



Ontario Clean Water Agency

Management Review Minutes

City of Kawartha Lakes Multi-Facility Plan

Issue Date: 28-Jan-22
Pages: 1 of 17

Reviewed by: *All attendees*

Approved by: Geoff Redden

Owner and Location: *The Corporation of the City of Kawartha Lakes*

Drinking Water System Name: *City of Kawartha Lakes Multi-facility Plan:*

Birch Point

Bobcaygeon

Canadiana Shores

Fenelon Falls

Janetville

King's Bay

Kinmount

Manorview

Mariposa Estates

Norland

Omeme

Pinewood

Pleasant Point

Southview Estates

Victoria Place

Western Trent/Palmina

Woodfield

Woodville

Review Period: *Nov 2020– Oct 2021*

Meeting Information/Introduction

Date/Time: December 8, 2021
8:30

Location: Remote - Skype

Attendees: Top Management: *Geoff Redden, Lynette Nicholson, Brent Martin, Jeremy Manning, Wes Henneberry*
QEMS Representative: *Cindy Coffin, Julie Mather, Julie Preslie*
Operator(s) for the DWS(s): *Katie Cooke, Sr. Operator-Mechanic, ORO South Cluster*

Regrets: Karen Lorente

Minutes Taken By: Julie Preslie

Introduction:

We acknowledge that we are on the traditional territory of the Anishinaabe Peoples. We wish to recognize the long history of First Nations and Metis Peoples in Ontario, and show respect to them today.

Safety Moment: Working with Power Tools

The purpose and objectives of the Management Review were reviewed as follows:

Purpose:

To evaluate the continuing suitability, adequacy and effectiveness of OCWA's QMS.



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Objectives:

The Management Review participants will review/discuss the standing agenda items and the data presented, identify deficiencies, make recommendations and/or initiate action plans to address identified deficiencies as appropriate.

The Management Review includes a review of the DWQMS operational plan, SAI audit report(s), OCWA internal audit report and other related operational documents/records as detailed in the meeting minutes. The information reviewed during the Management Review was provided/made available to attendees through a shared folder.

This meeting covers the standing agenda items for the DWSs noted above. Details of the discussion, any deficiencies identified, decisions made and applicable action items related to each standing agenda item are described under the appropriate item number within the following table.

The minutes from the previous Management Review November 25, 2020 are also reviewed. Any follow up on actions and/or additional actions required are detailed under item [a].

Meeting Minutes				
Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/Assigned To	Target Date
[a] [b]	<p>Follow-up on action items from previous Management Reviews and the status of management action items identified between reviews:</p> <p>The Implementation Action was reviewed and updated. Attached as Items [a][b]</p> <p>Carry forward action item: Omemees – new well connection This project was delayed due to COVID</p>	<p>1st stage complete May 2021; 2nd stage is connection – revise target date to Dec 2022.</p>	<p>South SOM</p>	<p>31-Dec-22</p>



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	Canadian Shores – investigate NSF 53 filter replacements	Regulatory relief provided until Dec 31, 2023. Additional monitoring on-going.	South SOM/PCT	Ongoing
	Pleasant Point – investigate NSF 53 filter replacements	Regulatory relief provided until Dec 31, 2023.	South SOM	Ongoing
	Multiple facility project to install VFDs on high lift pumps and high lift replacements – Janetville, Mariposa Estates, Omemee, Woodfield, Woodville – O&M Manuals and drawings need updating.	O&M Manuals and drawings need updating.	South SOM	Ongoing
	Shared drive – staff sometimes struggle to find documents and records on the electronic shared drive.	Shared drive – staff sometimes struggle to find documents and records on the electronic shared drive.	General Manager & SPC Mgr	Ongoing
	Fenelon Falls – THMs & HAAs have come down, still working on UVs and UVT.	Working on UVT monitoring and programming adjustments – meeting in Dec 2021 with M. Snider. Once UVT on track switch to using UV as primary.	North SOM/PCT/Operations	Ongoing
	Fenelon Falls - Aluminum levels in treated water fluctuates seasonally with levels above OG during the summer months. Process optimization through possible alkalinity adjustments, initiated jar testing to mitigate fluctuations in treated water aluminum levels.	WCWC study initiated in August of 2021. Study includes seasonal affects on raw water quality and treatment; testing of various coagulants; optimize coagulant dosing. Study to continue through 2022.	North SOM/PCT/Operations	31-Dec-22
[c]	Incidents of regulatory non-compliance:			



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	Monthly meetings with owner to discuss regulatory non-compliances, see CKL Monthly Meeting Minutes S:\everyone\DWQMS\Management Review\CKL Summary table provided as attachment item [c]. Refer to Element 21.	Complete		
[d]	Incidents of adverse drinking water tests: Monthly meetings with owner to discuss AWQIs, see CKL Monthly Meeting Minutes S:\everyone\DWQMS\Management Review\CKL Summary table provided as attachment item [d]. Refer to Element 21.	Complete		
[e]	Deviations from Critical Control Point limits and response actions: CCPs are reviewed monthly when day sheets provided to PCTs. North Cluster: No trends for Fenelon Falls, Kinmount, Norland and Western Trent. Fenelon Falls UV not in use yet.	Noted		
	Central Cluster: Bobcaygeon – filter effluent turbidity 19 in total 11 due to faulty analyzer and has been addressed.	Noted		
	South Cluster: Canadiana Shores DWS – 2 low Cl2 – addressed	Noted		



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	Janetville DWS – no trends observed King's Bay DWS – 1 low Cl2 – addressed Manorview DWS – 17, majority due to UV and maintenance – addressed Mariposa Estates DWS – 5 low Cl2 – addressed Omeme DWS – no trends observed Pinewood DWS – 1 low Cl2 – addressed Pleasant Point DWS – 55, majority due to UV and maintenance – addressed Woodfield DWS – 4 low Cl2 - addressed			
[f]	Effectiveness of the risk assessment process: 36 month risk assessment review completed in January & March of 2021. Procedure was reviewed prior to SAI-Global on site audit found to be effective. The assumptions, likelihood, and consequence used in the assessments were found to be effective.	Complete		
[g]	Internal and third-party Audit results: Third-party Audit SAI-Global completed a third party audit on site audit May 25 – 28, 2021. Two OFIs were identified. Audit reports attached as item [g].			



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	<p>Element 5 Document and Record Control OFI: Consider requesting a Certificate of Destruction from the shredding company for any record destruction being performed.</p> <p>Element 17 Measurement and Recording Equipment Calibration and Maintenance OFI: Consider adjusting SOP wording around making adjustments to turbidity analyzers based on hand-held device readings</p> <p>SOP was revised July 26, 2021 to Online Regulatory Analyzer Calibration/Verification and Adjustment SOP Rev 1.</p>	<p>Going forward ensure Business Manager is aware of need for destruction document.</p> <p>Completed 26-Jul-21</p>	General Manger	31-Dec-21
	<p>Internal Audit Completed September 29, 2021 with the report issued October 22, 2021, report attached as item [g]. Five OFIs identified as follows:</p> <p>Element 3 Commitment and Endorsement OFI Consider re-endorsing plan as various drinking water systems have process changes and two systems are no longer included in this OP. Additionally, one of OCWA's top management representatives has changed.</p>	<p>Completed November 2021.</p>		



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	Element 5- Documents and Record Control OFI: Consider revising OP-05A daily round sheets control location as hard copies are maintained at the water treatment plants and electronic scanned copies are stored on the shared drive. Additionally, consider consolidating the scanned daily round sheets to one location on the shared drive.	Revise OP-05A to include electronic copy on shared drive.	PCT	31-Mar-22
	Element 5- Documents and Record Control OFI: consider updating OP-05A (QEMS Records) for the Facility Operations Logbook(s) to include an electronic location since OCWA has moved from paper logbooks to electronic logbooks.	Revise OP-05A to include electronic copy for log books.	PCT	31-Mar-22
	Element 6- Drinking Water System Omeme - consider confirming the depth of Well 1 as OP description and DWWP have different depths listed.	Confirm depth of Well 1.	PCT	31-Mar-22



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Item #	Documentation Reviewed/Discussion Points/Issues Raised/Action Taken to Date /Decisions Made	Actions Identified during Management Review	Responsibility/Assigned To	Target Date												
	<p>Groundwater Wells</p> <p>Well No. 1</p> <table><tr><td>Description</td><td>Drilled groundwater production well</td></tr><tr><td>Type</td><td>Non-GUDI</td></tr><tr><td>Location</td><td>18 Shawn Avenue, Omemee</td></tr><tr><td>UTM Coordinates</td><td>NAD83, UTM Zone 17, 693218.00 m E, 4907799.00 m N</td></tr><tr><td>Dimensions</td><td>159 mm inside diameter steel casing, 11.89 m deep</td></tr><tr><td>Equipment</td><td>Submersible well water pump is rated at 2.30 L/s against 12 m T pump intake set at 10 m below ground level</td></tr></table> <p><u>Well #1</u> Well #1 is currently out of service due to high turbidity and is not being used as a well. Well records report the well is 13.1 m deep, 159 mm in diameter, and the well is equipped with a submersible well pump.</p> <p>Element 21 – Continual Improvement OFI: Consider adding another column to CKL Summary Table of Action Items that will easily identify the facility included on the document.</p>	Description	Drilled groundwater production well	Type	Non-GUDI	Location	18 Shawn Avenue, Omemee	UTM Coordinates	NAD83, UTM Zone 17, 693218.00 m E, 4907799.00 m N	Dimensions	159 mm inside diameter steel casing, 11.89 m deep	Equipment	Submersible well water pump is rated at 2.30 L/s against 12 m T pump intake set at 10 m below ground level	<p>Instead of an additional column the facility name will be included in the Description of Issue/Non-Conformance or Finding/Recommendation column.</p>	<p>PCTs</p>	<p>31-Dec-21</p>
Description	Drilled groundwater production well															
Type	Non-GUDI															
Location	18 Shawn Avenue, Omemee															
UTM Coordinates	NAD83, UTM Zone 17, 693218.00 m E, 4907799.00 m N															
Dimensions	159 mm inside diameter steel casing, 11.89 m deep															
Equipment	Submersible well water pump is rated at 2.30 L/s against 12 m T pump intake set at 10 m below ground level															
[h]	<p>Results of emergency response testing: Testing conducted by each Cluster. CP-05 Unsafe Water North Cluster tested Oct 19, 2021 South Cluster tested Dec 1, 2021 Central Cluster tested Oct 14, 2021</p> <p>Scenario Raw source water contamination.</p>	<p>Add source water protection plans to related documents in CP.</p>	<p>PCTs</p>	<p>31-Mar-22</p>												



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	<p>Related documents could include source water protection plans.</p> <p>Could include reference to electronic log books.</p> <p>2022 test scheduled for Cluster Meetings in September.</p>			
[i]	<p>Operational performance:</p> <p>Monthly CKL meetings review operational performance of the 18 water treatment plants. During these meetings facility issues and trends are discussed and acted upon as required. Copies of the monthly reports are on the shared drive: S:\everyone\CKL Monthly Reports. Meeting minutes are S:\everyone\DWQMS\Management Review.</p> <p>All CKL Asset Management Plan 10 year capital plan – draft for the end of this year</p> <p>North Cluster</p> <p>Fenelon Falls – VFD added to one high lift to help maintain pressure</p> <ul style="list-style-type: none">- WCWC – working on coagulant optimization- Particle counters replaced	Noted		



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	Kinmount - VFDs installed on remaining high lift pumps and high lift pumps replaced. <ul style="list-style-type: none">- Composite sampler replaced	Noted		
	Norland VFDs installed on remaining high lift pumps and high lift pumps replaced. <ul style="list-style-type: none">- Composite sampler to be replace	Noted		
	Western Trent - NSF 53 filters running out of stock, applying for relief <ul style="list-style-type: none">- Replacement planned for well pump	Noted		
	South Cluster			
	Omeme DWS – Well #3, project was on-hold due to COVID-19 Pandemic, moving forward in stages, Phase 1 to be completed by May 1, 2022.	Noted		
	Canadiana Shores DWS – continue to investigate other treatment options to possibly replace the cartridge filters	Noted		
	Janetville DWS – replacing pressure tanks, eyewash station installation	Noted		
	Canadiana Shores DWS - backwash pump replacement	Noted		



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	Woodfield DWS – piping replacement	Noted		
	Pleasant Point DWS – electrical panel upgraded	Noted		
	Pinewood DWS – CKL Capital project for new well #5 and replacement piping. Following up with CKL on status and reporting i.e. DNF	Noted		
	Mariposa Estates DWS – replaced nitrate removal system	Noted		
	Central Cluster			
	Bobcaygeon – Filter turbidity analyzer replacement upcoming. Completed water tower capital project. Procurement for new PLC in progress.	Noted		
	Woodville – Water standpipe capital project nearing completion.	Noted		
	Southview Estates – Completed filter media replacement, and filter turbidity analyzer replacement. New LLP install ongoing.	Noted		
[1]	Raw water supply and drinking water quality trends:			



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	<p>Flows, raw and treated water quality are reviewed monthly and documented in the CKL Monthly Reports. Water quantity and quality have been consistent.</p> <p>Raw water assessments completed for MDWL renewals in 2021.</p> <p>Central Cluster</p> <p>Bobcaygeon and Southview - Microcystin raw water samples show results consistently below the MDL.</p> <p>Southview – THMs elevated, possible to be over limit Q4 2021. HAAs are elevated but below limit.</p> <p>Southview – Raw water TOC/DOC has been steadily increasing – will need to be monitored as it relates to THM production.</p> <p>North Cluster</p> <p>Fenelon Falls – THMs and HAAs have decreased although most recent results have been trending upwards. Meeting scheduled for Dec 10, 2021 to review SCADA and UVT monitoring. Anticipate changes to programming for UVT will allow for UVs to be used for primary disinfection and chlorine</p>	<p>Noted</p> <p>Noted</p> <p>Noted</p> <p>Continue monitoring effectiveness of upgrades to primary and secondary disinfection.</p> <p>Process optimization through possible alkalinity adjustments, initiated jar testing to mitigate fluctuations in treated water aluminum levels.</p>	<p>North Ops Mgr. / PCT/Operations</p> <p>North Ops Mgr. / PCT/Operations</p>	<p>Ongoing</p> <p>31-Jul-22</p>



