenance Distribution: <u>Hydrant Flushing</u> – Spring and Fall 2022 Complete.</p> <p><u>Valve Exercising</u> – Road and Services Supervisor stated that valve exercising has not been completed for several years.</p> <p><u>Fire Flow Testing</u> – last done in 2018, Flometrix to be brought in 2023.</p> <p><u>Leak detection</u> - some proactive leak detection in older areas of Town in 2022 for first time. Several locations identified require additional investigation. Intention to continue pro-active leak detection program in 2023.</p> <p>Hydrant numbering stickers</p>	X		CAR-2022-01
<b>16. Sampling, Testing and Monitoring</b>  PLAN – The Operational Plan shall document: a.) a sampling, testing and monitoring procedure	New census data reviewed – population still under 10,000. Current distribution sampling schedule sufficient and exceeds regulatory requirements.	OFI-2022-03		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<p>for process control and finished drinking water quality including the requirements for sampling, testing and monitoring at the conditions most challenging to the subject system</p> <p>b.) a description of any relevant sampling, testing or monitoring activities that take place upstream of the subject system, and</p> <p>c.) a procedure that describes how sampling, testing and monitoring results are recorded and shared between the Operating Authority and the Owner, where applicable.</p> <p>d.) DO – The Operating Authority shall implement and conform to the procedures.</p>	<p>Weekly residuals sampling completed and reviewed by OIC.</p> <p>OIC described lab data review process. Conforms with OP procedure.</p> <p>Distribution chlorine residuals sampling records reviewed – conforms to OP</p> <p>Superchlorination – WM commissioning records reviewed – available during audit and saved in filehold.</p> <p>All lab results (from 2021) were summarized in the 2022 Annual report and presented to Council.</p> <p>Appendix 16A – incorrect version of sampling schedule was in binder. Correct version was available in filehold.</p> <p>New controlled form created: 233 Albert Street Distribution Sampling and Trending</p>			
<b>17. Measurement and Recording Equipment Calibration and Maintenance</b>	All equipment was audited for calibration as per manufacturer's guidelines or at	X		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<p>PLAN – The Operational Plan shall document a procedure for the calibration and maintenance of measurement and recording equipment.</p> <p>DO – The Operating Authority shall implement and conform to the procedure.</p>	<p>least within the previous 12 months. In house calibration records were available for audit period. External calibration records were provided for other meters (such as flow meters) and were saved to filehold – conforms.</p> <ul style="list-style-type: none"> <li>• Portable colorimeters (chlorine test kits) (2 - Treatment, 1 – Distribution)</li> <li>• Portable turbidimeters (Treatment: 1 Benchtop)</li> <li>• pH meters (Treatment: 1 Benchtop, 1 Treated, 2 Actiflo)</li> <li>• Pressure gauges</li> <li>• Continuous chlorine residual analyzers (Treatment: 1 Free, 1 Total)</li> <li>• Continuous turbidimeters (Treatment: 2 Actiflo, 1 Benchtop, 3 Filters)</li> <li>• Flow meters: calibration report provided</li> </ul> <p>Chlorine meter standards</p>	<p>OFI-2022-04 – Purchase Complete , Procedure to</p>		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
		be developed		
<b>18. Emergency Management</b>  PLAN – The Operational Plan shall document a procedure to maintain a state of emergency preparedness that includes: <ul style="list-style-type: none"> <li>a.) a list of potential emergency situations or service interruptions,</li> <li>b.) processes for emergency response and recovery,</li> <li>c.) emergency response training and testing requirements,</li> <li>d.) Owner and Operating Authority responsibilities during emergency situations,</li> <li>e.) References to municipal emergency planning measures as appropriate, and</li> <li>f.) An emergency communication protocol and an up-to-date list of emergency contacts.</li> </ul> DO – The Operating Authority shall implement and conform to the procedure.	Emergency Response Testing was not undertaken during the regularly scheduled period (Spring 2022). Testing can be completed up until the end of the 2022 calendar year. Meeting to be undertaken in late November. Concerns with completing training at this time of year due to issues with staff attendance (snow plowing takes priority / hunting holidays). Intention to complete 2023 Emergency Response training in late Spring, to avoid such staffing issues. 2023 Testing already booked and scenario selected (switch over of new river watermain crossing)  Emergency plans to be updated to include Cyber Security Threats. Emergency contact lists reviewed to ensure contact information is up to date.  Appendix 18F – Major Fire Emergencies was incorrectly over saved with the wrong document in 2021. The correct document has been restored.	X – Emergency response Testing completed Dec 6, 2022 (Ice Storm Scenario)		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<b>19. Internal Audits</b>  PLAN – The Operational Plan shall document a procedure for internal audits that: <ul style="list-style-type: none"> <li>a.) evaluates the conformity of the QMS with the requirements of this Standard,</li> <li>b.) identifies internal audit criteria, frequency, scope, methodology and record-keeping requirements,</li> <li>c.) considers previous internal and external audit results, and</li> <li>d.) describes how the Quality Management System corrective actions are identified and initiated.</li> </ul> DO – The Operating Authority shall implement and conform to the procedure and shall ensure that internal audits are conducted at least once every twelve months.	Audit completed in 2021 and 2022 - Conforms  Previous (2021) internal audit – OFI#2021-01 - The essential service provider for electrician services has recently retired, leaving a gap in the essential service provider list. A new electrician is required to be listed in the essential service providers to conform to the plan. New electrician service provider identified and updated in OP: Clarke Electric  No OFI's or CARs listed in previous external audit.	X  X		
<b>20. Management Review</b>  PLAN – The Operational Plan shall document a procedure for management review that evaluates the continuing suitability, adequacy and effectiveness of the Quality Management System and that includes consideration of:	Previous Management Review not completed in 2022 (of 2021 Activities). OP states that Top Management review shall occur once per calendar year. Typically, the review is completed in January for the previous calendar year. Last review completed Feb 2, 2021;	OFI-2022-05 – Only OFI If completed before the end of 2022		

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
a.) incidents of regulatory non-compliance, b.) incidents of adverse drinking-water tests, c.) deviations from critical control point limits and response actions, d.) the effectiveness of the risk assessment process, e.) internal and third party audit results, f.) results of emergency response testing, g.) operational performance, h.) raw water supply and drinking water quality trends, i.) follow-up action items from previous management reviews, j.) the status of management action items identified between reviews, k.) changes that could affect the Quality Management System, l.) consumer feedback, m.) the resources needed to maintain the Quality Management System, n.) the results of infrastructure review, o.) Operational Plan currency, content and updates, and p.) Staff suggestions  Do - Top Management shall implement and conform	<p>however if a review is completed before the end of 2022 calendar year, we will technically still be in compliance.</p> <p>Checklist to be developed to track key DWQMS activities to be undertaken annually, to help avoid tasks being missed by new/fill in staff during leaves of absences.</p>			

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<p>to the procedure and shall:</p> <ul style="list-style-type: none"> <li>a.) ensure that a management review is conducted at least once every calendar year,</li> <li>b.) consider the results of the management review and identify deficiencies and action items to address the deficiencies,</li> <li>c.) provide a record of any decisions and action items related to the management review including personnel responsible for delivering the action items and the proposed timelines for their implementation, and</li> <li>d.) report the results of management review, the identified deficiencies, decisions and action items to the Owner.</li> </ul>				
<p><b>21. Continual Improvement</b></p> <p>PLAN – The Operating Authority shall develop a procedure for tracking and measuring continual improvement of its Quality Management System by:</p> <ul style="list-style-type: none"> <li>a.) reviewing and considering applicable best management practices, including any published by the Ministry of the Environment and Climate Change and available on <a href="http://www.ontario.ca/drinkingwater">www.ontario.ca/drinkingwater</a>, at least once</li> </ul>	<p>QMS Rep reviewed the <a href="http://www.ontario.ca/drinkingwater">www.ontario.ca/drinkingwater</a> on Oct 31, 2022 for updates to regulations ect....</p> <p>No new guides were listed (dated 2021 - 2022); however the SAI Global external auditor alerted rep to new Potentially Hazardous Events document reviewed – New item “Cyber Security”</p> <p>MECP April 2022 – Potentially Hazardous</p>			

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<p>every thirty-six months;</p> <p>b.) documenting a process for identification and management of Quality Management System Corrective Actions that includes:</p> <ul style="list-style-type: none"> <li>i) investigating the cause(s) of an identified non-conformity,</li> <li>ii) documenting the action(s) that will be taken to correct the non-conformity and prevent the non-conformity from re-occurring, and</li> <li>iii) reviewing the action(s) taken to correct the non-conformity, verifying that they are implemented and are effective in correcting and preventing the re-occurrence of the non-conformity.</li> </ul> <p>c.) documenting a process for identifying and implementing Preventive Actions to eliminate the occurrence of potential non-conformities in the Quality Management System that includes:</p> <ul style="list-style-type: none"> <li>i) reviewing potential non-conformities that are identified to determine if preventive actions may be necessary,</li> <li>ii) documenting the outcome of the review, including the action(s), if any,</li> </ul>	<p>Events document reviewed – New item “Cyber Security” to be added to OP and reviewed during risk assessment review activity.</p> <p>Rep reviewed guidelines: Residential water testing, and Laboratory update bulletin: Drinking water testing, Issue 1</p> <p>Check list to be developed to identify key DWQMS tasks to be completed annually.</p>			

DWQMS Requirement	Findings	Degree of Conformance		
		Conformance	Partial Conforms	Non-conforming
<p>that will be taken to prevent a non-conformity from occurring, and</p> <p>iii) reviewing the action(s) taken to prevent a non-conformity, verifying that they are implemented and are effective in preventing the occurrence of the non-conformity.</p> <p>DO – The Operating Authority shall strive to continually improve the effectiveness of its Quality Management System by implementing and conforming to the procedure.</p>				

#### NON-CONFORMANCES

**CAR # 2020-02** - Carried Forward CAR # 2020-02

The audit noted that there continues to be difficulty completing scheduled mechanical maintenance activities at the WFP. Upon the completion of the hiring of a new licenced operator (Fall 2022), discussions should begin with respect to the creation of a Mechanical Technician position for the WFP in order improve the manner in which preventative maintenance work orders are completed.

