

# Agenda

## Elgin Area Primary Water Supply System Joint Board of Management

2nd Meeting of the Elgin Area Water Supply System Board of Management

March 7, 2019, 5:00 PM

Committee Room #5

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<b>1. Call to Order</b>	
<b>2. Adoption of Minutes</b>	
2.1 Minutes of the 1st meeting held on Thursday, January 31, 2019	3
<b>3. Consent Items</b>	
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4.2 Kelly Scherr, Chief Administrative Officer - Ministry of the Environment, Conservation and Parks Inspection Report	24
4.3 Kelly Scherr, Chief Administrative Officer - EA2180 Elgin Terminal Reservoir Emergency Repairs	27
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<b>5. Deferred Matters/Additional Business</b>	

**6. Upcoming Meeting Dates**

June 6, 2019

October 3, 2019

December 5, 2019

**7. Adjournment**

# Elgin Area Primary Water Supply System Report

1st Meeting of the Elgin Area Water Supply System Board of Management  
January 31, 2019

Attendance: Meeting held on Thursday, January 31, 2019 at the London City Hall, commencing at 5:00 PM.

PRESENT: M. van Holst (Chair), P. Barbour, D. Crevits, S. Hillier, E. Pelozza, J. Preston and L. Stevenson and J. Bunn (Secretary)

ALSO PRESENT: P. Corneil, A. Drouillard, S. Flanagan (OCWA), D. Gibson, B. Haklander (RWS), A. Henry, E. McLeod (RWS), L. McVittie (RWS), D. Rodrigues (OCWA), K. Scherr, B. Tully (OCWA) and J. Walker (RWS)

## 1. Call to Order

1.1 Election of Chair and Vice-Chair for term ending November 30, 2020

HILLIER AND PELOZA

That M. van Holst **BE ELECTED** Chair, for the term ending November 30, 2020. **CARRIED**

**Motion Passed**

STEVENSON AND CREVITS

That P. Barbour **BE ELECTED** Vice Chair, for the term ending November 30, 2020. **CARRIED**

**Motion Passed**

**2. Adoption of Minutes**

2.1 Minutes of the 4th Meeting held on Thursday, October 4, 2018

STEVENSON AND BARBOUR

That the minutes of the 4th meeting of the Elgin Area Primary Water Supply System Joint Board of Management, from the meeting held on October 4, 2018, **BE NOTED AND FILED. CARRIED**

**Motion Passed**

**3. Consent Items**

3.1 Important Information Concerning Chlorinated Effluent Discharges from Drinking Water Treatment Facilities and the Fisheries Act

PELOZA AND HILLIER

That the communication dated November 19, 2018, from D. DeOcampo, Environment and Climate Change Canada, with respect to important information concerning chlorinated effluent discharges from drinking water treatment facilities and the Fisheries Act, **BE RECEIVED. CARRIED**

**Motion Passed**

3.2 Quarterly Compliance Report (3rd Quarter 2018: July-September)

PELOZA AND HILLIER

That, on the recommendation of the Chief Administrative Officer, the report dated January 31, 2019, with respect to the general, regulatory and contractual obligations of the Elgin Area Primary Water Supply System, for July to September 2018, **BE RECEIVED. CARRIED**

**Motion Passed**

3.3 Environmental Management System and Quality Management System

PELOZA AND HILLIER

That, on the recommendation of the Chief Administrative Officer, the report dated January 31, 2019, with respect to the Environmental Management System and Quality Management System for the Elgin Area Primary Water Supply System, **BE RECEIVED. CARRIED**

**Motion Passed**

**4. Items for Discussion**

4.1 2019 and 2020 Meeting Schedule

HILLIER AND BARBOUR

That, on the recommendation of the Chief Administrative Officer, the proposed meeting schedule for the Board of Management for 2019 and 2020, as included in the report dated January 31, 2019, **BE APPROVED. CARRIED**

**Motion Passed**

4.2 EA4156 High Lift Pump Replacement - Pump Fabrication

CREVITS AND STEVENSON

That, on the recommendation of the Chief Administrative Officer, the report dated January 31, 2019, with respect to the Elgin Area Primary Water Supply System High Lift Pump Replacement (EA4156), **BE RECEIVED. CARRIED**

**Motion Passed**

4.3 EA2019 Master Water Plan Update - Award

STEVENSON AND PELOZA

That, on the recommendation of the Chief Administrative Officer, the following actions be taken with respect to the Elgin Area Primary Water Supply System Master Water Plan Update:

a) the proposal from Jacobs, in the amount of \$73,551.50, including contingency and excluding HST, **BE ACCEPTED**, having submitted a proposal which meets the Request for Proposal requirements and evaluated as having the best value;

b) the Chair and the Chief Administrative Officer **BE AUTHORIZED** to execute a consulting services agreement with Jacobs for the completion of a Master Water Plan Update for the Elgin Area Primary Water Supply System; and,

c) the report dated January 31, 2019, with respect to the above-noted matter, **BE RECEIVED. CARRIED**