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	dosing to reduce which will help lower THM and HAA concentrations. Aluminum levels in treated water fluctuates seasonally with levels above OG during the summer months. Currently engaged in process optimization study with WCWC. Initial study results involving coagulant dosing indicate an increase in dosing should be considered. Study also includes testing of alternative coagulants with one of these showing some promise. WCWC study			
	Kinmount & Norland – THMs and HAAs elevated – Kinmount to conduct additional sampling before the end of 2021.	Noted		
	Western Trent – THMs and HAAs have remained consistent.	Noted		
	South Cluster			
	THMs & HAAs consistently low at all sites.	Noted		
	Well cleaning program appears to have alleviated any increased levels of iron and/or turbidity in South wells i.e. Pleasant Point – higher turbidity in 2017, well cleaned and turbidity decreased.	Noted		



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	Mariposa Estates DWS– nitrate removal system replaced, working very well, nitrate levels remaining steady in the wells.	See item [i] above.		
	Overall there appears to have been no significant changes to the raw water sources or the drinking water quality.			
[k]	<p>Changes that could affect the QEMS:</p> <p>Winter snow ploughing Insurance concerns about sanding and salting around well heads has impacted procurement of winter ploughing contractors. As a trial will complete snow ploughing in house. O&MTL for each cluster will be primary snow removal person. If this impacts the ability of meeting operational commitments, will look into a fixed term employee to assist or a contractor as needed. Operators are to sand their facilities but can call a reasonably priced contractor if needed at their discretion.</p> <p>Value for Money Audit Operation staff assignments based on historical numbers and are not assessed based on current workloads.</p>	<p>Monitor effectiveness of in house snow removal program.</p> <p>Review current work assignments.</p>	<p>General Manager, SOMs</p> <p>General Manager, SOMs</p>	<p>30-Jun-22</p> <p>31-Mar-22</p>



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	General Manager indicated that workloads are on Management's radar.			
[l]	Consumer feedback: Consumer complaints are reported monthly to the owner at the monthly CKL meetings. Meeting minutes are S:\everyone\DWQMS\Management Review. Copies of monthly reports are on the shared drive: S:\everyone\CKL Monthly Reports. Any issues identified are promptly responded to.	None		
[m]	Resources needed to maintain the QEMS: Maintain adequate staffing – see Value for Money Audit Ensure training of staff. – look into some local training i.e. jar testing, WCWC	Ongoing Ongoing	Sr. Ops Managers SPC Manager	Ongoing Ongoing
[n]	Results of the infrastructure review: 2022 Capital Budget as provided to the owner is included as attachment item [n]. An infrastructure review is conducted monthly via meetings with CKL and adjusted accordingly. Additionally quarterly meetings with CKL Capital Group are helping.	Meet monthly with CKL. Review forecasts/approved budgets at Cluster meetings.	SOMs, General Manager SOMs	Ongoing Ongoing



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	Discussed the process of conducting a review of the drinking water systems infrastructure to assess its adequacy for the operation and maintenance of the system.			
[o]	Operational Plan currency, content and updates: The Plan to include the action items identified in [g] and other action items from this review where applicable.	See [g]		
[p]	Staff suggestions: South Cluster – health and safety training: suggest a weekly meeting to aid staff with completing the necessary hours. It would be beneficial to have the various OCWA programs more integrated i.e. Maximo, WISKI, eRIS.	Schedule weekly health and safety training for South staff. As part of OCWA's Business Transformation Program, the intention is to strengthen OCWA's various programs. This will be ongoing over the next several years.	South SOM & PCT Corporate	30-Jun-22 Ongoing
[q]	Review/consideration of any applicable Best Management Practices (BMPs): Refer to table CKL Element 21 Summary Table of Action items attached as Item [q].			



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Details of next Management Review meeting:

Next Meeting: 2022



CKL Multi-Facility Operational Plan Water Treatment

25-Nov-20 Management Review Implementation Action Plan

Issued: 31-Mar-21

Updated: 15-Apr-21; 8-Dec-2021

The following table is an optional tool to assist with tracking action items that are identified in the Management Review meeting as requiring follow-up.

Action Required	Assigned To	Target Date	Comments/Status
1 Incidents of regulatory non-compliance			
2 Incidents of adverse drinking water tests			
3 Deviations from critical control limits and response action			
Central: Bobcaygeon filter effluent from Nov 2019 to March 2020. Actions taken to mitigate alarms included clarifier cleaning, sodium hypo soak on filters, and addition of chlorine to filter backwash water. Media has been sampled to investigate other potential treatment. Continue with filter performance optimization.	Central SOM	30-Jun-21	Complete – VFDs installed to control flow allowing for more gradual controlled flow to filters; distribution system leaks repaired thereby reducing water loss; request for further engineering studies in progress.
4 Effectiveness of the risk assessment process			
Conduct 36 month risk assessment review prior to March 2021.	PCTs/SOMs/ Operations Staff	20-Jan-21	Reviews completed between Jan – Mar 2021. PCTs & SPC Mgr met 31-Mar-21 to review and discuss.
5 Internal and third-party audit results			
External Audit			
Element 8 Risk Assessment			

Action Required	Assigned To	Target Date	Comments/Status
OFI Element 8: Consider calculating risk value for hazardous events not a CCP such as structure failure for Mariposa Estates and structure failure for Omemee.	This OFI will be considered during the 36 month Risk Assessment scheduled for 2021.	31-Mar-21	Complete – reviewed on 31-Mar-21 as part of 36 month Risk Assessment
6 Follow-up on action items from previous Management Reviews			
Consideration of an SOP for situations when alarm setpoints are temporarily altered for maintenance, etc.	PCTs	30-Sep-21	Electronic log books project being implemented in 2021 will allow for information on temporary alterations of alarm set points to be highlighted and readily identified for operations staff.
Consideration of an SOP for alarm bypassing. Contact other regions for information.	SOMs & SPC Mgr.	30-Jun-21	Complete – determined SOP not required as all alarm bypasses through Trent Security >24hours require SOM approval.
Omemee – new well connection This project was delayed due to COVID. It will be going for tender in the new year.	South SOM	31-Dec-21 31-Dec-22	1 st stage complete May 2021; 2 nd stage is connection – revise target date to Dec 2022.
Multiple facility project to install VFDs on high lift pumps and high lift replacements – Janetville, Mariposa Estates, Omemee, Sonya, Woodfield,	South SOM	Ongoing	

Action Required	Assigned To	Target Date	Comments/Status
Woods of Manilla, Woodville – O&M Manuals and drawings need updating. Ongoing from 2020.			
Bobcaygeon – tower recoating This project was delayed due to COVID.	Central SOM	31-Dec-21	Complete November 23, 2021
7 Operational Performance			
Fenelon Falls – standpipe structural assessment. Tender package to be completed.	North SOM	01-Jul-21	Inspection and cleaning completed Nov 2021, waiting for report - Complete
Omemee – new well connection (carry forward item included in item [a][b])	South SOM	31-Dec-21	As above in 6.
Mariposa Estates – investigate replacing nitrate removal system	South SOM	Q1 2021 Revised to Q2 2021	Complete
Canadian Shores – investigate NSF 53 filter replacements	South SOM/PCT	31-Dec-21 Ongoing	Ongoing, regulatory relief provided until Dec 31, 2023. Additional monitoring on-going.
Pleasant Point – investigate NSF 53 filter replacements	South SOM/PCT	31-Dec-21	Ongoing, regulatory relief provided until Dec 31, 2023.
Multiple facility project to install VFDs on high lift pumps and high lift replacements – Janetville, Mariposa Estates, Omemee, Sonya, Woodfield, Woods of Manilla, Woodville – O&M Manuals and drawings need updating.	South SOM	31-Dec-21	Ongoing as above in 6.

Action Required	Assigned To	Target Date	Comments/Status
Bobcaygeon – installation of VFDs	Central SOM	31-Jan-21	Complete
Victoria Place – investigate high flows	Central SOM/Owner	Q1 2021	Leaks repaired in distribution system flows have been good since Q3 2021 - complete
Woodville – standpipe structural assessment – tender package to be completed.	Central SOM	01-Jul-21	Complete. Has been assessed. Work complete and tower online as of December 17, 2021
8 Changes that could affect the QEMS			
Training impacted by pandemic. Training being provided virtually, webinars etc. EC Mandatory training unavailable due to pandemic. Follow up with corporate on potential date for EC101 training availability - revise OP to reflect current status of mandatory EC 101 training.	SPC Mgr/PCTs	31-Dec-20 30-Apr-21	Corporate email of 17-Dec-20 indicates the training team has been working to convert the mandatory courses to a virtual classroom format and will continue focusing much of their attention in the first couple months of 2021 on getting those courses developed and ready for delivery. Online/virtual training established in 2021 – complete no revision to OP required.
Birch Point to join Central Cluster from South Cluster. Central SOM & staff to tour site.	Central SOM & South SOM	01-Jan-21	Complete – February 1, 2021
9 Consumer Feedback			
10 Resources needed to maintain the QEMS			

Action Required	Assigned To	Target Date	Comments/Status
Maintain adequate staffing.	Sr. Ops. Mgr.	Ongoing	
Ensure training of staff.	SPC Manager	Ongoing	
11 Results of Infrastructure Review			
An infrastructure review is conducted monthly via meetings with CKL and adjusted accordingly. Meet monthly with CKL.	SOMs, General Manager	Ongoing	
Discussed the process of conducting a review of the drinking water systems infrastructure to assess its adequacy for the operation and maintenance of the system. Review forecasts at Cluster meetings.	SOMs	Ongoing	
12 Operational Plan currency, content, updates			
13 Staff Suggestions			
Shared drive – staff sometimes struggle to find documents and records on the electronic shared drive.	General Manager & SPC Mgr	30-June-21 Ongoing	Meeting schedule for Dec 10, 2021.
14 Review/consideration of any applicable Best Management Practices (BMPs)			
Schedule quarterly meetings to review status of action items identified in Element 21 Summary Table.	PCTs	Q1 2021	Meeting held 31-Mar-21
15 Results of Emergency Plan Testing			
Review COVID CP with Regional Manager.	SPC Manager	31-Jan-21	Complete 21-Dec-20 – revisions to

Action Required	Assigned To	Target Date	Comments/Status
			screening tool with enhancements made to ensure clarity to the requirements for when staff are required to self-isolate and not enter the workplace.
16 Raw water supply and drinking water quality trends			
Victoria Place – Well 3 showing TC in 2019 – well taken offline, chlorinated, sampled and return to use. No TC results in 2020. Continue to monitor Well 3.	PCT/Operations	Ongoing	Complete - TC results in 2021 were good
Fenelon Falls – THMs continue to exceed limit. HAAs exceeded limit. CT had to be increased contributing to the high levels. Upgrades to include UV for primary disinfection and chloramination for secondary completed in Oct 2020. Anticipate lower results for THMs and HAAs going forward. Continue monitoring effectiveness of upgrades to primary and secondary disinfection.	North SOM/PCT/Operations	Ongoing	THMs & HAAs RAA dropped below limits in 2021. Working on UVT monitoring and programming adjustments – meeting in Dec 2021 with M. Snider. Once UVT on track switch to using UV as primary.
Fenelon Falls - Aluminum levels in treated water fluctuates seasonally with levels above OG during the summer months. Process optimization through possible alkalinity adjustments, initiated jar testing to mitigate fluctuations in treated water aluminum levels.	North SOM/PCT/Operations	31-Dec-21 31-Dec-22	WCWC study initiated in August of 2021. Study includes seasonal affects on raw water quality and treatment; testing of various coagulants; optimize coagulant dosing. Study to continue through 2022.

NOTES:

Incidents of regulatory non-compliance – Attachment Item [c]

For the review period of November 26, 2020 to October 31, 2021:

Facility	2019	2020	2021	Non-compliance	Corrective Action(s)	Status
Birch Point	0	0				2021-2022 Inspection not yet begun
Bobcaygeon	0	0	0			
Canadiana Shores	0	1	0			
Fenelon Falls	0	1		<p>2020 CIR: Continuous monitoring of each filter effluent line was not being performed for turbidity. During the inspection review it was identified that on June 29, 2020 from 11:05 am – 11:53 am the filter turbidity was not being tested and recorded at the required intervals for each of the filter trains. It was explained that during this period the plant was undergoing electrical upgrades and the electrical panel that controls this section of the plant was shut down for the electrician. As this electrical panel also controlled the clearwell level sensor it resulted in a zero level reading, which caused the lowlift pumps to start and send water through the filters.</p>	<p>Process water directed through filters and to clearwell when filter effluent turbidity analyzers were off during electrical work for plant upgrades.</p> <p>Lowlift pump lockout programmed into the plant's SCADA system. - COMPLETE</p>	2021 MECP Inspection started Nov 23, 2021
Janetville	0	0	0			
King's Bay	0	0	(0)			Waiting on final CIR to be issued (Dec. 7, 2021)

Facility	2019	2020	2021	Non-compliance	Corrective Action(s)	Status
Kinmount	0	0	1	Operators were not examining continuous monitoring test results or they were not examining the results within 72 hours of the test. The 72 hour trend review was performed outside of the 72 hour window. The trends were reviewed on Thursday April 1, 2021 and they were not reviewed again until April 6, 2021.	72 hour review missed on Easter Long Weekend. MECP notified upon discovery. Additional training provided at Cluster meeting.	Complete
Manorview	0	0	0			
Mariposa Estates	2	0	0			
Norland	0					2021 MECP Inspection has not started
Omemee	1	0	0			
Pinewood	0	0	0			
Pleasant Point	0	0				2021 MECP Inspection started Nov. 30, 2021
Southview Estates	1	0				2021/2022 MECP Inspection started November 10, 2021
Victoria Place	0	0	1	<u>Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?</u> Operators were not examining continuous monitoring test results or they were not examining the results within 72 hours of the test. The 72	Additional training on 72 hour review requirements was provided to operational staff on August 19, 2021. Minutes from that meeting have been submitted to the Ministry. No further corrective actions are required at this time.	