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<b>ACTION PLAN:</b>	<b>ASSIGNED TO:</b>	<b>COMPLETION DATE</b>
OFI-2022 -01 Appendix 6D – Distribution System Plan requires some updating. Recent move to GIS online requires staff training on new system.	<b>GIS Summer Student</b>	<b>Summer 2023</b>
OFI-2022-02 - Element 7&8 will require updating to include new requirement to assess “cybersecurity threats”. Item identified by external auditor	<b>QMS Rep</b>	<b>December 2022 – risk assessment meeting</b>
OFI-2022 -03 - Hydrant numbering stickers	<b>Ryan Wall / Steve/ Deanna N / Distribution Operators</b>	<b>During Spring 2023 Flushing</b>
OFI-2022-04 - Chlorine meter standards (use procedure to be developed)	<b>QMS Rep / WFP Operators</b>	<b>Sprig 2023</b>

### **Revision Control Sheet**

<b>Review Date</b>	<b>Revisions Issued</b>	<b>Effective Date</b>	<b>Reviewed By</b>	<b>Revised By</b>
Dec 5, 2013	Template Updates	Dec 5, 2013	GB	DS
Dec 8, 2014	Addition of action items table to template	Dec 8, 2014	GB	DS
Dec 5, 2017	Template Elements updated to include new DWQMS 2.0 standards	Dec 5, 2017	JS	DN

# Audit Report

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Systems Audit for

The Corporation of the Town of Arnprior

1649975-02

Audited Address: Arnprior, Ontario, CAN, K7S 1C9

Start Date: Oct 21, 2022   End Date: Oct 21, 2022

Type of audit:  
System (Stage 1)

Issue Date: October 22, 2022

Revision Level: *Final*

### BACKGROUND INFORMATION

SAI Global conducted an audit of The Corporation of the Town of Arnprior beginning on Oct 21, 2022 and ending on Oct 21, 2022 to DRINKING WATER QUALITY MANAGEMENT STANDARD VERSION 2 - 2017.

The purpose of this audit report is to summarise the degree of conformity with relevant criteria, as defined on the cover page of this report, based on the evidence obtained during the audit of your organization. This audit report considers your organization's policies, objectives, and continual improvement processes. Comments may include how suitable the objectives selected by your organization appear to be in regard to maintaining customer satisfaction levels and providing other benefits with respect to policy and other external and internal needs. We may also comment regarding the measurable progress you have made in reaching these targets for improvement.

SAI Global audits are carried out within the requirements of SAI Global procedures that also reflect the requirements and guidance provided in the international standards relating to audit practice such as ISO/IEC 17021-1, ISO 19011 and other normative criteria. SAI Global Auditors are assigned to audits according to industry, standard or technical competencies appropriate to the organization being audited. Details of such experience and competency are maintained in our records.

In addition to the information contained in this audit report, SAI Global maintains files for each client. These files contain details of organization size and personnel as well as evidence collected during preliminary and subsequent audit activities (Documentation Review and Scope) relevant to the application for initial and continuing certification of your organization.

Please take care to advise us of any change that may affect the application/certification or may assist us to keep your contact information up to date, as required by SAI Global Terms and Conditions.

This report has been prepared by SAI Global Limited (SAI Global) in respect of a Client's application for assessment by SAI Global. The purpose of the report is to comment upon evidence of the Client's conformity with the standards or other criteria specified. The content of this report applies only to matters, which were evident to SAI Global at the time of the audit, based on sampling of evidence provided and within the audit scope. SAI Global does not warrant or otherwise comment upon the suitability of the contents of the report or the certificate for any particular purpose or use. SAI Global accepts no liability whatsoever for consequences to, or actions taken by, third parties as a result of or in reliance upon information contained in this report or certificate.

Please note that this report is subject to independent review and approval. Should changes to the outcomes of this report be necessary as a result of the review, a revised report will be issued and will supersede this report.

<b>Standard:</b>	DRINKING WATER QUALITY MANAGEMENT STANDARD VERSION 2 - 2017
<b>Scope of Certification:</b>	Drinking Water Treatment and Distribution
<b>Drinking Water System Owner:</b>	Town of Arnprior
<b>Operating Authority:</b>	Town of Arnprior Waterworks
<b>Owner:</b>	Town of Arnprior
<b>Population Services:</b>	8,114
<b>Activities:</b>	<b>Treatment &amp; Distribution</b>
<b>Drinking Water Systems</b>	Walter E. Prentice Water Filtration Plant and Distribution System

<b>Total audit duration:</b>	<b>Person(s):</b> 1	<b>Day(s):</b> 0.50
<b>Audit Team Member(s):</b>	Team Leader	Brigitte Roth

**Other Participants:** No other participants.

## Audit Report

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### Definitions and action required with respect to audit findings

#### Major Non-conformance:

Based on objective evidence, the absence of, or a significant failure to implement and/or maintain conformance to requirements of the applicable standard. Such issues may raise significant doubt as to the capability of the management system to achieve its intended outputs (i.e. the absence of or failure to implement a complete Management System clause of the standard); or

A situation which would on the basis of available objective evidence, raise significant doubt as to the capability of the Management System to achieve the stated policy and objectives of the customer.

NOTE: The "applicable Standard" is the Standard which SAI Global are issuing certification against, and may be a Product Standard, a management system Standard, a food safety Standard or another set of documented criteria.

Action required: This category of findings requires SAI Global to issue a formal NCR; to receive and approve client's proposed correction and corrective action plans; and formally verify the effective implementation of planned activities. Correction and corrective action plan should be submitted to SAI Global prior to commencement of follow-up activities as required. Follow-up action by SAI Global must 'close out' the NCR or reduce it to a lesser category **within 90 days for initial certification and within 60 days for surveillance or recertification audits, from the last day of the audit.**

If significant risk issues (e.g. safety, environmental, food safety, product legality/quality, etc.) are detected during an audit these shall be reported immediately to the Client and more immediate or instant correction shall be requested. If this is not agreed and cannot be resolved to the satisfaction of SAI Global, immediate suspension shall be recommended.

In the case of initial certification, failure to close out NCR within the time limits means that the Certification Audit may be repeated.

If significant risk issues (e.g. safety, environmental, food safety, product legality/quality, etc.) are detected during an audit these shall be reported immediately to the Client and more immediate or instant correction shall be requested. If this is not agreed and cannot be resolved to the satisfaction of SAI Global, immediate suspension shall be recommended.

In the case of an already certified client, failure to close out NCR within the time limits means that suspension proceedings may be instituted by SAI Global.

Follow-up activities incur additional charges.

#### Minor Non-conformance:

Represents either a management system weakness or minor issue that could lead to a major nonconformance if not addressed. Each minor NC should be considered for potential improvement and to further investigate any system weaknesses for possible inclusion in the corrective action program

Action required: This category of findings requires SAI Global to issue a formal NCR; to receive and approve client's proposed correction and corrective action plans; and formally verify the effective implementation of planned activities at the next scheduled audit.

#### Opportunity for Improvement:

A documented statement, which may identify areas for improvement however shall not make specific recommendation(s).

Action required: Client may develop and implement solutions in order to add value to operations and management systems. SAI Global is not required to follow-up on this category of audit finding.

## **Audit Type and Purpose**

### **Systems Audit:**

A desktop audit of the operational plan for the subject system to assess whether the documented QMS meets the PLAN requirements of the DWQMS V2.

### **Audit Objectives:**

The objective of the audit was to determine whether the drinking water Quality Management System (QMS) of the subject system conforms to the requirements of the Ontario Ministry of the Environment, Conservation & Parks' (MECP's) Drinking Water Quality Management Standard (DWQMS V2).

The audit was also intended to gather the information necessary for SAI Global to assess whether accreditation can continue or be offered or to the operating authority.

### **Audit Scope:**

The documented information associated with the operating authority's QMS were objectively evaluated to obtain audit evidence and to determine a) whether the quality management activities and related results conform with DWQMS V2 requirements, and b) if they have been effectively implemented and/or maintained.

### **Audit Criteria:**

- The Drinking Water Quality Management Standard Version 2
- Current QMS manuals, procedures and records implemented by the Operating Authority
- SAI Global Accreditation Program Handbook

### **Confidentiality and Documentation Requirements:**

The SAI Global stores their records and reports to ensure their preservation and confidentiality. Unless required by law, the SAI Global will not disclose audit records to a third party without prior written consent of the applicant. The only exception will be that the SAI Global will provide audit and corrective action reports to the Ontario Ministry of the Environment, Conservation & Parks (MECP). For more information, please refer to the SAI Global Accreditation Program Handbook.

As part of the SAI Global Terms, it is necessary for you to notify SAI Global of any changes to your Quality Management System that you believe are significant enough to risk non-conformity with DWQMS V2: For more information, please refer to the SAI Global Accreditation Program Handbook.

### **Review of any changes:**

There have been no changes to the Operating Authority since the last audit.

### EXECUTIVE OVERVIEW

The objective of this System audit (Stage 1) was to review the management system and processes, confirm the scope for accreditation, and determine the organization's preparedness for the on-site verification audit (Stage 2). In addition, it allowed for the review of the adequacy of the SAI Global audit program and resources for the audit including confirming and preparing the draft audit plan. The results of this System (Stage 1) audit indicate that the organization is now ready for an on-site accreditation (Stage 2) audit.

### Opportunities for Improvement:

The following opportunities for improvement have been identified.

- **Element 1:** To improve meeting the requirements of the Ministry's [latest Director's Directions](#), consider including a copy of the [Subject System Description Form](#) in the OP and confirming that the OP version audited by the accreditation body is retained for 10 years.
- **Element 7 & 8:** Section 8.5 of the PW-DWQMS-07 procedure and PW-DWQMS-FR6 checklist should now include "cybersecurity threats" as this hazardous event was added in spring 2022 as part of the [MECP's "Potential Hazardous Events..." document](#).

The next risk assessment review should consider "cybersecurity threats" as this hazardous event was added in spring 2022 as part of the [MECP's "Potential Hazardous Events..." document](#).