Facility	2019	2020	2021	Non-compliance	Corrective Action(s)	Status
				hour trend review was performed outside of the 72 hour window. The trends were reviewed on Monday July 26, 2021 between 12:27 and 13:48 and they were not reviewed again until July 29, 2021 at 14:30.		
Western Trent	0	0		Operators were not examining continuous monitoring test results or they were not examining the results within 72 hours of the test. The 72 hour trend review was performed outside of the 72 hour window. The trends were reviewed on Thursday April 1, 2021 and they were not reviewed again until April 6, 2021.	72 hour review missed on Easter Long Weekend. MECP notified upon discovery. Additional training provided at Cluster meeting.	Complete
Woodfield	0	0	0			
Woodville	0	0	0			

Incidents of Adverse Water Quality - Attachment Item [d]

For the review period of November 26, 2020 to October 31, 2021:

Facility	AWQI Date	AWQI #	AWQI	Corrective Action(s)	Status
Birch Point	N/A				
Bobcaygeon	February 9, 2021	153541	Loss of continuous monitoring – filter turbidity caused by sensor failure	Sensor replaced. Analyzer had been setup to alarm on low and low low settings (0.00) which have at least a 4ma signal. The loss of sensor created a ma signal less than 4ma, which the analyzer/SCADA had no way to interpret and therefore alarm. Made analyzer change to the 4-20ma signal, to drop below 4ma if the analyzer malfunctions. The SCADA recognizes the <4ma signal as an analyzer failure.	Complete
Canadiana Shores	Sep. 1, 2021	155328	DW sample 6 TC, 0 EC (84 Hillside)	Flush and resample. Resamples came back clear.	Complete
	Sep. 8, 2021	155426	DW sample 23 TC, 0 EC (109 Bowen)	Partial system BWA issued. Flush and 2 sets of resamples. All resamples came back clear.	Complete
Fenelon Falls	Jan 2021 Apr 2021 July 2021	153366 153818 154540	THMs RAA 119.2ug/L 106.9ug/L 101.2ug/L	Upgrades to UV & chlorine for primary disinfection and chloramination for secondary disinfection completed in October 2020, review results post implementation to determine effectiveness. Resolved Oct 6, 2021.	Complete

Facility	AWQI Date	AWQI #	AWQI	Corrective Action(s)	Status
	Jan 2021	153365	HAA's RAA 81.34	As above, upgrades completed review results post implementation to determine effectiveness. Resolved April 8, 2021	Complete
Janetville	N/A				
King's Bay	N/A				
Kinmount	N/A				
Manorview	N/A				
Mariposa Estates	N/A				
Norland	Apr 9, 2021	153838	Reported by CKL - Leak was found on service for #7 Government Dock Road, Norland. It was determined that a 6" watermain crosses the Water plant property through #7 Government Dock Road and "T"s off to service both #5 & #7 Government Dock Road. The leak was found to be on both service saddles. The valve located outside the water treatment plant that services this watermain (only	BWA, CKL distribution repaired leak and sampled.	Complete

Facility	AWQI Date	AWQI #	AWQI	Corrective Action(s)	Status
			servicing the two properties), was shut off on April 8th. The adverse was reported due to size of watermain and duration of the shutdown and potential for contamination due to leak and loss of pressure.		
Omeme	N/A				
Pinewood	N/A				
Pleasant Point	N/A				
Southview	August 24, 2021	155228	4TC, 4EC in Distribution System	Water mains were flushed, chlorine dosage at the treatment plant was increased, and DW bacti resamples were taken at the adverse location SH#5 and upstream/ downstream sample locations (SH#2 and SH#1). A Boil Water Advisory was issued by HKPR Inspector Rajesh Singh and notices were distributed to residents on August 24, 2021. 2 sets of bacti samples were collected at least 48 hours apart returned 0/0. The BWA was rescinded by HKPR Inspector on August 27, 2021 and rescind notices	Complete

Facility	AWQI Date	AWQI #	AWQI	Corrective Action(s)	Status
				were distributed to residents that day.	
	October 5, 2021		Q3 2021 Distribution THM Exceedance – RAA 104.16	Action Taken: - Established a THM Preventative Maintenance Flushing Standard Operating Procedure - Continue routine Jar Testing for coagulant dose monitoring - Continue sampling for TOC/DOC to monitor organics - Continue with lowered clearwell volume to reduce detention time - Continue with lowered chlorine residual - Continue to rotate highlifts to promote better mixing of clearwell	Ongoing
Victoria Place	N/A				
Western Trent	N/A				
Woodfield	N/A				
Woodville	N/A				

Audit Report

Re Accreditation Audit for

Ontario Clean Water Agency for the City of Kawartha Lakes

1634181-02

Audited Address: 322 Kent Street, Lindsay, Ontario, CAN, K9V 5R8

Start Date: May 25, 2021 End Date: May 28, 2021

Type of audit - Verification Audit via Remote Technology

Issue Date: May 28, 2021

Revision Level: *Final*

Audit Report**BACKGROUND INFORMATION**

SAI Global conducted an audit of Ontario Clean Water Agency for the City of Kawartha Lakes beginning on May 25, 2021 and ending on May 28, 2021 via Remote Technology to DRINKING WATER QUALITY MANAGEMENT STANDARD VERSION 2 - 2017.

The purpose of this audit report is to summarise the degree of compliance 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 compliance 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.

Standard: DRINKING WATER QUALITY MANAGEMENT STANDARD VERSION 2 - 2017

Scope of Certification: Full Scope – Entire DWQMS

Drinking Water System Owner: City of Kawartha Lakes

Operating Authority: Ontario Clean Water Agency

Owner: City of Kawartha Lakes

Population Served: 11665

Activities: Treatment

Drinking Water Systems

- Birchpoint Estates Drinking Water System (license # 141-109)
- Bobcaygeon Drinking Water System (license # 141-105)
- Canadiana Shores Drinking Water System (license # 141-112)
- Fenelon Falls Drinking Water System (license # 141-104)
- Janetville Drinking Water System (license # 141-111)
- Kings Bay Drinking Water System (license # 141-119)
- Kinmount Drinking Water System (license # 141-121)
- Manorview Drinking Water System (license # 141-118)
- Mariposa Estates Drinking Water System (license # 141-117)
- Norland Drinking Water System (license # 141-103)
- Omeme Drinking Water System (license # 141-108)
- Pinewood Drinking Water System (license # 141-110)
- Pleasant Point Drinking Water System (license # 141-113)
- Southview Drinking Water System (license # 141-101)
- Victoria Place Drinking Water System (license # 141-114)
- Western Trent/Palmina Drinking Water System (license # 141-102)
- Woodfield Drinking Water System (license # 141-116)
- Woodville Drinking Water System (license # 141-115)

Total audit duration: Person(s): 1 Day(s): 3.25

Audit Team Member(s): Team Leader Paul Cartlidge

Audit Report

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 Report

Audit Type and Purpose**Verification Audit via Remote Technology:**

An audit utilizing Remote Technology (Webex online meeting for interviews, document review, tour of facilities, e-mail of documents, photographs) 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 & Climate Change (MOECC) 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 Report

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. 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

Changes to the Operating Authority since last audit include: OCWA transitioned their Hub office from Bobcaygeon to Lindsay at the request of the City in 2019. 2 systems previously operated by OCWA (Sonya Village and Manilla) for the Treatment portion are now being operated by the City as of March 2021.

Audit Report

EXECUTIVE OVERVIEW

Based on the results of this 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 certification identified in this report; therefore, a recommendation for continued certification will be submitted to SAI Global review team.

Recommendation

Based on the results of this audit it has been determined that the management system is effectively implemented and maintained and meets the requirements of the standard relative to the scope of certification identified in this report; therefore, a recommendation for continued certification will be submitted to SAI Global review team.

Opportunities for Improvement:

The following opportunities for improvement have been identified.

- Element # 5 - Consider requesting a Certificate of Destruction from the shredding company for any record destruction being performed.
- Element # 17 – Consider adjusting SOP wording around making adjustments to turbidity analysers based on hand-held device readings

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 systems operational plan was reviewed and found to be in conformance with the requirements of the standard.

Management Review

Records of the most recent management review meetings were verified and found to meet the requirements of the standard. All inputs were reflected in the records, and appear suitably managed as reflected by resulting actions and decisions.

Internal Audits

Internal audits are being conducted at planned intervals to ensure conformance 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.

Audit Report**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	Conforms
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
Major NCR #	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.
Minor NCR #	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.
OFI	Opportunity for improvement. Conforms to requirement, but there is an opportunity for improvement.
Conforms	Conforms to requirement.
NANC	Not applicable/Not Covered during this audit.
****	Additional comment added by auditor in the body of the report.

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

DWQMS Reference:	1 Quality Management System
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-01 Quality & Environmental Management System, rev. 1, 07-Apr-21
Details: Documented Quality Management System described in the City of Kawartha Lakes Multi Facility Operational Plan. Reviewed and accepted.	

DWQMS Reference:	2 Quality Management System Policy
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-02 Quality & Environmental Management System Policy, rev. 0, 31-Aug-18
Details: Policy Statement describes the Quality Management System – reviewed and accepted. Policy statement was revised and approved by OCWA Board of Directors on April 6, 2016. Reviewed and accepted.	

DWQMS Reference:	3 Commitment and Endorsement
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-03 Commitment and Endorsement, rev. 0, 31-Aug-18
Details: Appendix OP-03A contains written endorsement of the Operational Plan signed by OCWA representatives in October 2020 and City of Kawartha Lakes Manager of Environmental Services and Director of Public Works in November 2020. Reviewed and accepted. Through interviews of staff and observations via Webex and documents pertaining to the other requirements of the DWQMS, Top Management has demonstrated evidence of the commitment to the Quality Management System.	

DWQMS Reference:	4 Quality Management System Representative
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-04 Quality & Environmental Management System (QEMS) Representative, rev. 0, 31-Aug-18
Details: The role of QEMS Representative for the CKL DWS is shared between the Kawartha Hub Process and Compliance Technicians (PCT). The Safety, Process and Compliance Manager will act as an alternate QEMS Representative when required. Reviewed and accepted. Through interviews of staff and observations via Webex and documents, the QMS rep maintains procedures needed for the QMS, management reports, training of personnel and promotion of the QMS.	

DWQMS Reference:	5 Document and Record Control
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-05 Document and Records Control, rev. 13, 31-Aug-18
Details: Procedure OP-05 Document and Records Control Procedure contains instructions for documents and records control. Reviewed and accepted. File locations on the OCWA server viewed and updates made to Disinfection of Drinking Water System Components Form, rev. 1 reviewed. Server is backed up daily (viewed records for May 2021). On-site procedure and record storage locations viewed and records are adequately protected in the Treatment Plant. Hard copy record destruction is being completed according to retention periods specified in OP-05 (viewed entries on Record Retention Log for August 2019)	
Opportunity for Improvement – Consider requesting a Certificate of Destruction from the shredding company for any record destruction being performed.	

Audit Report

DWQMS Reference:	6 Drinking Water System
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-06 Drinking Water System, rev. 1, 07-Apr-21 and associated system descriptions
<p>Details: Contents of Drinking Water System Descriptions reviewed and accepted for all systems including:</p> <ul style="list-style-type: none"> • OP-06A Birchpoint Estates Drinking Water System Description, revision 7, 08-Apr-21 • OP-06B Bobcaygeon Drinking Water System Description, revision 12, 16-Apr-21 • OP-06C Canadiana Shores Drinking Water System Description, revision 8, 08-Apr-21 • OP-06D Fenelon Falls Drinking Water System Description, revision 12, 15-Apr-21 • OP-06E Janetville Drinking Water System Description, revision 7, 08-Apr-21 • OP-06F Kings Bay Drinking Water System Description, revision 8, 08-Apr-21 • OP-06G Kinmount Drinking Water System Description, revision 9, 15-Apr-21 • OP-06H Manorview Drinking Water System Description, revision 10, 08-Apr-21 • OP-06I Mariposa Estates Drinking Water System Description, revision 8, 08-Apr-21 • OP-06J Norland Drinking Water System Description, revision 9, 15-Apr-21 • OP-06K Omemee Drinking Water System Description, revision 8, 08-Apr-21 • OP-06L Pinewood Drinking Water System Description, revision 9, 08-Apr-21 • OP-06M Pleasant Point Drinking Water System Description, revision 10, 08-Apr-21 • OP-06N Southview Estates Drinking Water System Description, revision 9, 16-Apr-21 • OP-06O Victoria Place Drinking Water System Description, revision 8, 16-Apr-21 • OP-06P Western Trent/Palmina Drinking Water System, revision 9, 16-Apr-21 • OP-06Q Woodfield Drinking Water System Description, revision 7, 08-Apr-21 • OP-06R Woodville Drinking Water System Description, revision 9, 16-Apr-21 <p>Virtual tours via Webex and photographs and interviews with System Operators of the Canadiana Shores, Mariposa Estates, Norland, Pleasant Point, and Omemee Drinking Water Systems matched the System descriptions. In Canadiana Shores, new Well #4 was placed into operation since the Systems Audit was performed and the System Description is in the process of being updated.</p>	

DWQMS Reference	7 Risk Assessment
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-07 Risk Assessment, rev. 10, 18-Nov-20
Details: Procedure OP-07 Risk Assessment reviewed and accepted.	