- **Element 8 & 15:** In PW-DWQMS-SOP5, consideration should be given to setting the CCL in line with the "acceptable disinfectant concentration" definition included in the Ministry's [2020 Watermain Disinfection Procedure](#).

Also, consideration could be given to updating the form in Appendix 15D Chlorine Residuals Monitoring so that the reference to Combined Chlorine levels is in line with the "acceptable disinfectant concentration" definition included in the Ministry's [2020 Watermain Disinfection Procedure](#).

- **Element 11:** Consider describing in OP s.8.11 Personnel Coverage and/or PW-DWQMS-11 Personnel Coverage procedure the latest provisions and Ministry requirements in the use of "emergency substitute operators" as now more fully described in [O. Reg. 128/04](#) and [O. Reg. 129/04](#) (the links provided are to the Environmental Registry decision notices).
- **Element 17:** Consider updating s.8.2 of PW-DWQMS-17 to also reflect the calibration requirements specified in the MDWL's Schedule C s.4.0 Calibration of CT Monitoring System.

It is suggested that the opportunities for improvement be considered by management to further enhance the Operating Authority's Quality Management System and performance.

### Management System Documentation:

The management system operational plan was reviewed and found to be in conformity with the requirements of the standard.

### Management Review:

Records of the last management review meeting will be reviewed during the re-accreditation audit. All inputs will be reviewed to ensure they are reflected in the records and appear suitably managed as reflected by resulting actions and decisions.

### Internal Audits:

Records of internal audits will be reviewed during the re-accreditation audit to ensure conformity to planned arrangements, the requirements of the standard and the established management system.

### Corrective, Preventive Action & Continual Improvement Processes:

The effectiveness of the continual improvement process will be evaluated during the re-accreditation audit: through the use of the quality policy, quality objectives, audit results, data analysis, the appropriate management of corrective / preventive actions and management review.

**Summary of Findings**

1. Quality Management System	OFI
2. Quality Management System Policy	Conforms
3. Commitment and Endorsement	Conforms
4. Quality Management System Representative	Conforms
5. Document and Records Control	Conforms
6. Drinking Water System	Conforms
7. Risk Assessment	OFI
8. Risk Assessment Outcomes	OFI x 2
9. Organizational Structure, Roles, Responsibilities and Authorities	Conforms
10. Competencies	Conforms****
11. Personnel Coverage	OFI
12. Communications	Conforms****
13. Essential Supplies and Services	Conforms****
14. Review and Provision of Infrastructure	Conforms****
15. Infrastructure Maintenance, Rehabilitation & Renewal	OFI****
16. Sampling, Testing and Monitoring	Conforms****
17. Measurement & Recording Equipment Calibration and Maintenance	OFI****
18. Emergency Management	Conforms
19. Internal Audits	Conforms****
20. Management Review	Conforms****
21. Continual Improvement	Conforms****
<b>Major NCR #</b>	Major non-conformity. The auditor has determined one of the following: (a) a required element of the DWQMS has not been incorporated into a QMS; (b) a systemic problem with a QMS is evidenced by two or more minor non-conformities; or (c) a minor non-conformity identified with a corrective action request has not been remedied.
<b>Minor NCR #</b>	Minor non-conformity. In the opinion of the auditor, part of a required element of the DWQMS has not been incorporated satisfactorily into a QMS.
<b>OFI</b>	Opportunity for improvement. Conforms to requirement, but there is an opportunity for improvement.
<b>Conforms</b>	Conforms to requirement.
<b>NANC</b>	Not applicable/Not Covered during this audit.
<b>****</b>	Additional comment added by auditor in the body of the report.

# **PART D. Audit Observations, Findings and Comments**

DWQMS Reference:	1 Quality Management System
Client Reference:	Operational Plan for the Walter E. Prentice Water Filtration Plant and Distribution System (OP), dated October 19, 2022 Availability of the OP at <a href="#">Town-of-Arnrior-DWQMS-Operational-Plan</a> , accessed on October 21, 2022
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the Operational Plan's (OP's) conformity against the requirements of the latest Director's Directions (e.g. single OP, version # / date embedded in electronic copy, title page with DWS described, retained for 10 years, Subject System Description Form).</p> <p>Noted availability of the OP at <a href="#">Town-of-Arnrior-DWQMS-Operational-Plan</a> (2021 version), accessed on October 21, 2022.</p> <p><b>OFI:</b> To improve meeting the requirements of the Ministry's <a href="#">latest Director's Directions</a>, consider including a copy of the <a href="#">Subject System Description Form</a> in the OP and confirming that the OP version audited by the accreditation body is retained for 10 years.</p> <p>Evaluated documented information related to elements 2-21 and confirmed that the Operational Plan effectively documents the requirements of DWQMS V2.</p>	
DWQMS Reference:	2 Quality Management System Policy
Client Reference:	OP s.8.2 QMS Policy <a href="#">Element 2 - PWDWQMS-02 - Quality Management System Policy (arnrior.ca)</a> , accessed on October 21, 2022
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the QMS Policy and confirmed it includes the required commitments of this element.</p>	
DWQMS Reference:	3 Commitment and Endorsement
Client Reference:	OP s.8.3 Commitment and Endorsement <a href="#">QMS-Commitment-and-Endorsement-Policy-(signed).pdf (arnrior.ca)</a> , accessed on October 21, 2022
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and confirmed that the written endorsement is signed by Top Management and the Owner. Confirmed that the signatories are current to spring 2022.</p> <p>Upcoming 2022 elections will require re-endorsement.</p>	
DWQMS Reference:	4 Quality Management System Representative
Client Reference:	OP s.8.4 QMS Representative PW-DWQMS-04 Appointment of QMS Representative Policy
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed client references and required aspects of the DWQMS element are included. The Environmental Engineering Officer is the QMS Representative, and the Engineering Officer is the Alternate QMS Representative.</p> <p>The QMS Rep's duties are listed in this section.</p>	
DWQMS Reference:	5 Document and Record Control

Client Reference:	OP s.8.5 Document and Records Control PW-DWQMS-05 Document and Record Control Procedure
Details: <i>(personnel interviewed, procedures, activities and records observed)</i> Reviewed client references and required aspects of the DWQMS element are included.	

DWQMS Reference:	6 Drinking Water System
Client Reference:	OP s.8.6 Drinking Water System PW-DWQMS-06 Drinking Water System
Details: <i>(personnel interviewed, procedures, activities and records observed)</i> Reviewed the client references and required aspects of the DWQMS element are included. The DWS description describes a surface water source from the Madawaska River with raw water characteristics that are relatively stable throughout the year and raw water pH varying seasonally (highest in fall and lowest in winter). Significant rain events contribute to largest changes, when pH decreases and colour & turbidity increase. Upstream is OPG hydro generating station and dam located within 900m upstream of the intake. The confluence of Madawaska and Ottawa rivers are located approx. 2 kms downstream of the raw water intake as is Arnprior's WWPPCC. THM's in the distribution system may be formed – chloramination upgrades undertaken in 2005 consistently reduced THM levels to below current criterion. Elevated Lead concentrations are from older homes' services, predominantly due to leaching from private plumbing. Corrosion Control Plan upgrades were completed in 2016-2017. Treatment is provided with chemically assisted filtration to pipe network through high lift pumps. An elevated storage tank is also located within the distribution system. WTP process is described from raw water, treatment (incl. chemical dosages, Actiflo steps, filtration steps) to primary and secondary disinfection steps, water storage and transmission. Components of the distribution system are described – 60 kms of watermain varying in material – mostly 150mm diameter pipe.	

DWQMS Reference	7 Risk Assessment
Client Reference:	OP s.8.7 Risk Assessment PW-DWQMS-07 Risk Assessment Procedure PW-DWQMS-FR6 Risk Assessment Checklist PW-DWQMS-FR10 Risk Assessment Validity Form
Details: <i>(personnel interviewed, procedures, activities and records observed)</i> Reviewed the client references and required aspects of the DWQMS element are included. <b>OFI:</b> Section 8.5 of the PW-DWQMS-07 procedure and PW-DWQMS-FR6 checklist should now include "cybersecurity threats" as this hazardous event was added in spring 2022 as part of the <a href="#">MECP's "Potential Hazardous Events..." document</a> .	

DWQMS Reference:	8 Risk Assessment Outcomes
Client Reference:	OP s.8.8 Risk Assessment Outcomes PW-DWQMS-08 Risk Assessment Outcomes Procedure PW-DWQMS-SOP2 Filter Effluent Turbidity Critical Limit Response PW-DWQMS-SOP3 Primary Disinfection Critical Limit Response PW-DWQMS-SOP4 Distribution System Pressure Critical Limit Response PW-DWQMS-SOP5 Secondary Disinfection Critical Limit Response PW-DWQMS-SOP6 Raw Water Pipe Collapse Critical Limit Response

## Audit Report

	PW-DWQMS-SOP15 Low CT Response PW-DWQMS-SOP16 Shallow Main Freeze and Break
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and noted that most of MECP's "Potential Hazardous Events for Municipal Residential Drinking Water Systems" have been considered and incorporated into the risk assessment outcomes.</p> <p><b>OFI:</b> The next risk assessment review should consider "cybersecurity threats" as this hazardous event was added in spring 2022 as part of the <a href="#">MECP's "Potential Hazardous Events..." document</a>.</p> <p><b>OFI:</b> In PW-DWQMS-SOP5, consideration should be given to setting the CCL in line with the "acceptable disinfectant concentration" definition included in the Ministry's <a href="#">2020 Watermain Disinfection Procedure</a>.</p>	

DWQMS Reference:	9 Organizational Structure, Roles, Responsibility and Authorities
Client Reference:	OP s.8.9 Organizational Structure, Roles, Responsibilities and Authorities PW-DWQMS-09 Organizational Structures, Roles, Responsibilities, and Authorities
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included.</p> <p>Upcoming 2022 elections will require communicating to the owner about their roles/responsibilities.</p>	