DWQMS Reference:	8 Risk Assessment Outcomes
Client Reference:	<p>City of Kawartha Lakes Multi Facility Operational Plan OP-07 Risk Assessment, rev. 10, 18-Nov-20</p> <p>City of Kawartha Lakes Multi Facility Operational Plan OP-08 Risk Assessment Outcomes, rev. 1, 08-Apr-21</p>
<p>Details: Risk Assessment Outcomes adequately describes all risk, hazards, hazardous events and critical control limits for the Drinking Water System and covers all required risks as described in the MOECC document "Potential Hazardous Events for Municipal Residential Drinking Water Systems". Risk assessment outcomes are current as of January 2021 when new 36-month assessments were performed, along with subsequent minor updates. Reviewed and accepted.</p> <ul style="list-style-type: none"> • OP-08A Birchpoint Estates Summary of Risk Assessment Outcomes, revision 7, 16-Apr-21 • OP-08B Bobcaygeon Summary of Risk Assessment Outcomes, revision 16, 16-Apr-21 • OP-08C Canadiana Shores Summary of Risk Assessment Outcomes, revision 12, 16-Apr- 	

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- OP-08D Fenelon Falls Summary of Risk Assessment Outcomes, revision 12, 09-Apr-21
- OP-08E Janetville Summary of Risk Assessment Outcomes, revision 9, 16-Apr-21
- OP-08F Kings Bay Summary of Risk Assessment Outcomes, revision 11, 16-Apr-21
- OP-08G Kinmount Summary of Risk Assessment Outcomes, revision 12, 09-Apr-21
- OP-08H Manorview Summary of Risk Assessment Outcomes, revision 11, 16-Apr-21
- OP-08I Mariposa Estates Summary of Risk Assessment Outcomes, revision 11, 16-Apr-21
- OP-08J Norland Summary of Risk Assessment Outcomes, revision 11, 09-Apr-21
- OP-08K Omemee Summary of Risk Assessment Outcomes, revision 10, 16-Apr-21
- OP-08L Pinewood Summary of Risk Assessment Outcomes, revision 10, 16-Apr-21
- OP-08M Pleasant Point Summary of Risk Assessment Outcomes, revision 11, 16-Apr-21
- OP-08N Southview Estates Summary of Risk Assessment Outcomes, revision 13, 16-Apr-21
- OP-08O Victoria Place Summary of Risk Assessment Outcomes, revision 13, 16-Apr-21
- OP-08P Western Trent/Palmina Summary of Risk Assessment Outcomes, revision 7, 09-Apr-21
- OP-08Q Woodfield Summary of Risk Assessment Outcomes, revision 8, 16-Apr-21
- OP-08R Woodville Summary of Risk Assessment Outcomes, revision 14, 16-Apr-21

Full Risk Assessments performed for all systems in 2021. Risk Assessment information is also reviewed for currency every calendar year during Management Review. Reviewed and accepted.

DWQMS Reference:	9 Organizational Structure, Roles, Responsibility and Authorities
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-09 Organizational Structure, Roles, Responsibility and Authorities, rev. 2, 22-Jul-19
Details: Organizational Structure, Roles, Responsibility and Authorities reviewed are adequately described in the Operational Plan. Reviewed and accepted. Organizational structure as observed during the audit is accurate.	

DWQMS Reference:	10 Competencies
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-10 Competencies, rev. 2, 19-Nov-20
<p>Details: Procedure OP-10 reviewed and accepted.</p> <p>Classifications for each facility are designated by the Ontario Water & Wastewater Certification Office/Ministry of Environment. Operators for each facility must meet the operator classification based on the facility classification. Certifications for operators reviewed for the operators during the audit:</p> <ul style="list-style-type: none"> • Operator CC – Water Treatment class 1 # 98962 exp. April 30, 2024 and Water Distribution and Supply # 99562 exp. Jan 31, 2024 • Operator CN – Water Treatment Class 3 # 14004 exp. Oct 31, 2022 and Water Distribution and Supply # 17737 exp. Jan 31, 2024 <p>All training activities are recorded in the OCWA Training database recording training hours. Training records for 2 Operators reviewed for 2018-2020 including on-site training, health and safety training, external training and DWQMS training. CEU qualified training always includes a competency/testing requirement. Reviewed and accepted.</p> <p>Performance Review serves as a method of verifying an employee's performance against job expectations (reviewed for PCT in 2020)</p>	

Audit Report

DWQMS Reference:	11 Personnel Coverage
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-11 Personnel Coverage, rev. 12, 19-Nov-20
<p>Details: Procedure OP-11 reviewed and accepted. Operators generally cover the sites on weekdays Monday-Friday 10:00 – 15:30. 24 hours/7 days coverage via SCADA and on-call coverage is provided as well as adequate vacation coverage by other qualified operators employed by OCWA. Operators and on-call schedule for 2021 reviewed and accepted.</p> <p>3 clusters exist within the Kawartha Hub which includes a Senior Operations Manager, PCT, and Operations staff. Senior Operations Managers are responsible for scheduling.</p> <p>Operators are assigned facilities are within the cluster and are dedicated to those facilities. A combined on-call schedule is in place (North, South and Central Clusters). Operators are assigned to specific facilities within Maximo for both maintenance activities and daily operational checks. For on-call activities or vacation coverage, the assigned operator has access to the facility's work orders to complete all activities. Viewed operator assignment for Western Trent/Palmina, facility # 1281 in Maximo.</p> <p>Viewed ORO assignment chart for each cluster.</p>	

DWQMS Reference:	12 Communications
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-12 Communications, rev. 5, 31-Aug-18
<p>Details: Procedure OP-12 reviewed and accepted.</p> <p>Communications activities reviewed included:</p> <ul style="list-style-type: none"> • The Owner – during regularly scheduled meetings and through electronic and verbal communications, monthly operations and maintenance meetings, quarterly system reports as well as annual reports on System performance (reviewed monthly report for March 2021 and quarterly report for Q4 2020). • Operating Authority Personnel – through e-mails, monthly meetings with SOMs, monthly meetings with operations staff (viewed for South and North Clusters for March 2021), training programs – verified for 2 operators. • Suppliers – letter to essential suppliers outlining QMS requirements – sent to all essential suppliers in 2019 (reviewed example for Alliance Wireless Communications – local, OCWA sent the letters for corporate contracts in 2019 – viewed for SGS Canada Inc.) • The Public – through the System Owner. Information is posted on the CKL website and complaints are handled either directly by the City or through OCWA – reviewed complaints for 2020: <ul style="list-style-type: none"> ○ Omemee DWS July 23, 2020 – water is staining fixtures due to high iron. Looking to optimize the sodium silicate dosage. ○ Western Trent/Palmina DWS Jan 28, 2021 – sand noted in water – city asked OCWA to flush hydrant and check turbidity level. Could not find any link to the client's complaint. <p>Communication methods reviewed and accepted.</p>	

DWQMS Reference:	13 Essential Supplies and Services
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-13 Essential Supplies and Services, rev. 7, 31-Aug-18
<p>Details: Procedure OP-13 Essential Supplies and Services describes the requirements for contractors, water testing services, calibration services, chemical supplies and process components and the controls placed on these companies. Essential Supplies and Services List,</p>	

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13-November 2020 contains a list of all companies. Reviewed and accepted.

Reviewed qualifications for the following essential suppliers which were current and appropriate:

- Chemicals: NSF certified – all suppliers are corporate contracts – when chemicals are delivered, NSF grade is verified on the packing slip and on the chemical container (e.g. Sodium Hypochlorite, Sodium Silicate from Brenntag).
- Laboratory testing: SGS Lakefield (laboratory testing – viewed CALA certificate exp. Sept 2023).
- Calibration services: Franklin Empire – long-term supplier with experience handling equipment according to manufacturer's recommendations. Company is also certified to ISO 9001:2015

DWQMS Reference:	14 Review and Provision of Infrastructure
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-14 Review and Provision of Infrastructure, rev. 4, 31-Aug-18
<p>Details: Procedure OP-14 reviewed and accepted.</p> <p>A Capital and Major Maintenance Recommendations report is prepared by OCWA and sent to the System Owner for input (2021-2030 report reviewed). Report details recommendations for 10-year period. Links to Risk Assessment Outcomes are included in the summary. Plan and accompanying letter were sent to the System Owner in June 2020, quarterly meetings are performed with the City, who create projects and submit POs to OCWA for completing the required work (viewed example PO for Norland DWS Low Lift Pump replacement in Sept 2020).</p>	

DWQMS Reference:	15 Infrastructure Maintenance, Rehabilitation and Renewal
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-15 Infrastructure Maintenance, Rehabilitation and Renewal, rev. 0, 31-Aug-18
<p>Details: Procedure OP-15 reviewed and accepted.</p> <p>Equipment Maintenance is managed through a work order system (Maximo). Sampled entries from maintenance records for the following equipment:</p> <ul style="list-style-type: none"> • Pleasant Pont UV Systems 1 0000208592 and System 2 0000208593 – monthly verification with reference sensor and 6-month inspection by outside contractor 2021 • Pleasant Point Chlorine Injection Pump 0000277508 – monthly inspection 2021 • Pleasant Point Back-up Generator – monthly tests on record maintained at pumphouse and annual service by outside contractor 2020 • Omemee Back-up Generator – monthly tests on record maintained at pumphouse and annual service by outside contractor 2020 • Omemee Sodium Silicate Injection Pump 0000295724 – monthly inspection 2021 • Omemee Chlorine Injection Pump 0000277516 – monthly inspection 2021 • Omemee Alarm Dialer 0000291280 - monthly Testing 2021 • Canadiana Shores Back-up Generator – monthly tests on record maintained at pumphouse and annual service by outside contractor 2020 • Canadiana Shores Filter System 0000208922 – annual Inspection and Filter replacement 2020 • Norland Intake Pipe inspection 2016 • Norland Back-up Generator – monthly tests on record maintained at pumphouse and annual service by outside contractor 2020 • Norland Filter media replacement 2015 • Norland Clearwell inspection and cleaning 2019 • Norland sludge pumpout (done twice per year – last done Nov 2020) 	

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- Mariposa Estates Nitrate Removal system 0000208629 – corrective maintenance by outside contractor
- Mariposa Estates Back-up Generator – monthly tests on record maintained at pumphouse and annual service by outside contractor 2020
- Mariposa Estates Chlorine Injection Pump 0000277518 – monthly inspection 2021

The Owner is provided with a summary of maintenance activities through monthly and annual reports (reviewed for Q1 2021) – statistics for completion of work orders for all systems is included in the report. Effectiveness of the maintenance program is monitored by the Operations Manager utilizing a dashboard in Maximo which indicates completion of work orders. A long-term forecast of major infrastructure, rehabilitation and renewal activities is captured in the 5-year Capital and Major Maintenance Recommendations report sent to the system owner.

DWQMS Reference:	16 Sampling, Testing and Monitoring
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-16 Sampling, Testing and Monitoring, rev. 7, 15-Apr-20
<p>Details: Procedure OP-16 reviewed and accepted. Sampling Calendars describe the specific parameters to be monitored (reviewed for all systems).</p> <p>Reviewed log book entries and Daily Sheets with on-site checks at the Canadiana Shores, Mariposa Estates, Norland, Pleasant Point, and Omemee Drinking Water Systems for May 2021.</p> <p>Reviewed laboratory testing reports for Canadiana Shores, Mariposa Estates, Norland, Pleasant Point, and Omemee Drinking Water Systems including bacterial testing, Nitrates, THMs, HAAs Schedule 23/24, Sodium, Fluoride, Suspended Solids as per the frequency described in the Sampling Calendars for those facilities for 2020/2021. All testing is being performed at the specified frequency.</p> <p>Annual reports sent to the System Owner contain a summary of all sampling, testing and monitoring results.</p>	

DWQMS Reference:	17 Measurement and Recording Equipment Calibration and Maintenance
Client Reference:	<p>City of Kawartha Lakes Multi Facility Operational Plan OP-16 Measurement and Recording Equipment Calibration and Maintenance, rev. 3, 31-Aug-18</p> <p>Online Analyzer Calibration/Verification and Adjustment SOP (Regulatory Chlorine and Turbidity Analyzers), rev. 0, 20-Sep-16</p>
<p>Details: Procedure OP-17 reviewed and accepted.</p> <p>Reviewed equipment calibration records for the following equipment used for the Drinking Water Systems:</p> <p>Handheld analysers for chlorine, turbidity and pH are calibrated in-house annually with external standards, records reviewed including:</p> <ul style="list-style-type: none"> • 2100P Turbidimeter 0000280450 cal. July 23/20 • Pocket II Colorimeter 0000280495 cal. July 23/20 • 2100Q Turbidimeter 0000192937 cal. July 23/20 • Pocket Pro pH meter 0000334029 cal. July 23/20 • DR300 Pocket Colorimeter 0000305876 – new unit received with manufacturer's calibration • DR890 Colorimeter 0000291268 cal. July 8/20 • 2100P Turbidimeter 0000280448 cal. July 8/20 • 2100Q Turbidimeter 0000280457 cal. July 23/20 • Pocket II Colorimeter 0000280454 cal. July 23/20 	

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DWS plant/online monitoring equipment calibrated annually by a qualified external contractor:

- Pleasant Point Raw Water Well #1 Flow meter 0000208601 cal. 5/11/21
- Pleasant Point Raw Water Well #2 Flow meter 0000208602 cal. 5/11/21
- Pleasant Point Turbidity Analyser 0000208595 cal. 5/11/21
- Pleasant Point Treated Water Flow Meter 0000204899 cal. 5/11/21
- Pleasant Point Chlorine Analyser 0000192808 cal. 5/11/21
- Pleasant Point Datalogger 0000346013 cal. 5/11/21
- Omemee Raw Water Flow Meter 0000158940 cal. 5/11/21
- Omemee Treated Water Flow Meter 0000158944 cal. 4/27/21
- Omemee Turbidity Analyser 0000295625 cal. 4/27/21
- Omemee Chlorine Analyser 0000192862 cal. 4/27/21
- Omemee Datalogger 0000277510 cal. 4/27/21
- Canadiana Shores Train 1 Turbidity Analyser 0000295593 cal. 5/4/21
- Canadiana Shores Train 2 Turbidity Analyser 0000295594 cal. 5/4/21
- Canadiana Shores Raw Water Flow Meter 0000158990 cal. 5/4/21
- Canadiana Shores Backwash flow meter 0000277567 cal. 5/4/21
- Canadiana Shores Treated Water Flow Meter 0000158991 cal. 5/4/21
- Canadiana Shores Chlorine Analyser 0000105642 cal. 5/4/21
- Norland Train 1 Raw Water Flow Meter 0000208367 cal. 5/20/21
- Norland Train 2 Raw Water Flow Meter 0000208368 cal. 5/20/21
- Norland Train 1 Turbidity Analyser 0000306021 cal. 5/20/21
- Norland Train 2 Turbidity Analyser 0000306020 cal. 5/20/21
- Norland Chlorine Analyser 0000208381 cal. 5/20/21
- Norland Treated Water Flow Meter 0000291378 cal. 5/20/21
- Norland Datalogger 0000208408 cal. 5/20/21
- Mariposa Estates Raw Water Flow Meter 0000208628 cal. 5/11/21
- Mariposa Estates Turbidity Analyser 0000192852 cal. 5/11/21
- Mariposa Estates Chlorine Analyser 0000192866 cal. 5/11/21
- Mariposa Estates Datalogger 0000277520 cal. 5/11/21
- Mariposa Estates Treated Water Flow Meter 0000158999 cal. 5/11/21
- Mariposa Estates System Pressure Transmitter 0000291117 cal. 5/11/21

Calibration reports for the above had not yet been sent as of the date of the audit. Calibration reports from 2020 were reviewed for all items, which were acceptable and all readings in tolerance for as found/as left.

Chlorine and Turbidity Analysers are verified against handheld units and adjusted as necessary with the results recorded in the facility log book.

UV Reference Sensor 0000346018 used for verification of UV Transmittance at Pleasant Point – purchased with external calibration from manufacturer in 2020.

Opportunity for Improvement - Consider adjusting SOP wording around making adjustments to turbidity analysers based on hand-held device readings

DWQMS Reference:	18 Emergency Management
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-18 Emergency Management, rev. 7, 19-Nov-20
<p>Details: General requirements are described in procedure OP-18 and the OCWA Emergency Response Plan. Reviewed and accepted.</p> <p>The following specific contingency plans have been established:</p> <ul style="list-style-type: none"> • CP-01 Spill Response, rev. 3, 31-Jan-20 	

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- CP-02 Critical Injury, rev. 3, 31-Jan-20
- CP-03 Critical Shortage of Staff, rev. 3, 31-Jan-20
- CP-04 Loss of Service, rev. 1, 31-Jan-20
- CP-05 Unsafe Water, rev. 3, 31-Jan-20
- CP-06 Security Breach, rev. 1, 31-Jan-20

An emergency communication protocol and an up-to-date list of emergency contacts is established specific to the City of Kawartha Lakes. Emergency procedures are reviewed and/or tested on an annual basis. Reviewed and accepted. Access to Emergency Response Plan verified at each DWS viewed during the audit. Most recent Emergency Response Test exercise was performed for CP-03 Critical Shortage of Staff on 2020-09-10 for North Cluster, 2020-10-08 for Central Cluster and 2020-09-03 for South Cluster to review the pandemic situation and new COVID related procedures.

Additional Contingency Plans specific to COVID-19 are in place to address specific emergency situations around the pandemic (supplemental to Critical Shortage of Staff and pandemic screening, facility requirements and PPE.

DWQMS Reference:	19 Internal Audits
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-19 Internal QEMS Audits, rev. 6, 29-May-20
Details: Procedure OP-19 reviewed and accepted. Each year's internal audit includes a sample of 4 DWS to be reviewed in detail. Internal audit schedule exists for CKL, includes a 5-year plan to cover all systems. Most recent internal audit was performed in October 2020 including Bobcaygeon, Canadiana Shores, Mariposa Estates and Woodfield DWS. Internal Audit performed by an OCWA PCT not associated with the CKL clusters. No non-conformances and 1 Opportunity for Improvement were identified. Follow-up on the OFI performed through Management Review.	

DWQMS Reference:	20 Management Review
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-20 Management Review, rev. 5, 31-Aug-18
Details: Procedure OP-20 captures all PLAN requirements from section 20 of the DWQMS. Management Reviews are conducted a minimum of once every calendar year. Reviewed and accepted. Many standing items from monthly meetings with CKL and included as inputs to the Management Review. Most recent Management Review was performed on November 25, 2020. Minutes included all required Management Review agenda items. Action items are noted in the minutes and assigned to a staff member with a due date for completion (e.g. filter performance optimization in Bobcaygeon). Management Review meeting minutes and supporting reports are sent via e-mail to the City on December 24, 2020 (sent to Supervisor, Water & Wastewater). Management Review Implementation Action Plan is created to monitor all action items as needed or as action items are completed.	

DWQMS Reference:	21 Continual Improvement
Client Reference:	City of Kawartha Lakes Multi Facility Operational Plan OP-21 Continual Improvement, rev. 1, 29-May-20
Details: Procedure OP-21 reviewed and accepted. Corrective Actions, Preventive Actions and Best Management Practices are recorded on the Summary Table of Action Items. Examples reviewed included: <ul style="list-style-type: none"> • Corrective Action 2021-5: North Cluster 72 hour trend reviews not completed over long weekend from April 2 – 5, 2021. Root Cause Analysis performed and determined no 	

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reminders exist for staff to complete during long weekends. Reminder now added to Outlook calendar for on-call staff

- Corrective Action 2021-2: Bobcaygeon Filter 1 NTU analyzer had equipment failure (sensor missing error) resulting in loss of continuous monitoring. Root cause determined to be sensor failure but also that signal was not being generated through SCADA. Signal communication updated through SCADA for Bobcaygeon and all other facilities utilizing a similar configuration
- Corrective Action 2020-9: From MECP inspection - Production well not maintained in a manner sufficient to prevent entry into the well of surface water and other foreign materials. Root Cause determined to be a new well had not been completely secured by the contractor (well not yet in service). SOP for monthly well inspections to be updated (in progress)
- Best Management Practice 2021-4: More detailed documentation on disinfection of water system components – form updated to include more detail on disinfection procedure and ability to record chlorine residuals.

A more robust root cause analysis is being performed as corrective action from the NCR issued at the 2020 SAI Global surveillance audit. Corrective Action taken in response to NCR is verified as effective.

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

This report was prepared by:

Paul Cartlidge
SAI Global Management Systems Auditor

The audit report is distributed as follows:

- SAI Global
- Operating Authority
- Owner
- MOECC

Notes

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

Internal QEMS Audit Report

The City of Kawartha Lakes Drinking Water System

Owned by: The City of Kawartha Lakes

Operated by the Ontario Clean Water Agency

Report Prepared By: Julie Preslie, Julie Mather, Wes Henneberry

Report Issued: 22-Oct-2021

GENERAL INFORMATION

Audit Objectives:

- To evaluate the conformance of OCWA's Quality & Environmental Management System (QEMS) as implemented at the Drinking Water System(s) listed below to the requirements of the Drinking Water Quality Management Standard (DWQMS) version 2.0 (v.2.0).
- To identify non-conformities with the documented QEMS.
- To assess the effectiveness of the QEMS and assist in its continual improvement.

Audit Criteria:

- DWQMS v.2.0
- OCWA's current Operational Plan for the For the City of Kawartha Lakes Drinking Water System
- QEMS-related documents and records

Audit Scope:

Activities and processes related to OCWA's QEMS (as documented in the DWQMS Operational Plan) implemented at the following Drinking Water System(s) (DWS) owned by the City of Kawartha Lakes:

1. Birch Point
2. Bobcaygeon
3. Canadiana Shores
4. Fenelon Falls
5. Janetville
6. King's Bay
7. Kinmount
8. Manorview*
9. Mariposa Estates
10. Norland*
11. Omemee*
12. Pinewood
13. Pleasant Point
14. Southview Estates
15. Victoria Place
16. Western Trent/Palmina
17. Woodfield
18. Woodville*

*Indicates the DWSs that were focused on during this audit. The intention is to audit all DWSs covered by the Operational Plan over a 5 year period.

Auditor(s): Julie Preslie (Lead), Julie Mather, Wes Henneberry

Date(s): September 29, 2021

Audit Methods: Interviews, emails, and review of documentation and records.

1. SUMMARY OF FINDINGS

The overall effectiveness of the QEMS is considered: ☒ Effective ☐ Not effective

DWQMS Element		Finding
1.	Quality Management System	C
2.	Quality Management System Policy	C
3.	Commitment and Endorsement	OFI
4.	Quality Management System Representative	C
5.	Document and Records Control	OFI
6.	Drinking Water System	OFI
7.	Risk Assessment	C
8.	Risk Assessment Outcomes	C
9.	Organizational Structure, Roles, Responsibilities and Authorities	C
10.	Competencies	C
11.	Personnel Coverage	C
12.	Communications	C
13.	Essential Supplies and Services	C
14.	Review and Provision of Infrastructure	C
15.	Infrastructure Maintenance, Rehabilitation and Renewal	C
16.	Sampling, Testing and Monitoring	C
17.	Measurement and Recording Equipment Calibration and Maintenance	C
18.	Emergency Management	C
19.	Internal Audits	C
20.	Management Review	C
21.	Continual Improvement	OFI
N/C	Non-Conformance – non-fulfillment of a requirement	
OFI	Opportunity for Improvement – conforms to the requirement, but there is opportunity for improvement	
C	Conforms to the requirement	

2. DETAILS OF FINDINGS – N/C, OFI and Auditor Comments

DWQMS Element/Reference <i>Element 3- Commitment and Endorsement</i>
Type <input type="checkbox"/> N/C <input type="checkbox"/> OFI <input checked="" type="checkbox"/> Auditor Comment
System Reference OP- 03
Description/Details <i>OP includes “4. The addition of a drinking water subsystem owned by the same Owner to this operational plan.” As a condition for re-endorsement of the plan. Two systems no long included in plan...consider reviewing the need for re-endorsement if facilities are removed from the plan.</i>

DWQMS Element/Reference <i>Element 3- Commitment and Endorsement</i>
Type <input type="checkbox"/> N/C <input checked="" type="checkbox"/> OFI <input type="checkbox"/> Auditor Comment
System Reference OP- 03
Description/Details <i>OFI: Consider re-endorsing plan as various drinking water systems have process changes and two systems are no longer included in this OP. Additionally, one of OCWA’s top management representatives has changed.</i>

DWQMS Element/Reference <i>Element 5- Documents and Record Control</i>
Type <input type="checkbox"/> N/C <input checked="" type="checkbox"/> OFI <input type="checkbox"/> Auditor Comment
System Reference OP- 05
Description/Details <i>OFI: Consider revising OP-05A daily round sheets control location as hard copies are maintained at the water treatment plants and electronic scanned copies are stored on the shared drive. Additionally, consider consolidating the scanned daily round sheets to one location on the shared drive.</i>

DWQMS Element/Reference <i>Element 5- Documents and Record Control</i>
Type <input type="checkbox"/> N/C <input checked="" type="checkbox"/> OFI <input type="checkbox"/> Auditor Comment
System Reference OP- 05
Description/Details <i>OFI: consider updating OP-05A (QEMS Records) for the Facility Operations Logbook(s) to include an electronic location since OCWA has moved from paper logbooks to electronic logbooks.</i>

DWQMS Element/Reference <i>Element 6- Drinking Water System</i>		
Type <input type="checkbox"/> N/C <input type="checkbox"/> OFI <input checked="" type="checkbox"/> Auditor Comment		
System Reference OP- 06		
Description/Details <i>Woodville draft DWWP (currently in renewal process) does not include make up well #4. During review confirm.</i> <i>Manorview process flow diagram in OP and DWWP currently under revision as part of renewal process.</i>		

DWQMS Element/Reference <i>Element 6- Drinking Water System</i>														
Type <input type="checkbox"/> N/C <input checked="" type="checkbox"/> OFI <input type="checkbox"/> Auditor Comment														
System Reference OP- 06														
Description/Details <i>Omeme - consider confirming the depth of Well 1 as OP description and DWWP have different depths listed.</i> Groundwater Wells Well No. 1 <table border="1" data-bbox="225 993 963 1213"> <tr> <td>Description</td> <td>Drilled groundwater production well</td> </tr> <tr> <td>Type</td> <td>Non-GUDI</td> </tr> <tr> <td>Location</td> <td>18 Shawn Avenue, Omeme</td> </tr> <tr> <td>UTM Coordinates</td> <td>NAD83, UTM Zone 17, 693218.00 m E, 4907799.00 m N</td> </tr> <tr> <td>Dimensions</td> <td>159 mm inside diameter steel casing, 11.89 m deep</td> </tr> <tr> <td>Equipment</td> <td>Submersible well water pump is rated at 2.30 L/s against 12 m TDH with the pump intake set at 10 m below ground level</td> </tr> </table> <p><u>Well #1</u> Well #1 is currently out of service due to high turbidity and is not being used as a production well. Well records report the well is 13.1 m deep, 159 mm in diameter, and that the well is equipped with a submersible well pump.</p>			Description	Drilled groundwater production well	Type	Non-GUDI	Location	18 Shawn Avenue, Omeme	UTM Coordinates	NAD83, UTM Zone 17, 693218.00 m E, 4907799.00 m N	Dimensions	159 mm inside diameter steel casing, 11.89 m deep	Equipment	Submersible well water pump is rated at 2.30 L/s against 12 m TDH with the pump intake set at 10 m below ground level
Description	Drilled groundwater production well													
Type	Non-GUDI													
Location	18 Shawn Avenue, Omeme													
UTM Coordinates	NAD83, UTM Zone 17, 693218.00 m E, 4907799.00 m N													
Dimensions	159 mm inside diameter steel casing, 11.89 m deep													
Equipment	Submersible well water pump is rated at 2.30 L/s against 12 m TDH with the pump intake set at 10 m below ground level													

DWQMS Element/Reference <i>Element 8- Risk Assessment Outcomes</i>		
Type <input type="checkbox"/> N/C <input type="checkbox"/> OFI <input checked="" type="checkbox"/> Auditor Comment		
System Reference OP- 08		
Description/Details <i>Auditor Comment: Woodville – consider including high filter effluent turbidity well pump lockout in existing control measures for filtration. Operator verified well pump lockout by testing high filter turbidity on Sep 29, 2021.</i> <i>Auditor Comment: Omeme – refers to regulatory chlorine analyzer as the serpentine chlorine analyzer; may want to consider reviewing terminology.</i>		

Auditor Comment: Manorview is currently in the MDWL/DWWP renewal process and once completed suggest reviewing risk assessments for the facility.