DWQMS Reference:	10 Competencies
Client Reference:	OP s.8.10 Competencies PW-DWQMS-10 Competencies Procedure
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included. Describes WT Class III and WD Class I. Minimum OIT's to be considered an operator. Skills and knowledge are described for WTP operators, Waterworks Supervisor, Distribution Operator, Roads and Services Supervisor.</p> <p><b>Note:</b> Auditor will spend some time reviewing the records of competencies and training during the re-accreditation audit.</p>	

DWQMS Reference:	11 Personnel Coverage
Client Reference:	OP s.8.11 Personnel Coverage PW-DWQMS-11 Personnel Coverage Procedure
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included. Noted reference to regular hours and on-call process for after hours. Description of ORO, OIC in accordance with O. Reg. 128/04.</p> <p><b>OFI:</b> Consider describing in OP s.8.11 Personnel Coverage and/or PW-DWQMS-11 Personnel Coverage procedure the latest provisions and Ministry requirements in the use of "emergency substitute operators" as now more fully described in <a href="#">O. Reg. 128/04</a> and <a href="#">O. Reg. 129/04</a> (the links provided are to the Environmental Registry decision notices).</p>	

DWQMS Reference:	12 Communications
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## Audit Report

Client Reference:	OP s.8.12 Communications PW-DWQMS-12 Communications Procedure
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included (e.g. reporting to owner via council meetings, reports, e-mails, OP, etc.; staff communications via orientation sessions, OP, SOP's available; public communications via website, minutes of council meetings; and suppliers via QMS policy and Essential Supplier Letter, Form 22.</p> <p><b>Note:</b> Auditor will spend some time reviewing the records of communications during the re-accreditation audit.</p>	

DWQMS Reference:	13 Essential Supplies and Services
Client Reference:	OP s.8.13 Essential Supplies and Services PW-DWQMS-13 Essential Supplies and Services Procedures PW-DWQMS-FR12 DW Treatment Chemical Receiving Checklist DWQMS FR22 Essential Supplier Letter DWQMS FR25 Developer Owner Letter
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included.</p> <p><b>Note:</b> Auditor will spend some time reviewing the evidence of verifying the quality of essential supplies during the re-accreditation audit.</p>	

DWQMS Reference:	14 Review and Provision of Infrastructure
Client Reference:	OP s.8.14 Review and Provision of Infrastructure PW-DWQMS-14 Review and Provision of Infrastructure Procedure PW-DWQMS-FR23 Review and Provision of Infrastructure Annual Meeting Infrastructure Review Meeting notes, dated October 11, 2022
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included. Annually, the General Manager of Operations schedules a meeting with Waterworks and Roads &amp; Services Supervisors to conduct a review of the condition of infrastructure.</p> <p>Recommendations are based on: outcomes of the risk assessment, past maintenance activities, planned maintenance on roads and sewer systems, MECP inspections, staff suggestions, water quality trends, consumer complaints, planned population growth. This process links to the 10-year replacement forecast and annual budget processes.</p> <p><b>Note:</b> Auditor will spend some time reviewing the records of infrastructure reviews during the re-accreditation audit.</p>	

DWQMS Reference:	15 Infrastructure Maintenance, Rehabilitation and Renewal
Client Reference:	OP s.8.15 Infrastructure Maintenance, Rehabilitation and Renewal PW-DWQMS-15 Infrastructure Maint., Rehab. and Renewal Procedure PW-DWQMS-FR15 Valve Maintenance Program PW-DWQMS-FR16 Hydrant Flushing Record PW-DWQMS-FR24 Fire Flow Monitoring Record PW-DWQMS-FR26 Chlorine Residuals Monitoring Record

**Details:** *(personnel interviewed, procedures, activities and records observed)*

Reviewed the client references and required aspects of the DWQMS element are included.

References the town's DWWP and the various conditions under which a Schedule C amendment is required, along with the completion of Director Notifications, and Forms 1, 2, 3. The verification of completed forms for infrastructure changes are reviewed and confirmed by the QMS Rep.

Planned infrastructure maintenance activities are presented to council for authorization of major maintenance activities. Once authorized, work orders / schedules are distributed to certified operators who complete the maintenance work. Ongoing maintenance records are reviewed by supervisors to evaluate the ongoing needs of the maintenance programs.

Unplanned maintenance activities are authorized and approved by the GM in accordance with the Town's procurement policy. Unplanned maintenance activities are reviewed during annual infrastructure reviews.

Planned maintenance includes hydrant flushing, valve exercising and fire flow testing. New construction and work to existing structures comply with all applicable legislative requirements.

Planned maintenance at facilities includes visual inspections, lubrication, fluid changes and completion of equipment manufacturers' recommendations.

Unplanned maintenance is described (e.g. watermain breaks, replacements of valves / hydrants, breakdown of equipment, etc.).

Infrastructure renewal and rehabilitation priorities are identified with the 10-year plan and linked to the annual budget process. Once approved by council, the GM creates implementation plans, timelines and submits applications for grants as available. Certified operators or other public works staff are assigned to oversee projects.

Long-Term Forecast of Maintenance, Rehab and Renewal activities are identified through 20-year long range capital forecasts and based on the Town's AMP that is updated on an annual basis.

**OFI:** Consider updating the form in Appendix 15D Chlorine Residuals Monitoring so that the reference to Combined Chlorine levels is in line with the "acceptable disinfectant concentration" definition included in the Ministry's [2020 Watermain Disinfection Procedure](#).

**Note:** Auditor will spend some time reviewing the records of maintenance during the re-accreditation audit.

DWQMS Reference:	16 Sampling, Testing and Monitoring
Client Reference:	OP s.8.16 Sampling, Testing and Monitoring PW-DWQMS-16 Sampling and Testing Procedure PW-DWQMS-22 Monitoring Procedure PW-DWQMS-SOP7 Sampling and Testing Program Procedure

**Details:** *(personnel interviewed, procedures, activities and records observed)*

Reviewed the client references and required aspects of the DWQMS element are included.

PW-DWQMS-16 references routine sampling conducted by certified operators, tested by accredited laboratories (with exception of chlorine residuals carried-out in-house), legislative requirements are reviewed annually (based on current population, new locations), sampling following maintenance and new watermain, AWQI's are responded-to and reported as required under provincial regulations.

Appendix 16A describes the parameters, sample types, frequency and test sources for each of the tables. Table 1 summarizes raw water sampling, Table 2 summarizes treated water sampling, Table 3 – summarizes treated water from selected points in the distribution system, and Tables 4-5 summarizes residuals sampling program sample points.

PW-DWQMS-22 describes the WTP's continuous monitoring equipment and Table 1 lists equipment / rooms and related monitoring instructions.

**Note:** Auditor will spend some time reviewing the records of sampling, monitoring and testing

during the re-accreditation audit.

DWQMS Reference:	17 Measurement and Recording Equipment Calibration and Maintenance
Client Reference:	OP s.8.17 Measurement & Recording Equipment Calibration and Maintenance PW-DWQMS-17 Measurement and Recording Equipment Calibration and Maintenance Procedure
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included.</p> <p>A list of equipment requiring calibrations and/or verifications is listed to include: colorimeters, turbidimeters, pH meters, pressure gauges, continuous chlorine residual analyzers, continuous turbidimeters, and flow meters.</p> <p>The Waterworks Supervisor maintains the calibration schedule and an external schedule contractor is contacted who carries out the maintenance and calibration activities. Each equipment also has an accuracy / verification schedule which identifies the types of equipment, frequency of accuracy / verification checks as well as the most recent accuracy / verification check.</p> <p>PW-DWQMS-17 s.8.2.4 references that the frequency of calibration shall be the frequency specified in O. Reg. 170/03 or as suggested by the equipment manufacturer, whichever is more often.</p> <p><b>OFI:</b> Consider updating s.8.2 of PW-DWQMS-17 to also reflect the calibration requirements specified in the MDWL's Schedule C s.4.0 Calibration of CT Monitoring System.</p> <p><b>Note:</b> Auditor will spend some time reviewing the records of instrument verifications and calibrations during the re-accreditation audit.</p>	

DWQMS Reference:	18 Emergency Management
Client Reference:	OP s.8.18 Emergency Management PW-DWQMS-18 Emergency Management Procedure PW-DWQMS-SOP8 Weather Related or Natural Causes Emergencies PW-DWQMS-SOP9 Security Breach Emergencies PW-DWQMS-SOP10 Power Failure Emergencies PW-DWQMS-SOP11 Pandemic Emergencies PW-DWQMS-SOP12 Source Water Contamination Emergencies PW-DWQMS-FR21 Emergency Procedure Evaluation Form Emergency Response Training and Testing, dated October 30, 2020
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included.</p> <p>References the risk assessment outcomes for the list of the potential hazardous situations and service interruptions that could potentially affect the safety of drinking water. Emergency situations are listed in the emergency procedure along with up-to-date internal and external contact lists.</p> <p>Categories of emergency categories are described with corresponding contingencies in place, including weather related / natural causes, security breach, power failure, pandemic, source water contamination, major fire, terrorism. Internal and External emergency contacts for water are listed.</p> <p>Reviews of potential emergency situations are conducted by the GM once per calendar year, reviewing roles, responsibilities, authorities, and potential emergency situations. Staff training includes awareness of emergency procedures and at orientations.</p>	

## Audit Report

DWQMS Reference:	19 Internal Audits
Client Reference:	OP s.19 Internal Audits PW-DWQMS-19 Internal Audits Procedure PW-DWQMS-FR7 Internal Audit Checklist PW-DWQMS-FR4 Internal Audit Schedule PW-DWQMS-FR5 Corrective Action Request Form
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included. Internal audits are conducted at least once every calendar year by the QMS Rep and others who have conducted DWQMS Internal Auditor training and/or others who have conducted internal audits for their operating authorities. Previous internal / external audit results are reviewed as well as conformity against the DWQMS (using an audit checklist). Opening and closing meetings are held and the audit report includes the completed checklist along with other applicable docs. Any non-conformities with the OA's QMS and DWQMS are identified and CARs may be issued.</p> <p><b>Note:</b> Auditor will spend some time reviewing the status on the previous audit findings in the interview with the QMS Representative during the re-accreditation audit.</p>	

DWQMS Reference:	20 Management Review
Client Reference:	OP s.20 Management Review PW-DWQMS-20 Management Review Procedure PW-DWQMS-FR8 Top Management Review Form E-mail communication dated October 21, 2022 re: Management Review
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included. Discussed the Management Review missed during the QMS Rep's absence (early 2022 for the preceding year) – preventive actions include a high-level checklist of QMS activities (e.g. meetings, audits, etc.) that need to be completed each calendar year. The 2022 Management Review is normally planned in December or first week back in January following completion of internal and external audits.</p> <p><b>Note:</b> Auditor will spend some time reviewing the records of the previous management review during the re-accreditation audit.</p>	

DWQMS Reference:	21 Continual Improvement
Client Reference:	OP s.8.21 Continual Improvement PW-DWQMS-21 Continual Improvement Procedure S2 Surveillance Audit by SAI Global, dated November 15, 2021
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Reviewed the client references and required aspects of the DWQMS element are included. S2 Surveillance Audit by SAI Global, dated November 15, 2021 identified no non-conformities and no opportunities for improvement.</p> <p><b>Note:</b> Auditor will spend some time reviewing how continual improvement is tracked and measured during the re-accreditation audit.</p>	

Details regarding the personnel interviewed and objective evidence reviewed are maintained on file at SAI Global.