Auditor Comment: Norland Blue-Green Algae hazard control measures list MOECC should be MECP; additionally suggest reviewing control measures as HAB program now included in MDWL.

DWQMS Element/Reference <i>Element 21- Continual Improvement</i>		
Type <input type="checkbox"/> N/C <input checked="" type="checkbox"/> OFI <input type="checkbox"/> Auditor Comment		
System Reference OP- 21		
Description/Details <i>OFI: Consider adding another column to CKL Summary Table of Action Items that will easily identify the facility included on the document.</i>		

3. AUDIT CONCLUSIONS

The auditors conducted an internal audit of OCWA's QEMS focusing on key quality management processes necessary to consistently produce and distribute drinking water that meets applicable requirements.

Taking into consideration all the findings of this audit, the auditors have concluded that sufficient evidence has been provided to demonstrate that a QEMS that meets the intent of the DWQMS v.2.0 has been established and actively implemented at the OCWA-operated DWS listed.

(10-Year Recommended Capital/Major Maintenance from 2022 to 2031)
The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

Page 1 of 2

The City of Kawartha Lakes - Central Cluster

(10-Year Recommended Capital/Major Maintenance from 2022 to 2031)																				
The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.																				
Ref.		Cost Estimate										Compliance	DWQMS RA Outcome *	Health & Safety	Repair / Maintenance	Lifecycle Replacement	Improvement	Spare Parts Inventory	Approved by Client	Rationale for Project
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031									
7	SPS 6 Force main Twinning	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000									80% of the town's wastewater flows through one thin walled plastic force main from Anne St. to WPCP
8	Unplanned Repairs and Maintenance	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									Unplanned repairs.
		\$601,000	\$885,000	\$420,000	\$420,000	\$420,000	\$420,000	\$420,000	\$420,000	\$420,000	\$420,000									
	Lindsay WPCP																			
1	Install Jet aerators in Equalization Lagoon	\$15,000																		Add aeration to lower BOD and ammonia. Prevent ice cover.
2	Mechanical Aerator Repairs	\$20,000																		Needed for DO and ammonia issues.
3	Replacement Boiler System		\$30,000																	End of Life Cycle Replacement
4	Lagoon Maintenance	\$1,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000									Remove shrubs and brush from lagoon berms. Remove weeds from edge of lagoons
5	Replace Grit removal System, Hopper and Dewatering Screw		\$60,000																	End of Life Cycle Replacement
6	Replace South Clarifier Gearbox.		\$70,000																	End of Life Cycle Replacement
7	Tertiary Building Window Replacement	\$12,000	\$12,000																	Energy efficiency/improve office space
8	Actiflo Pump Rebuilds	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000									Replace seals, bearings, liners, etc. on rotation.
9	Inlet Building Interior Painting		\$13,000																	Interior steel beams are corroded.
10	Actiflo Air Scour Upgrade			\$130,000																Upgrade to improve effluent quality and extend life of actiflo lamella plates.
11	Lagoon 4 Desludging				\$1,000,000						\$1,000,000									6 Year cleanout cycle
12	Screw Compactor Replacement	\$15,000.00																		End of Life Cycle Replacement
13	Duplicate Bar screen			\$400 000																Redundancy
14	Unplanned Repairs and Maintenance 48 Lagoon St.	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000									Unplanned repairs
		\$121,000	\$253,000	\$198,000	\$1,068,000	\$68,000	\$68,000	\$68,000	\$68,000	\$68,000	\$1,068,000	\$68,000								
	Lindsay PS																			
1	Rivera Park Carbon Replacement		\$20,000					\$20,000												Life cycle replacement
2	Inlet/trunk sewer inspection cleaning	\$10,000		\$10,000		\$10,000		\$10,000		\$10,000										Remove solids between septage station and headworks.
3	Fairgrounds SPS Flow Meter Replacement	\$10,000																		Replace with more reliable magmeters
4	Riverview SCADA System Install	\$50,000																		Improved monitoring and control
5	Riverview Flow Meter Replacement	\$20,000																		Original Meters not functioning correctly.
6	Leachate Pump Station Maintenance	\$20,000						\$20,000												3 year overhaul schedule as required in maintenance program
7	20 HP Spare Pump	\$20,000																		Minimize downtime of critical pumps for repair or replacement.
8	Wellington St PS Pump and Piping Replacement		\$20,000																	End of Life Cycle Replacement
9	Ridout St. Online Gas Monitoring	\$16,000																		Safety concern of gases in drywell.
10	Lindsay St. N. Online Gas Monitoring	\$16,000																		Safety concern of gases in drywell.
11	Fairgrounds SPS Pump Replacement	\$46,600																		Pump inspection showed worn impellers and volutes.
12	Mary Street PLC	\$10,000																		Station is currently controlled by WT PLC
13	Jennings Creek Pump 1 Rebuild	\$30,000																		Pump 1 rebuild. 2&3 had seal leaks in 2021
14	Rivera Park Wet well Cleaning	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000									Remove grease and grit from wet wells.
15	Jennings Creek Wet well Cleaning	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000									Remove grease and grit from wet wells.
16	Unplanned SPS Repairs and Maintenance	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000									Unplanned repairs
		\$316,600	\$108,000	\$78,000	\$68,000	\$78,000	\$88,000	\$98,000	\$68,000	\$78,000	\$68,000									
All Central Facilities		\$1,842,600	\$1,423,000	\$1,221,000	\$1,715,000	\$710,000	\$761,000	\$741,000	\$730,000	\$1,710,000	\$700,000									
2022 Recommended Capital Presented by:																				

2022 Recommended Capital Presented by:

* NOTE : a requirement of DWQMS v. 2.0 is to consider the outcomes of the risk assessment (RA) documented under Element 8 as part of the system's infrastructure review

Legend:

H

High priority recommended to be completed in upcoming year

M

Medium priority recommended to be completed in 1 to 3 years

L

Low priority recommended to be completed in years 4 to 5

>\$30K

CKL

(6-Year Recommended Capital/Major Maintenance from 2022 to 2027)
The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

Ref.	Scope of Work	Cost Estimate										Compliance	DWQMS RA Outcome*	Health & Safety	Repair / Maintenance Lifecycle Replacement	Improvement	Spare Parts Inventory	Approved by Client	Rationale for Project
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031								
	Fenelon Falls WTP																		
1	Dehumidifier Replacement	\$35,000																	Existing dehumidifer is at end of life and due ti age is inefficient.
2	Membrane Semi-Annual Maintenance	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000								
3	Outcome of Standpipe Structural Assessment from 2021																		Upon completion of structural assessment recommend repairs/replacement.
4	Highlift Pump Replacement		\$35,000	\$35,000	\$35,000														End of life replacements.
5	Air Compressor Replacement		\$12,000	\$12,000															End of life replacements.
6	Blower Replacement	\$17,000																	
7	Membrane Replacement																		
8	Driveway Repaving	\$30,000																	
9	Stealth Valve Replacement	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000								
10	Repairs and Maintenance - UNPLANNED	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000								
	Total Estimate - Recommended Capital	\$112,000	\$94,000	\$77,000	\$65,000	\$30,000	\$75,000	\$75,000	\$75,000	\$75,000	\$825,000								
	Fenelon Falls WWTP																		
1	Aeration Blower Replacement	\$17,000	\$17,000																End of life replacement.
2	Composite Sampler Replacement (2)	\$20,000																	End of life replacements.
3	Grinder Replacement			\$50,000															End of life replacement.
4	Large Rotor Replacement					\$100,000													
5	Tertiary Filter Rehabilitation	\$25,000																	
6	Repairs and Maintenance - UNPLANNED	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000								
	Total Estimate - Recommended Capital	\$77,000	\$92,000	\$65,000	\$15,000	\$115,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000								Allowance for unforeseen repairs.
	Fenelon Falls SPSS																		
1	Spare Pump Ellice SPS	\$25,000																	Spare pump for repair/repalcement need as lead time for replacement pumps is significant. Carried over from 2021.
2	SPS Rehabilitation									\$25,000	\$25,000								
3	Repairs and Maintenance - UNPLANNED	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000								Allowance for unforeseen repairs.
	Total Estimate - Recommended Capital	\$40,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$40,000	\$40,000								
	Norland WTP																		
1	Highlift Pump Replacement				\$15,000														End of life replacements.
2	Filter Air Blower Replacement			\$7,000	\$7,000														End of life replacements.
3	Dehumidifier Replacement		\$20,000																End of life replacements.
4	Repairs and Maintenance - UNPLANNED	\$10,000	\$10,000	\$10,000	\$10,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000								Allowance for unforeseen repairs.
	Total Estimate - Recommended Capital	\$25,000	\$30,000	\$32,000	\$32,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000								
	Kinmount WTP																		
1	Highlift Pump Replacement				\$15,000														End of life replacements.
2	Filter Air Blower Replacement			\$7,000	\$7,000														End of life replacements.
3	Dehumidifier Replacement		\$20,000																End of life replacements.
4	Repairs and Maintenance - UNPLANNED	\$10,000	\$10,000	\$10,000	\$10,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000								Allowance for unforeseen repairs.
	Total Estimate - Recommended Capital	\$25,000	\$30,000	\$32,000	\$32,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000								
	Western Trent WTP																		
1	Well Pump Replacement						\$10,000				\$10,000								
2	Highlift Pump Replacement						\$25,000	\$25,000											
3	Filter Cartridge Housing Replacement					\$40,000													
4	Dehumidifier Replacement			\$20,000															End of life replacement.
5	Repairs and Maintenance - UNPLANNED	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$20,000	\$20,000	\$10,000								Allowance for unforeseen repairs.
	Total Estimate - Recommended Capital	\$10,000	\$10,000	\$30,000	\$10,000	\$50,000	\$45,000	\$35,000	\$20,000	\$20,000	\$20,000								
	Cobocconk Lagoon																		
1	Air Compressor Replacement		\$10,000	\$10,000															End of life replacement, creates holes in ice to reduce spring odour complaints due to H2S build-up.
2	Lagoon Desludging	\$750,000																	Ongoing desludging cycle.
3	Repairs and Maintenance - UNPLANNED	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000								Allowance for unforeseen repairs.
	Total Estimate - Recommended Capital	\$760,000	\$20,000	\$20,000	\$10,000	\$10,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000								
	Cobocconk SPSS																		
1	Pump Station Rehabilitation	\$25,000	\$25,000							\$25,000	\$25,000								SPS 2 in 2022, SPS 1 in 2023
2	Repairs and Maintenance - UNPLANNED	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000								Allowance for unforeseen repairs.
	Total Estimate - Recommended Capital	\$35,000	\$35,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$35,000	\$35,000								
	Total Capital Estimate	\$1,084,000	\$326,000	\$281,000	\$189,000	\$290,000	\$285,000	\$275,000	\$260,000	\$310,000	\$1,060,000								

2022 Recommended Capital Presented by: Jeremy Manning

* NOTE : a requirement of DWQMS v. 2.0 is to consider the outcomes of the risk assessment (RA) documented under Element 8 as part of the system's infrastructure review

Legend:
H High priority recommended to be completed in upcoming year
M Medium priority recommended to be completed in 1 to 3 years
L Low priority recommended to be completed in years 4 to 5

(6-Year Recommended Capital/Major Maintenance from 2022 to 2027)
The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

Ref.		Cost Estimate										Compliance	DWQMS RA Outcome*	Health & Safety	Repair / Maintenance Lifecycle Replacement	Improvement	Spare Parts Inventory	Approved by Client	Rationale for Project
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031								
No.	Scope of Work																		
>\$30K	CKL																		

The City of Kawartha Lakes - South Cluster

(10-Year Recommended Capital/Major Maintenance from 2022 to 2031)
The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

Ref.	Scope of Work	Cost Estimate										Compliance	DWQMS RA Outcome*	Health & Safety	Repair / Maintenance	Lifecycle Replacement	Improvement	Spare Parts Inventory	Approved by Client	Rationale for Project
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031									
	Canadiana Shores																			
1	Singer and air vacuum valve calibration and maintenance	\$15,000					\$15,000													Recommended to be completed every five years. Last completed in 2013
2	Highlift pump repairs and maintenance	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000													Building needs significant improvements and is no longer used.
3	Unplanned Repairs and Maintenance	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000									Coverage for unplanned equipment repairs/replacements
		\$60,000	\$45,000	\$45,000	\$45,000	\$45,000	\$60,000	\$35,000	\$35,000	\$35,000	\$35,000									
	Janetville																			
1	Electrical Panel Upgrade	\$25,000																		Recommendation from Indra Maharjan during energy audit
2	Unplanned Repairs and Maintenance	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									Coverage for unplanned equipment repairs/replacements
		\$45,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									
	King's Bay Water																			
1	Well head SCADA panel	\$15,000																		M. Snider recommended that the SCADA cabinet be upgraded. There have been many additions to the cabinet.
2	High lift pump #2 replacement	\$7,500																		End of Life Cycle Replacement
3	Unplanned Repairs and Maintenance	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									Coverage for unplanned equipment repairs/replacements
		\$42,500	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									
	King's Bay Wastewater																			
1	Inspection/Repair/Maintenance of 8 Submersible Pumps	\$20,000	\$20,000	\$20,000	\$10,000	\$10,000	\$10,000													End of Life Cycle Replacement
2	Unplanned Repairs and Maintenance	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									Coverage for unplanned equipment repairs/replacements
		\$40,000	\$40,000	\$40,000	\$30,000	\$30,000	\$30,000	\$20,000	\$20,000	\$20,000	\$20,000									
	Manorview DWS																			
1	Replace Galvanized Pipe and Valving	\$10,000																		Heavily corroded
2	Installation of Two Fire Hydrants for Flushing/Swabbing	\$25,000																		Will allow for a higher velocity flushing and access for swabbing
3	Repairs & Maintenance - UNPLANNED	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									Coverage for unplanned equipment repairs/replacements
		\$55,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									
	Mariposa DWS																			
1	Repairs & Maintenance - UNPLANNED	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									Coverage for unplanned equipment repairs/replacements
		\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$2,000	\$20,000									
	Omemeew DWS																			
1	Repairs & Maintenance - UNPLANNED	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									Coverage for unplanned equipment repairs/replacements
		\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									
	Omemeew Wastewater																			
1	Lagoon Irrigation Piping Repairs/Maintenance	\$10,000																		Ongoing repairs as required
2	Driveway and berm maintenance	\$50,000																		Better access around the lagoons
3	ECA groundwater monitoring and sampling program	\$18,000	\$18,000																	Provincial Officer Order requirement
4	Storage Building	\$120,000																		
5	Repairs & Maintenance - UNPLANNED	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000									Coverage for unplanned equipment repairs/replacements
		\$228,000	\$48,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000									
	Omemeew Wastewater Collection																			
1	Church Street SPS Heater	\$7,500																		Install an enclosure /cabinet over existing cabinet so it can be heated and eliminate UPS freezing
2	Unplanned Repairs and Maintenance	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000									Coverage for unplanned equipment repairs/replacements
		\$37,500	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000									
	Pinewood DWS																			
1	Repairs & Maintenance - UNPLANNED	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									Coverage for unplanned equipment repairs/replacements
		\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									
	Pleasant Point DWS																			
1	Unplanned Repairs and Maintenance	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									Coverage for unplanned equipment repairs/replacements
		\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									
	Woodfield DWS																			
1	Installation of Two Fire Hydrants for Flushing/Swabbing	\$25,000																		Will allow for a higher velocity flushing and access for swabbing
2	Electrical Panel Upgrade	\$10,000																		Recommendation from Indra Maharjan during energy audit
3	Repairs & Maintenance - UNPLANNED	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									Coverage for unplanned equipment repairs/replacements
		\$55,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000									
												2022 Recommended Capital Presented by:								Lynette Nicholson
Total Capital Estimate		\$643,000	\$323,000	\$305,000	\$295,000	\$295,000	\$310,000	\$275,000	\$275,000	\$257,000	\$275,000									

* NOTE : a requirement of DWQMS v. 2.0 is to consider the outcomes of the risk assessment (RA) documented under Element 8 as part of the system's infrastructure review

Legend:

H

High priority recommended to be completed in upcoming year

M

Medium priority recommended to be completed in 1 to 3 years

L

Low priority recommended to be completed in years 4 to 5

Attachment Item [q]

CKL Element 21 Summary Table for Action Items

SOURCE OF/ISSUE IDENTIFIED BY:
IA: Internal Audit or **EA:** External Audit - (**Mn:** Minor Non-Conformance, **Mj:** Major Non-Conformance, **OFI:** Opportunity for Improvement)
MR: Management Review, **S:** Staff; **CC:** Community Complaint; **Own:** Owner
MINISTRY: Inspection Findings (NC or Best Practice identified); **E:** Emergency/Incident;
BMP: Best Management Practice; **REG:** Regulatory Requirement (AWQIs)
Other (Please specify)

TYPE OF ACTION INITIATED:
PA: Preventive
CA: Corrective
N/A: Not Applicable

Last Updated: 13-May-21

Ref #	Description of Issue/Non-Conformance or Finding/Recommendation	Date Action Created/ Issue Added to Table	Source	PA or CA	Root Cause	BMP Identified/ Considered	Proposed Action	Summary of Actions Taken/Required	Responsibility / Assigned To	Target Date	Status	Verification/ Effectiveness of Action (Include Date and Details)
2018-1	Non-nsf 53 filters used at Woodville and Western Trent	16-Oct-18	POO	CA	Verification of NSF 53 not completed prior to filter instalation	Regulatory requirement	Create SOP for filter purchases, verify NSF 53 when filters ordered, received and prior to instalation.	SOP created, WOs include reference to SOP.	All	31-Oct-18	Complete	Woodville - NSF filters ordered by PCT January 24/19, Filters received and verified by PCT March 13/19, filters installed and verified by operator March 13/19. Western Trent - NSF filters ordered by PCT December 3/18, Filters received and verified by PCT January 16/19
2018-2	Monthly filter performance	16-Oct-18	REG	PA	Lack of training, lack of understanding of process	Regulatory requirement	Training at cluster meeting, outlook reminder to review filter performance, PCT to send report to operator and ORO, update 72 hour review to monitor filter performance throughout month. Revised (13-Mar-19): Work with IT to correct Wonderware issues so that monthly performance criteria can easily be verified throughout the month	- Training at cluster meetings: South (Oct 17/18), Central (Dec 13/18), North (Nov 20/18). Monthly filter performance verification added to PCT Outlook Calendars. - PCTs are emailing monthly filter performance reports to operators and OROs.	All		Complete	Operations staff have contacted PCTs if there are concerns i.e. July 2019 the Fenelon Falls WTP membrane filter replacement caused air entrapment which resulted in NTU readings >0.1 but below adverse alarm. Operator contacted Sr. Ops. Mgr & PCT. The monthly filter performance was not met, but it was identified by operations and corrective action taken prior to the end of the month. Found action effective.
2018-3	Spare equipment listed in Maximo	16-Oct-18	BMP	PA	Require a means to identify availability of replacement equipment	BMP	Add "spare" in the asset description in Maximo so a search can be conducted and a piece of equipment located for use	"Spare" added to the description in Maximo.	WMS Primary, OMTL, Ops Mgr	31-Oct-18	complete	Completed a search of "spare" equipment in Maximo.
2018-4	Clearwell cleanings	16-Oct-18	BMP	PA	Lack of contractors to do the work. Contractors not delivering.	BMP	Create 5 year work order to complete clearwell cleanings.	Purchased robot to complete clearwell inspections/cleanings inhouse. Staff taking training from manufacture on how to operate robot	North Ops Mgr	June 30 19 June 30, 2022	in progress	Fenelon Falls done Aug 9/19; Kinmount done Aug 22/19;Norland done Oct 9/19; Western Trent/Palmina done Jan 15/20;Southview done Feb & Mar/20; Victoria Place Q3 2020; Manilla Q1 2021; Sonya Q1 2021

Attachment Item [q]

Ref #	Description of Issue/Non-Conformance or Finding/Recommendation	Date Action Created/ Issue Added to Table	Source	PA or CA	Root Cause	BMP Identified/ Considered	Proposed Action	Summary of Actions Taken/Required	Responsibility / Assigned To	Target Date	Status	Verification/ Effectiveness of Action (Include Date and Details)
2018-5	Combined chlorine residuals taken at same time as baceriological sampling - Bobcaygeon only	04-Dec-18	REG	PA	Variety of techniques used when sampling to determine chlorine residual vales	Regulatory requirement	All residuals when collecting bacti samples must come from hand held readings. Update Sampling SOP to reflect hand held requirement. Training at cluster meeting to review hand held requirement.	Training at cluster meeting to review that chlorine residuals when sampling must be done with handhelds.	Central Ops Mgr, Central PCT	30-Dec-18	complete	Completed Bobcaygeon CofC updated to include 'Combined Chlorine' column. Operators trained on requirement to calculated combined chlorine. Operators are calculating combined chlorine when sampling. Combined chlorine values on lab report. PCT verifies combined chlorine is on lab reports.March 29/19

CKL Element 21 Summary Table for Action Items

SOURCE OF/ISSUE IDENTIFIED BY:
IA: Internal Audit or **EA:** External Audit - (**Mn:** Minor Non-Conformance, **Mj:** Major Non-Conformance, **OFI:** Opportunity for Improvement)
MR: Management Review, **S:** Staff; **CC:** Community Complaint; **Own:** Owner
MINISTRY: Inspection Findings (NC or Best Practice identified); **E:** Emergency/Incident;
BMP: Best Management Practice; **REG:** Regulatory Requirement (AWQIs)
Other (Please specify)

TYPE OF ACTION INITIATED:
PA: Preventive
CA: Corrective
N/A: Not Applicable

Last Updated: 17-Dec-2020

Ref #	Description of Issue/Non-Conformance or Finding/Recommendation	Date Action Created/ Issue Added to Table	Source	PA or CA	Root Cause	BMP Identified/ Considered	Proposed Action	Summary of Actions Taken/Required	Responsibility / Assigned To	Target Date	Status	Verification/ Effectiveness of Action (Include Date and Details)
2019-1	Samples not collected within the prescribed sample window (Southview)	26-Nov-19	S	CA	Procedure complacency	Regulatory requirement	Southview	Review sample calendar, create Outlook reminders for quarterly samples, update quarterly CofC	Sr Ops Mgr, Central PCT	31-Dec-19	Completed	08-Nov-19 Sample Calendar review with Operator 08-Nov-19 Outlook reminder created 11-Dec-19 CofC updated and sent to operator To date, all samples collected as required, therefore actions taken are effective.
2019-2	It is recommended that the DWS develop a written procedure that details the clearwell reservoir maintenance, as well as the frequency of inspections and maintenance. Creation of a written procedure will ensure that regular inspection and maintenance is taking place. This will also help with early identification of any potential issues and preventing major impacts to the drinking water system.	26-Nov-19	MR	PA	Not applicable	BMP	PM work order. Export job plan to provide to MECP.	A SOP was developed and implemented regarding Clearwell Cleaning and Inspection. Update the Job Plan to include the SOP.	SPCM		Completed	7-Jan-2020 PM Job Plan updated to include reference to the SOP.
2019-3	History of Changes Tracking Sheet to capture revisions to documents that do not have a 'Revision History' section.	26-Nov-19	S	PA	Not required, as per procedure	BMP	Create spreadsheet to track changes made to documents that do not contain a 'Revision History' on the documents.	Each Cluster has created a spreadsheet to track changes made to documents that do not contain a 'Revision History' within the document e.g. drinking water CofC	PCTs	31-Dec-19	Completed	Tracking sheets are being updated as changes are requested and completed. Tracking sheets have proven to be effective in providing reasons for updates and requestors of said updates.
2019-4	Treated water sodium exceedance (Birch Point)	5-Dec-19	Reg	CA	Not applicable	Regulatory requirement	Not applicable	Resampled and tested as per O. Reg. 170. All notifications were provided as prescribed. Residents are notified via water bill of the Sodium issue.			Completed	Sodium is sampled and tested on an annual basis. Reporting as an AWQI is required every 60 months. This is an ongoing issue at this facility. Update Note: This is a condition of the source what quality that cannot be corrected, yet is acceptable with MECP and all required MECP regulatory corrective actions were taken.

Attachment Item [q]

Ref #	Description of Issue/Non-Conformance or Finding/Recommendation	Date Action Created/ Issue Added to Table	Source	PA or CA	Root Cause	BMP Identified/ Considered	Proposed Action	Summary of Actions Taken/Required	Responsibility / Assigned To	Target Date	Status	Verification/ Effectiveness of Action (Include Date and Details)
2019-5	Failure to record turbidity at least every 15 minutes (Bobcaygeon)	7-Jan-20	Reg	CA	No mechanism to alert operator that the turbidity output has been held.	Regulatory requirement	Outputs being held on SCADA instead of analyzer. SCADA displays that outputs are held	Outputs being held on SCADA instead of analyzer. SCADA displays on screen that outputs are held and generates an alarm if the output is held past a predetermined time.	Sr Ops Mgr, Central PCT	31-Jan-20	Completed	Outputs being held on SCADA instead of analyzer. Operator sees on SCADA screen that outputs are held. Alarm activates if outputs are held on SCADA past a predetermined amount of time. The actions taken were effective and there has not been a reoccurrence of the failure to record turbidity every 15 minutes.
2019-6	Distribution Total Coliform exceedance. Two exceedances at same location. (Canadiana Shores)	5-Dec-19	Reg	CA	PHI from Local MOH wondered if there was an issue with sample hydrant material	Regulatory requirement	Sample hydrant was flushed and disinfected prior to resample.	Resampled and tested as per O. Reg. 170. All notifications were provided as prescribed. All resamples were clear.	Sr Ops Mgr, South PCT, South Operator/Mechanics		Completed	All resamples were clear.
2019-7	THM RAA exceedances for each quarter in 2019. Exceedences have continued in 2020.	5-Dec-19	Reg	CA	CT had to be increased resulting in higher chlorine dosing and increased formation of disinfection byproducts - THMs.	Regulatory requirement	Reviewed plant process and to identify options to reduce disinfection by-products. Engineers recommended upgrading process to include UV and chloramination which should lower levels of disinfection by-products like THM and HAA. Apply to MECP for amendments to plant process.	Application made to MECP for amendments to plant treatment process. Schedule C approval from MECP received Oct 2019. Quotes and contractors currently being obtained. Upgrades completed in 2020 - still trouble shooting UV units. Chloramination being used for secondary disinfection.	North Sr Ops Mgr	Upgrades completed Oct 2020.	In progress	Continue to monitor for effectiveness throughout 2021.