## **Audit Report**

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This report was prepared by:

Brigitte Roth  
SAI Global Management Systems Auditor

The audit report is distributed as follows:

- SAI Global
- Operating Authority
- Owner
- MECP

## **Notes**

Copies of this report distributed outside the organization must include all pages.

# Audit Report

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Re-Accreditation Audit for

The Corporation of the Town of Arnprior

1649975-02

Audited Address: Arnprior, Ontario, CAN, K7S 1C9

Start Date: Oct 24, 2022   End Date: Nov 02, 2022

Type of audit:

Initial Verification Audit

Issue Date: Nov 06, 2022

Revision Level: *Final*

### BACKGROUND INFORMATION

SAI Global conducted an audit of The Corporation of the Town of Arnprior beginning on Oct 24, 2022 and ending on Nov 02, 2022 to DRINKING WATER QUALITY MANAGEMENT STANDARD VERSION 2 - 2017.

The purpose of this audit report is to summarise the degree of conformity with relevant criteria, as defined on the cover page of this report, based on the evidence obtained during the audit of your organization. This audit report considers your organization's policies, objectives, and continual improvement processes. Comments may include how suitable the objectives selected by your organization appear to be in regard to maintaining customer satisfaction levels and providing other benefits with respect to policy and other external and internal needs. We may also comment regarding the measurable progress you have made in reaching these targets for improvement.

SAI Global audits are carried out within the requirements of SAI Global procedures that also reflect the requirements and guidance provided in the international standards relating to audit practice such as ISO/IEC 17021-1, ISO 19011 and other normative criteria. SAI Global Auditors are assigned to audits according to industry, standard or technical competencies appropriate to the organization being audited. Details of such experience and competency are maintained in our records.

In addition to the information contained in this audit report, SAI Global maintains files for each client. These files contain details of organization size and personnel as well as evidence collected during preliminary and subsequent audit activities (Documentation Review and Scope) relevant to the application for initial and continuing certification of your organization.

Please take care to advise us of any change that may affect the application/certification or may assist us to keep your contact information up to date, as required by SAI Global Terms and Conditions.

This report has been prepared by SAI Global Limited (SAI Global) in respect of a Client's application for assessment by SAI Global. The purpose of the report is to comment upon evidence of the Client's conformity with the standards or other criteria specified. The content of this report applies only to matters, which were evident to SAI Global at the time of the audit, based on sampling of evidence provided and within the audit scope. SAI Global does not warrant or otherwise comment upon the suitability of the contents of the report or the certificate for any particular purpose or use. SAI Global accepts no liability whatsoever for consequences to, or actions taken by, third parties as a result of or in reliance upon information contained in this report or certificate.

Please note that this report is subject to independent review and approval. Should changes to the outcomes of this report be necessary as a result of the review, a revised report will be issued and will supersede this report.

<b>Standard:</b>	DRINKING WATER QUALITY MANAGEMENT STANDARD VERSION 2 - 2017
<b>Scope of Certification:</b>	Drinking Water Treatment and Distribution
<b>Drinking Water System Owner:</b>	Town of Arnprior
<b>Operating Authority:</b>	Town of Arnprior Waterworks
<b>Owner:</b>	Town of Arnprior
<b>Population Services:</b>	8,114
<b>Activities:</b>	<b>Treatment &amp; Distribution</b>
<b>Drinking Water Systems</b>	Walter E. Prentice Water Filtration Plant and Distribution System

<b>Total audit duration:</b>	<b>Person(s):</b> 1	<b>Day(s):</b> 0.63
<b>Audit Team Member(s):</b>	Team Leader	Brigitte Roth

**Other Participants:** No other participants.

## Audit Report

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### Definitions and action required with respect to audit findings

#### Major Non-conformance:

Based on objective evidence, the absence of, or a significant failure to implement and/or maintain conformance to requirements of the applicable standard. Such issues may raise significant doubt as to the capability of the management system to achieve its intended outputs (i.e. the absence of or failure to implement a complete Management System clause of the standard); or

A situation which would on the basis of available objective evidence, raise significant doubt as to the capability of the Management System to achieve the stated policy and objectives of the customer.

NOTE: The "applicable Standard" is the Standard which SAI Global are issuing certification against, and may be a Product Standard, a management system Standard, a food safety Standard or another set of documented criteria.

Action required: This category of findings requires SAI Global to issue a formal NCR; to receive and approve client's proposed correction and corrective action plans; and formally verify the effective implementation of planned activities. Correction and corrective action plan should be submitted to SAI Global prior to commencement of follow-up activities as required. Follow-up action by SAI Global must 'close out' the NCR or reduce it to a lesser category **within 90 days for initial certification and within 60 days for surveillance or re-certification audits, from the last day of the audit.**

If significant risk issues (e.g. safety, environmental, food safety, product legality/quality, etc.) are detected during an audit these shall be reported immediately to the Client and more immediate or instant correction shall be requested. If this is not agreed and cannot be resolved to the satisfaction of SAI Global, immediate suspension shall be recommended.

In the case of initial certification, failure to close out NCR within the time limits means that the Certification Audit may be repeated.

If significant risk issues (e.g. safety, environmental, food safety, product legality/quality, etc.) are detected during an audit these shall be reported immediately to the Client and more immediate or instant correction shall be requested. If this is not agreed and cannot be resolved to the satisfaction of SAI Global, immediate suspension shall be recommended.

In the case of an already certified client, failure to close out NCR within the time limits means that suspension proceedings may be instituted by SAI Global.

Follow-up activities incur additional charges.

#### Minor Non-conformance:

Represents either a management system weakness or minor issue that could lead to a major nonconformance if not addressed. Each minor NC should be considered for potential improvement and to further investigate any system weaknesses for possible inclusion in the corrective action program

Action required: This category of findings requires SAI Global to issue a formal NCR; to receive and approve client's proposed correction and corrective action plans; and formally verify the effective implementation of planned activities at the next scheduled audit.

#### Opportunity for Improvement:

A documented statement, which may identify areas for improvement however shall not make specific recommendation(s).

Action required: Client may develop and implement solutions in order to add value to operations and management systems. SAI Global is not required to follow-up on this category of audit finding.

## **Audit Type and**

### **On-site Verification Audit:**

An on-site audit to assess whether a QMS has been implemented for the subject system that meets the “DO” requirements of the DWQMS V2.

### **Audit Objectives:**

The objective of the audit was to determine whether the drinking water Quality Management System (QMS) of the subject system conforms to the requirements of the Ontario Ministry of the Environment, Conservation & Parks’ (MECP’s) Drinking Water Quality Management Standard (DWQMS V2).

The audit was also intended to gather the information necessary for SAI Global to assess whether accreditation can continue or be offered or to the operating authority.

### **Audit Scope:**

The facilities and processes associated with the operating authority’s QMS were objectively evaluated to obtain audit evidence and to determine a) whether the quality management activities and related results conform with DWQMS V2 requirements, and b) if they have been effectively implemented and/or maintained.

### **Audit Criteria:**

- The Drinking Water Quality Management Standard Version 2
- Current QMS manuals, procedures and records implemented by the Operating Authority
- SAI Global Accreditation Program Handbook

### **Confidentiality and Documentation Requirements:**

The SAI Global stores their records and reports to ensure their preservation and confidentiality. Unless required by law, the SAI Global will not disclose audit records to a third party without prior written consent of the applicant. The only exception will be that the SAI Global will provide audit and corrective action reports to the Ontario Ministry of the Environment, Conservation & Parks (MECP). For more information, please refer to the SAI Global Accreditation Program Handbook.

As part of the SAI Global Terms, it is necessary for you to notify SAI Global of any changes to your Quality Management System that you believe are significant enough to risk non-conformity with DWQMS V2: For more information, please refer to the SAI Global Accreditation Program Handbook.

### **Review of any changes:**

There have been no changes to the Operating Authority since the last audit.

### EXECUTIVE OVERVIEW

Based on the results of this on-site verification audit (Stage 2) and the results of the System audit (Stage 1), it has been determined that the management system is effectively implemented and meets the requirements of the standard relative to the scope of accreditation identified in this report; therefore, a recommendation for continued accreditation will be submitted to SAI Global review team.

### Opportunities for Improvement:

The following opportunities for improvement have been identified.

- **EI. 5:** Consider using SharePoint to improve availability of documented information to operators (noted Microsoft products are used – SharePoint may be an available option through corporate Microsoft account).
- **EI. 15:** Consider including the chlorinators' annual service on a maintenance reminder schedule.
- **EI. 17:** Consider using DPD-Chlorine-LR Secondary Standards for ongoing verification of colorimeters (and note the certificate of analysis included inside that confirms acceptable ranges specific to the lot #).
- **EI. 17:** Consider adding the level transducer for Clearwell #1 and #2 (as back-up) to the list of calibrated equipment that forms part of the monitoring system for CT (as required by MDWL Schedule C s.4.0 Calibration of CT Monitoring System).