Attachment Item [q]

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2019-8	During the inspection it was identified that raw water turbidity sampling from a groundwater source was not occurring monthly for the period of Feb 2019 - June 2019.	5-Dec-19	Ministry	CA	human error	Regulatory requirement	Sample Calendar training. Revise the sample calendars to include a specific checkbox for the requirement. Release the sample calendar one month at a time to ensure staff are using the most recent version of the document.	Training was conducted at the South Cluster Meeting on November 20, 2019. Training included review of sample calendar requirements and expectations, and a review of O. Reg. Schedule 6-1.1(1) to (7). Moving forward, the 2020 Sample Calendar has been revised to include a specific checkbox for monthly raw NTU sample(s), within a specific week of the month. The work order is still in place for this requirement/task. The 2020 Sample Calendar will be released one month at a time to the Operations Staff to ensure the current version of the calendar is in use and any changes will be reviewed at Cluster Meetings and follow-up overview with Operators to ensure all staff are aware of the sampling requirements for each site they responding/responsible for.	Sr. Ops Mgr., South PCT, South Operators/Mechanics	31-Dec-19	Completed	8-Jan-2020 2020 Sample Calendars have been released for the month of January and an Outlook Task has been assigned to the South PCT to ensure the timely monthly release of the next months calendars for all facilities of responsibility.

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Last Updated: 13-May-2021

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2020-1	Southview Estates THMs exceedence.	29-Jan-20	Reg	CA	Possible chemical dosing, under investigation		Jar testing, clearwell cleaning, chlorine dosing reduction, vfd's now on highlift for each cell to improve circulation, increase flushing. Monitor raw water turbidity and adjust coagulant as needed. Regional training on jar testing and purchase additional jar testing units.	Chlorine dose reduced. Vfd on highlift for each clearwell cell. Reduced volume of water in clearwell. Additional sampling. Clearwell inspected and cleaned in Feb-Mar 2020, THM sample after had a lower result. Operator completing jar testing and adjusting chemical dosages accordingly. Seeing reduction in TOC/DOC between raw and treated.	Central Sr Ops Mgr	ASAP	in progress	RAA for THM below limit for Q3 2020 reporting period. Will continue with ongoing jar testing but will to verify effectiveness throughout 2021.
2020-2	Fenelon Falls HAAs exceedence.	29-Jan-20	Reg	CA	CT had to be increased resulting in higher chlorine dosing and increased formation of disinfection byproducts - THMs & HAAs	Regulatory requirement	Reviewed plant process and to identify options to reduce disinfection by-products. Engineers recommended upgrading process to include UV and chloramination which should lower levels of disinfection by-products like THM and HAA. Apply to MECP for amendments to plant process.	Application made to MECP for amendments to plant treatment process. Schedule C approval from MECP received Oct 2019. Quotes and contractors currently being obtained. Upgrades completed in 2020 - still trouble shooting UV units. Chloramination being used for secondary disinfection.	North Sr Ops Mgr	Upgrades completed Oct 2020. HAAs below RAA for Q2 2020 to Q1 2021 - chloramination has been effective in reducing the levels.	In progress	Continue to monitor for effectiveness throughout 2021. Chloramination has been effective in reducing levels; however, still working on UV units.
2020-3	Sodium exceedences at Omemee, Mariposa Estates & Birch Point.	29-Jan-20	Reg	CA	Omemee raw water sodium levels increased. Mariposa Estates & Birch Point historically above 20mg/L.	Regulatory requirement	Additional raw water sampling for Omeme. Re-sampled as per MECP.	Resampled as per regulation.	South Sr Ops Mgr	complete	complete	No further action required, no mechanism for treatment in place.
2020-4	Bobcaygeon WTP filter performance issues.	29-Jan-20	BMP	PA or CA		Regulatory requirement (monthly filter performance)	Process optimization, filter performance optimization.	Sludge removed from clarifier - more frequent removal going forward. Additional staff cross training on filter operations. Bo-annual word order for clarifier cleaning	Central Sr Ops Mgr, General Manager	31-Dec-20	Complete	No re-occurrence of monthly exceedence.
2020-5	Omemee well	29-Jan-20	Reg	CA	not applicable	Required out of compliance inspection	Decommission well 1, once well 3 is on line clean well 2.	In capital process to do hydrogeological assessment.	South Sr Ops Mgr	31-Dec-21 (revised date)	in progress	

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2020-6	Covid 19 Pandemic	07-Apr-20	E	PA	Global pandemic - highly transmissible virus, no vaccine available Update: vaccine approved for use in 2021	Provincial Emergency - OCWA Contingency Plan in place	Management have prepared a plan for critical shortage of staff; PPE inventoried - working with province on PPE	PPE inventories completed and continuously being verified. Standard Operating Procedures for Employee Self-distancing and Facility Cleaning and Disinfecting provided 20-Mar-20, admins, PCTs, managers working from home, corporate updates on status in workplace	Management for operating procedures; all staff to follow OCWA and provincial procedures for social distancing, hand washing, PPE	unknown	in progress	Continue to review and update.
2020-7	External Audit Non-conformance (Report issued on Apr. 21, 2020)	29-May-20	EA	CA	Lack of usable training for root causes analysis specifically for drinking water quality management systems.		Develop a mechanism to document Root Cause Analysis.	1. Teleconference with OCWA Regional Compliance Team and OCWA Corporate Compliance to discuss the non-conformance and Element 21 – April 22, 2020 2. Teleconference with OCWA North PCT and SAI Global Auditor to discuss the non-conformance – April 27, 2020 3. Teleconference with OCWA Regional Compliance Team to complete re-assessment of root cause analysis for identified corrective action items from Element 21 Table – May 13, 2020 4. Determine mechanism to effectively capture root cause analysis for the Corrective Action process – May 28, 2020 5. CKL Summary Table for Action Items updated to include updated Root Causes Analysis and verifications – May 29, 2020 6. Revised OP-21 and OP-19 procedures to include the established Root Cause Analysis Form – May 29, 2020	PCTs	01-Jun-20	Complete	Clearance letter received from auditor.
2020-8	Form 2 documents not prepared as required by regulation.	25-Nov-20	Reg	CA	Lack of a proper documentation process for reviewing the regulatory requirements prior to installation of equipment.	Required out of compliance inspection	Create an Standard Operating Proecure for Disinfection of Drinking Water System Components,to ensure all regualtory requirments are followed during the installation of equipment.	An SOP and form was created for the Disinfection of Drinking Water System Components. The SOP outlines all the regulatory requirements.. All staff were trained on the SOP and how and when to use the Disinfection of Drinking Water System Components Form.	PCT's/SPC	31-Dec-20	Complete	It has been verified that this process has been effective as there has not been a reoccurrence of this non-compliance .

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2020-9	Production well not maintained in a manner sufficient to prevent entry into the well of surface water and other foreign materials.	25-Nov-20	Reg	CA	Lack of documentation clarity surrounding roles, responsibilities and authorities for staff involved in the maintenance of wells, especially when there is an identified issue arising from the monthly inspection of above grade components.	Required out of compliance inspection	1. Revise SOP for monthly well above grade inspections for the facility. 2. Train staff on SOP for Monthly above grade inspections at the Cluster Meeting.		PCT/South Sr. Ops Mgr.	06/30/2021 (revised date)	In progress	
2020-10	Woodville Monthly filter performance exceedance	15-Dec-20	Reg	CA	Improper procedure/documentation for filter change over and verification procedure to ensure proper filter performance.		Will review Monthly Filter Performance SOP with staff at next Cluster meeting Adding warning in Wonderware for filter performance to provide advance warning . Include checking ongoing filter performance to 72hr checks in Wonderware. Investigate Hold and Alarms on NTU Analyzer	-Reviewed Monthly Filter Performance at January 14, 2021 Cluster Meeting '-Warning in Wonderware set up for Train ¾ - working with Tam on issue with Train ½ '-Setup and test "Calibrate" alarm on SCADA	Julie Mather Wes Henneberry	end of Q2 2021	In progress	

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2021-1	During the Fenelon Falls inspection review it was identified that on June 29, 2020 from 11:05 am – 11:53 am the filter turbidity was not being tested and recorded at the required intervals for each of the filter trains. It was explained that during this period the plant was undergoing electrical upgrades and the electrical panel that controls this section of the plant was shut down for the electrician. As this electrical panel also controlled the clearwell level sensor it resulted in a zero level reading, which caused the lowlift pumps to start and send water through the filters.	13-Apr-21	Ministry	CA	Plant alarms based on high turbidity readings but not for loss of power or zero reading.	N/A	Install alarms for loss of power and turbidity of zero. Install low lift lockout if both turbidity analyzers lose signal/power.	OCWA operations staff and City of Kawartha Lakes' SCADA programming contractor of WSP Canada Inc., worked together to enable a filter train lockout when a train's filter effluent turbidity analyzer's sensor fails. As there are two filter trains in the treatment process, when both filter effluent turbidity analyzers fail, the low lifts lockout. The lockout was tested on February 25, 2021	SOM/PCT	Q1 2021	Alarm & lockout installed and tested in Feb 2021	Tested in Feb 2021 and found effective.
2021-2	At 0925 on February 9, 2021, Bobcaygeon WTP's Filter 1 NTU analyzer had equipment failure (sensor missing error) resulting in loss of continuous monitoring. Operator observed analyzer not reading and shut down filter production (low lift pumps off) at 1033. Filter reading 0.07 prior to equipment failure. Filter effluent chlorine remained steady and within normal range at 2.25 mg/L free. Handheld NTU taken, 0.26 NTU result. Sensor replaced, analyzer and plant back in service.	31-Mar-21	E	CA	Analyzer had been setup to alarm on low and low low settings (0.00) which have at least a 4ma signal. The loss of sensor created a ma signal less than 4ma, which the analyzer/SCADA had no way to interpret and therefore alarm.	N/A	N/A	Corrective actions on the day of the failure include replacing failed sensor, set up the analyzer, and to change the 4-20ma signal to drop below 4ma if the analyzer malfunctions. The SCADA recognizes the <4ma signal as an analyzer failure. This issue had already been corrected at other WTP in the Central Group. Inquiry had been made with SCADA programmer on how to set it up properly in Bobcaygeon but it was not completed before the analyzer failed.	N/A	N/A	Complete	All NTU analyzers have been corrected to prevent this event from re-occurring.
2021-3	Acronyms used in OP change over time; create acronym reference table to be included in OP-01.	31-Mar-21	S	PA	not applicable	not applicable	Create acronym list to include in OP-01		PCT	end of Q2		
2021-4	During the Fenelon Falls inspection review period records were reviewed regarding the installation of the new UV disinfection equipment to confirm that AWWA disinfection standards were being followed. It was noted that written records regarding confirmation chlorine residuals during this disinfection procedure, as well as any flushing activities were not included in the records. Although OCWA was able to verbally confirm that AWWA standards were followed and noted in the daily log book, further specifics should be recorded to demonstrate the credibility of the method as opposed to simply stating AWWA standards were followed. OCWA shall provide the undersigned Provincial Officer with a written action plan, no later than March 12, 2021, which indicates how the operating authority will ensure that documentation is improved to demonstrate compliance with AWWA disinfection standards.	13-Apr-21	Ministry	PA	N/A	BMP Identified/ Considered	It is recommended that OCWA review the Disinfection Form currently in use and revise it to include a section where chlorine residuals could be recorded during and after the disinfection period. As well a section should be included to demonstrate what additional activities have been performed during the disinfection process as outlined in AWWA standards, these activities could include flushing, microbiological sampling etc. Strengthening the disinfection records will help to ensure that no activities are missed during the disinfection process as well as demonstrate activity compliance. OCWA shall provide the undersigned Provincial Officer with a written action plan, no later than March 12, 2021, which indicates how the operating authority will ensure that documentation is improved to demonstrate compliance with AWWA disinfection standards.	Summary of actions taken to meet the AWWA Standards 653/20, C653/14, C652/19 and any other applicable AWWA Standards: Description of Actions Taken Completed Y/N Additional Comments Completed By Appropriate Method of Disinfection Applied Disinfected at _____ for _____ Minutes/Hours Free Cl2 Residuals taken during disinfection process Free Cl2 residual reading at _____ Free Cl2 residual taken after the disinfection process (24 hours) Free Cl2 Residual reading at _____ System Flushed Bacteriological Sample(s) Taken as per applicable AWWA Standard # of samples taken and at what frequency _____	SPC Mgr	Q1 2021	Form complete, has not been used yet.	Form complete, review of form at cluster level.

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2021-5	North Cluster 72 hour trend reviews not completed over long weekend from April 2 – 5, 2021.	13-Apr-21	Regulation	CA	No reminders in place to notify staff to complete reviews on long weekends.	N/A	Create an electronic Outlook Calendar reminder for North on call operator established for long weekends.	Electronic Outlook Calendar reminder for North on call operator established for long weekends.	SOM	Q2 2021 - monitor until year end.	Reminder in North calendar.	
2021-5	All - Consider requesting a Certificate of Destruction from the shredding company for any record destruction being performed.	07-Dec-21	EA - OFI	PA	N/A	N/A						
2021-6	All - Consider adjusting SOP wording around making adjustments to turbidity analysers based on hand-held device readings	07-Dec-21	EA - OFI	PA	N/A	N/A	Revise SOP regarding turbidity adjustments based on handheld weekly verifications.	SOP was revised July 26, 2021 to Online Regulatory Analyzer Calibration/Verification and Adjustment SOP Rev 1.	SPC/PCT	Complete	Complete	
2021-7	Manorview DWS - As a best practice better details regarding such activities should be noted in the log book when verifying the analyzer so that there is no question as to whether or not there are any issues with the turbidity analyzer. Such written details should include "Passed and within acceptable margin of error" or "Adjusted analyzer to be within the acceptable standard margin of error".	08-Dec-21	Ministry	PA	N/A	BMP Identified/ Considered	Additional review/training at next South Cluster Meeting	Information was reviewed with Operations at the Nov. 16, 2021, South Cluster Meeting.	PCT	Complete	Complete	
2021-8	Manorview DWS - As a best practice any noted issues during the 72 hour data review should be identified in writing to ensure accuracy and validate no issues with the data.	08-Dec-21	Ministry	PA	N/A	BMP Identified/ Considered	Additional review/training at next South Cluster Meeting	Information was reviewed with Operations at the Nov. 16, 2021, South Cluster Meeting.	PCT	Complete	Complete	