It is suggested that the opportunities for improvement be considered by management to further enhance the Operating Authority's Quality Management System and performance.

### Management System Documentation:

The management system operational plan was reviewed and found to be in conformity with the requirements of the standard.

### Management Review:

Documented information related to management review meetings were reviewed and found to meet the requirements of the standard. All inputs are reflected and appear suitably managed as reflected by action plans, assignments and completion dates.

### Internal Audits:

Internal audits are being conducted at planned intervals to ensure conformity to planned arrangements, the requirements of the standard and the established management system.

### Corrective, Preventive Action & Continual Improvement Processes:

The Operating Authority is implementing an effective process for the continual improvement of the management system through the use of the quality policy, quality objectives, audit results, data analysis, the appropriate management of corrective and preventive actions and management review.

## Summary of Findings

1. Quality Management System	Conforms
2. Quality Management System Policy	Conforms
3. Commitment and Endorsement	Conforms
4. Quality Management System Representative	Conforms
5. Document and Records Control	OFI
6. Drinking-Water System	Conforms
7. Risk Assessment	Conforms
8. Risk Assessment Outcomes	Conforms
9. Organizational Structure, Roles, Responsibilities and Authorities	Conforms
10. Competencies	Conforms
11. Personnel Coverage	Conforms
12. Communications	Conforms
13. Essential Supplies and Services	Conforms
14. Review and Provision of Infrastructure	Conforms
15. Infrastructure Maintenance, Rehabilitation & Renewal	OFI****
16. Sampling, Testing and Monitoring	Conforms
17. Measurement & Recording Equipment Calibration and Maintenance	OFI x 2
18. Emergency Management	Conforms****
19. Internal Audits	Conforms
20. Management Review	Conforms****
21. Continual Improvement	Conforms
<b>Major NCR #</b>	Major non-conformity. The auditor has determined one of the following: (a) a required element of the DWQMS has not been incorporated into a QMS; (b) a systemic problem with a QMS is evidenced by two or more minor non-conformities; or (c) a minor non-conformity identified with a corrective action request has not been remedied.
<b>Minor NCR #</b>	Minor non-conformity. In the opinion of the auditor, part of a required element of the DWQMS has not been incorporated satisfactorily into a QMS.
<b>OFI</b>	Opportunity for improvement. Conforms to requirement, but there is an opportunity for improvement.
<b>Conforms</b>	Conforms to requirement.
<b>NANC</b>	Not applicable/Not Covered during this audit.
<b>****</b>	Additional comment added by auditor in the body of the report.

**PART D. Audit Observations, Findings and Comments**

DWQMS Reference:	1 Quality Management System
Client Reference:	Interview with Deanna Nicholson, QMS Rep on October 24, 2022 – and the following staff on November 2, 2022: Scott Matthews, Waterworks Supervisor (ORO WT); Andrew Hoogenboom, Plant Operator; John Steckley, General Manager Operations; Steve McLean, Supervisor, Roads & Services (ORO WD); Mike Ledgerwood, Lead Hand of Operations
<p><b>Details:</b> <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Interview notes recorded throughout this checklist.</p>	

DWQMS Reference:	2 Quality Management System Policy
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
<p><b>Details:</b> <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Deanna – keep paperwork in order, everything up-to-date, have the time to carry it out, support operators and top management in their roles, t's crossed, l's dotted. Act as the safety net for the organization.</p> <p>John: provide overall direction, ensure available resources and budgets for all necessary aspects of what we do, ensure we're meeting regulatory requirements, necessary reporting is being completed to agencies and council for their information each year.</p> <p>Scott: oversee day-to-day operations, ensure training, sampling is done as per schedule, review sample results, file sample results, reporting.</p> <p>Ben: hands-on of everything – ensuring that things that are supposed to happen, actually happen and are properly recorded. From performing tests, calibrating instruments, taking samples, send to lab and review test results.</p> <p>Andrew: everything I do in a day – check trends, conduct SCADA reviews, review reports, review e-mails, walking facility, checking equipment, looking into unusual sounds, chemical storage, checking pumps during drawdowns, communicating with management re: requests, doing what Deanna says, alerting to suspected issues, etc.</p> <p>Steve / Mike: chlorine residuals, testing on new watermain, flushing programs, oversee all connections, don't let anyone carry-out operational work (e.g. contractors)</p>	

DWQMS Reference:	3 Commitment and Endorsement
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
<p><b>Details:</b> <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Deanna – have adequate resources to do job well. In contact with top management regularly, owner takes the QMS seriously. QMS Rep will ensure the Standard of Care training is provided.</p> <p>Scott – strong operational team, detail-orientation, take responsibility for what needs to be done, after hours. Management supports very well.</p> <p>John – staffing resources – e.g. one on LTD – small team (one of 5 not being here), working towards full complement – recently went through hiring process. Secured a new operator.</p> <p>Mechanical / technician maintenance struggle – previously hired a mechanical technician</p>	

(millwright) – could not find a qualified individual who had a w/ww certificate. Decision to add operator and rely on outside contractors where needed – which have helped on larger repairs – however, day-to-day PM's. Memorandum of Agreement – agreement to make entry level position to gear to mechanic / millwright position – then getting licences / certifications.

Booming community with a lot of growth and development – always aware of plant capacity and sewage systems – need to ensure we're ahead to ensure plant and pipes capacity – reserve capacity for treatment plants. Working through development charges by-law update currently – budget discussions now as well. Working with Stantec on a Water / Wastewater Master Plan (previous one is 10 years old) – hoping to get good recommendations.

Ben / Andrew: adequately resourced to do job well – can't fix everything at once – need a mechanic. Currently short-staffed by one person, 20% (over two years).

Steve / Mike – have adequate resources – short-staffed – working on getting OIT's their Class I's. a lot of growth and redevelopment (downtown projects).

DWQMS Reference:	4 Quality Management System Representative
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
<b>Details:</b> <i>(personnel interviewed, procedures, activities and records observed)</i> Deanna – able to keep up-to-date on legislative requirements (difficult to rely on e-mail communications due to new cybersecurity measures implemented at OA's; and to find ERO notices and latest information).	

DWQMS Reference:	5 Document and Record Control
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
<b>Details:</b> <i>(personnel interviewed, procedures, activities and records observed)</i> Deanna – Town has "filehold" system – Appendix 5F – Master list of documents – can see what is printed, what is in electronic format (when last reviewed / last updated). There are risks with saving overtop – however it keeps historical versions, and could track what previous changes were made. Links to document locations. Physical binder at the site – has electronic copy on USB. Daily trending include – DWQMS documents on the USB. Mike / Steve: Viewed Chlorine Residuals Tracking Form and Hydrant Flushing, Watermain Break Forms completed. Commissioning process – lab test results to Scott; e-mailed to Steve / John – Contractor – 12% sodium hypochlorite (NSF certification verified by the WTP). Superchlorination kit to verify % decreased – recorded in the logbook. Swabbing and pressure testing are verified by the consultant. Valving to place into service, sample taking, chlorine residuals – operators. <b>OFI:</b> Consider using SharePoint to improve availability of documented information to operators (noted Microsoft products are used – SharePoint may be an available option through corporate Microsoft account).	

DWQMS Reference:	6 Drinking Water System
Client Reference:	WTP tour from raw water to POE with Scott Matthews Interviews with personnel as noted under Element 1 of this checklist.

Details: *(personnel interviewed, procedures, activities and records observed)*

WTP tour, reviewing steps from raw water to POE. Viewed all analyzers' verification / calibration information and chemicals' NSF labels.

Deanna – keep map up-to-date, made changes from desktop GIS to online GIS. Verifying the completion of Form 1's, 2's, Direction Notifications (with alignment with EI. 15).

DWQMS Reference	7 Risk Assessment
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
Details: <i>(personnel interviewed, procedures, activities and records observed)</i>	
Deanna – complete the calendar year reviews and 36-months risk assessments every year.	
Discussions link to the next section (EI. 8).	

DWQMS Reference:	8 Risk Assessment Outcomes
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
Details: <i>(personnel interviewed, procedures, activities and records observed)</i>	
Deanna – planning to complete the 36-month risk assessment before the end of calendar year, and then again in spring to reset the schedule for the calendar year requirements.	
John: high risk: watermain river crossings – primary feed – 16" and bottom of river, main line to water tower. Failed in 2017 – drained the elevated tower quickly. Since then, planning / budgeting / forecasting for replacement – successfully approved for grant funding – working to design/ engineer – geotech drilling for trenchless technologies to go beneath the river rather than sitting in bottom of river. Clearwell slow leak for a few years, injection repairs a couple of years ago however did not fully address the issue – have grant funding approved – design / engineering in draft budget for 2023. Looking at a full replacement (structural assessment completed a couple of years ago), may also re-line – leaning towards full replacement – installed in 1966 – another risk being addressed.	
Scott – also tower refurbishment – inspection, cleaning, repainting.	
Deanna – Distribution replacement – eliminating older pipes, addressing combined sewer – capital budgets – Steve and team. Council have been supportive of the roads / watermain / sewer projects – addressing problematic mains – re: repeat failures – several \$M each. Significantly reduced breaks each year. Significant improvement in past 2-3 years.	
Ben / Andrew: personnel safety and good health; chlorine gas and fluoride – fit-testing for masks and SCBA's. More training on SCBA through fire dept, fire extinguisher training, CSE, first aid, working at heights, working with chlorine gas (and digester gas). Ensuring call-out system is always working – ensuring the WTP runs as intended. System needs to be always working – test on weekly basis.	
Most essential alarms tested – ensuring they will call-out. Items related to CT, even under extreme circumstances, may need to do CT manually. Troubleshooting any CT issues (if encountered) – root cause analysis.	
Steve / Mike: Discussed the CCL OFI (identified in Systems Audit) re: "Acceptable Disinfectant" of Combined 1.0 mg/L CCL likely to be set at 0.75 mg/L, with statement that operationally, aim for 1.0 mg/L.	

## Audit Report

DWQMS Reference:	9 Organizational Structure, Roles, Responsibility and Authorities
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
Details: <i>(personnel interviewed, procedures, activities and records observed)</i> Deanna: QMS Rep will ensure the Standard of Care training is provided (as req'd by El. 9 DO).	

DWQMS Reference:	10 Competencies
Client Reference:	Record of Training Form (whether OTJ or CEU) OTJ Practical Training form
Details: <i>(personnel interviewed, procedures, activities and records observed)</i> Deanna: QMS Rep has a PowerPoint presentation for OIT's – receive an intro to QMS, provide overview 1-21 elements, as well – make it relevant to drinking water, ensuring QMS Rep is informed of any challenges in making necessary changes. Ben/Andrew: Scott oversees the tracking of staff training – staff also track their training. Will request training – staffing availability can compete with training availability. Internal audit will verify training hours on an annual basis. Steve / Mike: Deanna assists with tracking training for Distribution staff.	

DWQMS Reference:	11 Personnel Coverage
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
Details: <i>(personnel interviewed, procedures, activities and records observed)</i> Deanna: No staff coverage issues during the pandemic – split everyone into two crews, if anyone sick, only impacting that crew. Treatment operators are also pollution control centre operators – split these groups as well. Had back-ups in place: previous Manager (retired) – called right away. Ben/Andrew: staff coverage has been consistently achieved (even with one short-staff). With COVID pandemic response – have separated staff. Steve / Mike: staff coverage has been addressed.	

DWQMS Reference:	12 Communications
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
Details: <i>(personnel interviewed, procedures, activities and records observed)</i> Deanna: letter sent out to all suppliers, every year – update suppliers' list (e.g. name changes, may have new suppliers). Also send letters to new developers re: requirements – re: records, QMS Rep ensures they keep on file the ANSI/NSF – esp. certificates of NSF approval; with checklist re: pallet with chemicals, verifying not expired, what you ordered, NSF approved. John: certified operators oversee the superchlorination, take samples, deliver to lab in Ottawa, lab test results are received, before allowing mains to be connected, operators on-site – operators operating valves – discussed at meetings, standard tender specifications for a project. Added in language re: subdivision agreements so developers – NSF/ AWWA/ANSI requirements.	

Developer letter pre-written and sent to local developers – along with new developers as well. Tender specifications – discussed during initial meetings re: temporary water plan, commissioning plan. Rapport developed with local Cavanaugh Construction – have improved on their standard processes – commissioning procedures, may have job-specific nuances refined – from town feedback, and influence by other municipalities as well. If award a contract with a newer contractor – will have to oversee more closely – Steve as Distribution ORO – good handle on procedures, ensuring we're there and critical steps along the way.

Scott: Spring – 3<sup>rd</sup> or 4<sup>th</sup> meeting – Scott presents plant reports and MECP inspection, QMS presentation by Deanna. Always go to council before March 31<sup>st</sup>. Incl. outcomes of Management Review.

Steve / Mike: communicate to council through John. Communication with the public – regarding everything – call-in by the public – many call-in directly to Distribution – water meter replacements. Access E11 system, on-call phone. Order from suppliers – communicate – e.g. hymax couplers, Mueller hydrants, Wolseley, EMCO. Verify NSF on boxes. Tailboard meetings, pre-job safety meetings, DWQMS risk assessments, emergency plans.

DWQMS Reference:	13 Essential Supplies and Services
Client Reference:	Appendix 13A – Drinking Water Treatment Chemical Receiving Checklist WTP tour verifying chemical labels and certificates of analysis (NSF) Interviews with personnel as noted under Element 1 of this checklist
<p><b>Details:</b> <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Deanna: Operators have a checklist re: pallet with chemicals, verifying not expired, what you ordered, NSF approved. Lab certificates and accreditation are verified by the QMS Rep.</p> <p>Scott: supply chain disruptions – Brenntag – can order 8 bags of soda ash – were slow to confirm they've received the order, may deliver only part of order (2-3 bags) eventually. Challenge with communications and supply – manage to order, no issue without product. Raw materials availability, truckers' staffing (and previously an issue: rail blockades).</p> <p>John: e.g. capital controls re: instrumentation – discussed initiatives / products – parts / equipment deliveries are difficult.</p>	

DWQMS Reference:	14 Review and Provision of Infrastructure
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
<p><b>Details:</b> <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Deanna: Organize the Infrastructure Review meeting – just occurred recently. Review the capital project list for the next year, links to 20-year capital plan – list is brought to the meeting for discussion.</p> <p>John: AMP completed, overhauled and refined – Citywide – created an additional staffing position within last 2 years – within engineering – Facilities Maintenance position that includes AMP coordinator roles – strong lead with improvements to data. Room to improve and refine. Each year, review what next regulatory requirements – aspects to be completed year by year. E.g. water mains (larger pipe diameter, more critical) – quick asset risk assessment – accounting for material, area served, size, etc.</p> <p>Facilities-related – long-range capital plan – need to better update and understand two facilities and SPS's – condition assessments re: overall inventory of components of facility with age, with</p>	

plans to replace and maintain. In budget talks right now. In near-term, planning complete inventory of all components, equipment – plan for upgrade and replacement. Both treatment plants had major expansions / overhauls around 2009-2010 – expansions for growth as well as update / renovating – capacity, cleaned up. Now to revisit, and ensure identification of age, condition of various equipment and processes – council has been very supportive.

DWQMS Reference:	15 Infrastructure Maintenance, Rehabilitation and Renewal
Client Reference:	WTP Weekly Maintenance Excel file Interviews with personnel as noted under Element 1 of this checklist.
<p><b>Details:</b> <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Deanna: for Distribution System, a WO system – “Access E11” handling meter replacements and distribution-related activities. The Mechanical WO system is old, can’t be used anymore. Exploring options, will be reviewed again. WTP operators also have an Excel file established that tracks the operational maintenance (e.g. meter calibrations, sample requirements).</p> <p>John: longer-term major maintenance – through AMP – life-cycle and planning for future replacements – long-range capital forecast – overall capital planning budgetary document – 5-, 10-, 20-year plans (accurately in shorter time periods) – placeholders within these plans. Need for improvement of treatment plants and inventory of all equipment and facility condition assessment with better inventory and better plan for renewal / replacement.</p> <p>Scott / Deanna / Ben: looking into new WO system to track maintenance. Larger maintenance items are no longer tracked at this time.</p> <p>Excel file – maintenance items that cannot be missed.</p> <p><b>Note:</b> Evoqua Service “Sept. 2022” as next service for two chlorinators.</p> <p><b>OFI:</b> Consider including the chlorinators’ annual service on a maintenance reminder schedule.</p> <p>Steve / Mike: valve exercising – behind on the goal of once every 5 years – checking all valves. As staffing certifications increase to Class I – will have better ability – fire flows on track to be completed 4 years ago. In workplan for 2023. Leak detection initiated this year – once staffed up, could carry-out leak detection.</p>	

DWQMS Reference:	16 Sampling, Testing and Monitoring
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
<p><b>Details:</b> <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Deanna: Review of the operational plan through Element 6 – updating population, that link to sampling requirements (e.g. number of samples per month). Operators take more than what’s required by regulation – agenda for annual meetings, specific re: annually reviewed and discussed.</p> <p>Scott / Andrew: Sampling calendar – by month – bacti’s, distribution bacti’s, references to annual, quarterly sample programs – chains of custody stored with lab test results. Entered into WaterTrax for data reporting – including reviews – cross-reference the data results against what has been entered. Weekly sheets identify a task including the review of the sampling chains against lab test results against WaterTrax.</p>	

DWQMS Reference:	17 Measurement and Recording Equipment Calibration and Maintenance
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## Audit Report

Client Reference:	WTP tour with Scott Matthews Interviews with personnel as noted under Element 1 of this checklist.
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>WTP tour included the checking of online analyzers instrument verifications.</p> <p><b>OFI:</b> Consider using DPD-Chlorine-LR Secondary Standards for ongoing verification of colorimeters (and note the certificate of analysis included inside that confirms acceptable ranges specific to the lot #).</p> <p><b>OFI:</b> Consider adding the level transducer for Clearwell #1 and #2 (as back-up) to the list of calibrated equipment that forms part of the monitoring system for CT (as required by MDWL Schedule C s.4.0 Calibration of CT Monitoring System).</p>	

DWQMS Reference:	18 Emergency Management
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist.
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Deanna: Plan to have an emergency training and test exercise this fall. Derecho didn't impact Arnprior (however, 15 km's south) during the May long weekend. Rogers outage (have Bell service for cellular service) – will review and consider if communications outage were to happen...</p> <p>Deanna: improvements into Form 1's and Form 2's – when MECP inspections; sample too early; lead sample result reported t</p> <p>John: Derecho didn't affect operations – power outages – generators did their thing (10.5 hours - on-site monitoring generators and plants). Trees down on private properties. Had some hydro issues in last 6 months – hydro outages across the river – power surge affected some equipment on-site. Had overload relay failures– now keeping spares for both and had had previous ones repairs. Had some in stock, but not enough for the number of failures.</p> <p>Ben / Andrew: drums shipped on pallets – pallets in bad shape – drum jack – heavy drum potentially spilling. Spill containment – challenges around getting chemical products off pallets. Tipped over drum once per year (on average) – not resulted in a spill, but potential.</p> <p><b>Note:</b> Letter to supplier should include an expectation on pallet quality.</p> <p>Power outages – generator always functioned as intended during power outages.</p> <p>Steve / Mike: staff turnover has been an issue in general, COVID was challenging – had to split staff a few times, parental leaves and sick leaves disrupting coverage (at times, had 3-4 staff off at same time, half-staff for one of the largest snowstorms in the winter – due to split crews with staggered starts).</p>	

DWQMS Reference:	19 Internal Audits
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist. As noted in the Systems Audit report.
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Deanna: Completed internal audit with a desktop review this fall of all documented information.</p>	

DWQMS Reference:	20 Management Review
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist. As noted in the Systems Audit report.
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p><b>Note:</b> In discussion with Deanna, confirmed the team is planning to complete the next management review in December 2022 to technically meet the “calendar year” requirement and cover the information since the previous meeting (Feb. 2021). As this is approaching two “calendar years” – discussed the need to “reset” Management Reviews to their usual February timeframes (and <u>not skip 2022</u> altogether, as this would be a non-conformity).</p> <p>The QMS Rep could also lead December’s meeting (covering Feb. 2021 to Dec. 2022) with another Management Review following the completion of the draft A&amp;S Report (e.g. February timeframe) – which then reiterates December’s meeting notes (for 2022-specific information), summarizes any new information, and conducts a review of draft A&amp;S Report information for top management’s review / approval – prior it going to council (if the preference is to reset the timeframes for Management Reviews to earlier in the calendar year, as previously carried-out).</p> <p>The reason this is a “note” (rather than an OFI or NCR) is there was already an understanding of the root cause (temporary QMS Rep covering a maternity leave had left prior to the management review being completed in the usual timeframe, and the QMS Rep has since returned in September 2022 following a 16-month leave). Actions are already planned to prevent recurrence (e.g. QMS calendar of regular annual tasks); and plans to complete the “calendar year” activity within 2022 (and therefore, the management review wasn’t fully forgotten or missed altogether).</p>	

DWQMS Reference:	21 Continual Improvement
Client Reference:	Interviews with personnel as noted under Element 1 of this checklist. Systems Audit report by SAI Global, dated October 22, 2022
<p>Details: <i>(personnel interviewed, procedures, activities and records observed)</i></p> <p>Through interviews with personnel, auditor consistently noted evidence of continual improvement throughout this checklist (actions taken to address previous issues encountered and descriptions of plans to upgrade / improve moving forward).</p> <p>The Systems Audit report by SAI Global identified no non-conformities and the following OFI’s (<u>status updates are underlined in brackets</u>):</p> <ul style="list-style-type: none"> <li>• <b>Element 1:</b> To improve meeting the requirements of the Ministry’s <a href="#">latest Director’s Directions</a>, consider including a copy of the <a href="#">Subject System Description Form</a> in the OP and confirming that the OP version audited by the accreditation body is retained for 10 years. (<u>Subject System description form is available, will be linked within the OP for next audit</u>)</li> <li>• <b>Element 7 &amp; 8:</b> Section 8.5 of the PW-DWQMS-07 procedure and PW-DWQMS-FR6 checklist should now include “cybersecurity threats” as this hazardous event was added in spring 2022 as part of the <a href="#">MECP’s “Potential Hazardous Events...” document</a>. (<u>Planning to update with the next risk assessment update</u>)  The next risk assessment review should consider “cybersecurity threats” as this hazardous event was added in spring 2022 as part of the <a href="#">MECP’s “Potential Hazardous Events...” document</a>. (<u>Planning to update with the next risk assessment update</u>)</li> <li>• <b>Element 8 &amp; 15:</b> In PW-DWQMS-SOP5, consideration should be given to setting the CCL in line with the “acceptable disinfectant concentration” definition included in the Ministry’s <a href="#">2020</a></li> </ul>	

[Watermain Disinfection Procedure](#). (Have adopted the watermain disinfection procedure, included in the O&M manual – will ensure it is included in the SOP as well)

Also, consideration could be given to updating the form in Appendix 15D Chlorine Residuals Monitoring so that the reference to Combined Chlorine levels is in line with the “acceptable disinfectant concentration” definition included in the Ministry’s [2020 Watermain Disinfection Procedure](#). (Created the record in response to an audit / inspection finding – re: dead-ends, procedure for flushing at dead ends in the summertime, and the sheet was created to monitor that – in the distribution system procedure, includes the CCL’s that are in line with “acceptable disinfectant concentration” – the form helps track when adverses may occur and need reporting). Also discussed with distribution staff during this audit – see EI. 8 notes.

- **Element 11:** Consider describing in OP s.8.11 Personnel Coverage and/or PW-DWQMS-11 Personnel Coverage procedure the latest provisions and Ministry requirements in the use of “emergency substitute operators” as now more fully described in [O. Reg. 128/04](#) and [O. Reg. 129/04](#) (the links provided are to the Environmental Registry decision notices). (QMS Rep will review the updated requirements).
- **Element 17:** Consider updating s.8.2 of PW-DWQMS-17 to also reflect the calibration requirements specified in the MDWL’s Schedule C s.4.0 Calibration of CT Monitoring System. (This requirement is calibrated in line with this requirement – a list of equipment is included as part of the licence as well. QMS Rep is planning to cross-reference with the licence equipment listed. Includes a comment re: chlorine analyzers, turbidity analyzers, etc. – identifying the number for each)

Details regarding the personnel interviewed and objective evidence reviewed are maintained on file at SAI Global.

This report was prepared by:


Brigitte Roth  
SAI Global Management Systems Auditor

The audit report is distributed as follows:

- SAI Global
- Operating Authority
- Owner
- MECP

## Notes

Copies of this report distributed outside the organization must include all pages.

	<b>TOWN OF ARNPRIOR</b>	Policy No.	<b>PW-DWQMS-03</b>
	<b>Policy/Procedure/Document:</b>	Commitment and Endorsement Policy	
	<b>Originating/Responsible Department:</b>	Public Works Department	
	<b>Author:</b>	QMS Representative	
	<b>Approval Authority:</b>	Owner and Top Management	
	<b>Date of Original Procedure:</b>	October 1, 2009	
	<b>Date of Last Review/Edit:</b>	October 6, 2022	

## 1.0 POLICY

The Corporation of the Town of Arnprior has established a commitment and endorsement policy to fulfill the requirements of *The Drinking Water Quality Management Standard* (DWQMS).

## 2.0 PURPOSE

The Commitment and Endorsement policy was developed following the DWQMS Element 3 *Plan* and *Do* requirements.

## DWQMS Element 3 – Commitment and Endorsement Policy

**Plan** – The Operational Plan shall contain a written endorsement of its contents by Top Management and the Owner.

**Do** – Top Management shall provide evidence of its commitment to an effective Quality Management System by:

- ensuring that a Quality Management System is in place that meets the requirement of this Standard,
- ensuring that the Operating Authority is aware of all applicable legislative and regulatory requirements,
- communicating the Quality Management System according to the procedure for communications, and
- determining, obtaining or providing resources needed to maintain and continually improve the Quality Management System.

## 3.0 SCOPE

This policy applies to the Owner and Top Management of the Operating Authority.

## 4.0 RESPONSIBILITY

The Owner and Top Management of the Operating Authority shall be responsible for ensuring that the Quality Management System is implemented through their commitment and endorsement of the DWQMS.

## 5.0 DEFINITIONS

**DWQMS** – Drinking Water Quality Management System (DWQMS)

**Operating Authority** – person(s) or entity given responsibility by the owner for the operation, management, maintenance or alteration of the subject system.

**Operational Plan (OP)** – Document containing DWQMS policies and procedures

**Owner** – person(s) who is legal or beneficial owner of all or part of the system

**QMS** – Quality Management System

**Top Management** – person(s) at the highest management level within an operating authority

## 6.0 REFERENCES

DWQMS Element 5 – Ontario's Drinking Water Quality Management Standard Ver. 2.0  
Implementing Quality Management: A Guide for Ontario's Drinking Water Systems

## 7.0 CIRCULATION

The Owner and Top Management of the Operating Authority.

## 8.0 PROCEDURE

A draft copy of the written Commitment and Endorsement Policy shall be circulated to the Owner and Top Management of the Operating Authority. Upon comments and final revisions (if any), the Owner and Top Management of the Operating Authority shall approve and sign.

A hyperlink to the location in filehold with most recent signed version of the Commitment and Endorsement policy shall be maintained in section 9.0 below.

## 9.0 ATTACHMENTS

Appendix A – Commitment and Endorsement Policy

[Link to Signed Commitment and Endorsement Policy](#)

## 10.0 REVISION CONTROL

### Revision Control Sheet

Review Date	Revisions Issued	Effective Date	Reviewed By	Revised By
Dec 5, 2013	Edits to template. Addition of "is implemented through" to section 4.0 Edits to Policy Template Policy Re-Endorsed by current Top Management and Mayor (on behalf of Council)	Dec 5, 2013	GB	DS
Dec 2, 2015	Hyperlink to the location in filehold with the signed version of the endorsement policy added to the soft copy of the procedure (Section 9.0)	Dec 2, 2015	GB	DS
April 27, 2017	Updated hyperlink to most recent signed endorsement policy	April 27, 2017	JS	DS
Dec 8, 2017	Changed Dir of PW to GM of Operations	Dec 8, 2017	JS	DN
Apr 10, 2018	Added "Ver 2.0" to section 6.0 and updated link to April 4, 2018 signed version of Policy.	Apr 10, 2018	JS	DN
Oct 10, 2020	Updated link to signed version of endorsement policy	Oct 10, 2020	JS	DN
Oct 8, 2021	Updated hyperlink to the signed endorsement policy	Oct 12, 2021	JS	RF
Oct 6, 2022	Updated hyperlink to the signed endorsement policy	Oct 6, 2022	JS	DN

# APPENDIX A



## QMS Commitment and Endorsement Policy

The Owner and Top Management of the Operating Authority for the Corporation of the Town of Arnprior have reviewed the contents of this Operational Plan and endorse the Quality Management System.

The Operating Authority has:

- Ensured that the QMS meets the requirements of the standard
- Followed and is aware of the applicable legislative and regulatory requirements
- Communicated the QMS
- Determined, obtained and provided the necessary resources needed to maintain and continually improve the QMS

The Owner and Top Management acknowledge the need for and supports the provision of sufficient resources to implement, maintain and continually improve the QMS.

Top Management of the Operating Authority has reviewed the contents of the Operational Plan and has ensured that the QMS meets the requirements of the Drinking Water Quality Management Standard.

Top Management has ensured that the relevant members of the Operating Authority, such as the Waterworks Staff are aware of all applicable legislative and regulatory requirements surrounding the operation of a drinking water system and communicate the QMS according to the procedures outlined within the Operational Plan.

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Chief Administrative Officer

\_\_\_\_\_  
Date

\_\_\_\_\_  
General Manager of Operations

\_\_\_\_\_  
Date