**Motion Passed**

4.4 EA4128 High Lift Switchgear Replacement Project - Update

PELOZA AND HILLIER

That, on the recommendation of the Chief Administrative Officer, the following actions be taken with respect to the High Lift Switchgear Replacement Project (EA4128):

a) the existing construction contract with Selectra Inc., at an estimated cost of \$110,000 (excluding HST), **BE EXTENDED** to include additional HVAC and electrical work associated with the HVAC upgrades; and,

b) the report dated January 31, 2019, with respect to the above-noted matter, **BE RECEIVED. CARRIED**

**Motion Passed**

**5. Deferred Matters/Additional Business**

None.

**6. Next Meeting Date**

March 7, 2019

**7. Adjournment**

The meeting adjourned at 6:03 PM.

<p><b>To:</b> Chair and Members Elgin Area Primary Water Supply System Board of Management</p> <p><b>From:</b> Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer</p> <p><b>Subject:</b> Quarterly Compliance Report (4<sup>th</sup> Quarter 2018: October - December)</p>
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**RECOMMENDATION**

That the Quarterly Compliance report with respect to the general, regulatory and contractual obligations of the Elgin Area Primary Water Supply System **BE RECEIVED** for the information of the Board of Management; it being noted that there were no Adverse Water Quality Incidents or adverse laboratory results reported in the 4<sup>th</sup> quarter of 2018.

**EXECUTIVE SUMMARY**

Since the previous report to the Board, there were no new or proposed regulatory changes that may have an impact on the Elgin Area Primary Water Supply System (EAPWSS).

The Water Quality Quarterly Report for the period of October 1 – December 31, 2018 was posted on the water system’s website at <https://huronelginwater.ca/wp-content/uploads/2019/01/2018-Q4-Elgin-Final.pdf>

There were no Adverse Water Quality Incidents (AWQI) reported by the operating authority or adverse laboratory results reported by the third-party accredited laboratory during this quarter.

**BACKGROUND**

Pursuant to Board of Management resolution, this Compliance Report is prepared on a quarterly basis to report on general, regulatory and contractual compliance issues relating to the regional water system. For clarity, the content of this report is presented in two basic areas, namely regulatory and contractual, and does not intend to portray an order of importance or sensitivity nor a complete list of all applicable regulatory and contractual obligations.

**REGULATORY ISSUES**

**Recent Regulatory Changes:** At the time of drafting this report, there were no new regulatory changes for this reporting period which may have a significant impact on the EAPWSS.

**New Environmental Bill of Rights (EBR) Registry Postings:** At the time of drafting this report, there were no postings on the EBR that may have a significant impact on the EAPWSS.

**Quarterly Water Quality Reports:** The Water Quality Quarterly Report for the period of October 1 –December 31, 2018 was completed by the operating authority, and is posted on the Water Systems’ website at <https://huronelginwater.ca/wp-content/uploads/2019/01/2018-Q4-Elgin-Final.pdf>

**Note:** In order to better comply with the *Accessibility for Ontarians with Disabilities Act, 2005*, the detailed tables of water quality test results which were previously appended to this Report have been removed. The full list and test results of drinking water quality parameters is posted on the water system’s website and available in print at the Board’s Administration Office in London upon request. In addition, the detailed water quality information is also published within the water system’s Annual Report required by O.Reg. 170/03 under the *Safe Drinking Water Act*.

**Adverse Water Quality Incidents (AWQIs):** There were no AWQI reported by the operating authority or adverse laboratory results reported by the third-party accredited laboratory during this quarter.

**O.Reg. 170/03, Section 11 “Annual Reports”:** Under the Drinking Water Systems Regulation (O.Reg. 170/03), an Annual Report for the EAPWSS is required to be prepared by February 28<sup>th</sup> of each year. The report will summarize water quality and maintenance information for the 2018 calendar year. This report is completed by Ontario Clean Water Agency (OCWA), the contracted operating authority for the EAPWSS. Although the report is no longer required to be submitted to the Ministry of the Environment, Conservation and Parks (MECP), the EAPWSS is required to provide copies of the report to drinking water systems that obtain water from this system. Once it is available, the Annual Report will be forwarded to the member municipalities by the February 28, 2019 deadline as required. The Annual Report will also be posted on the Water Systems’ website at <https://huronelginwater.ca/consumer-resources/consumer-reports/> for public information.

**O.Reg. 170/03, Section 22 “Summary Reports for Municipalities”:** Under the Drinking Water Systems Regulation (O.Reg. 170/03) a summary report is required by March 31<sup>st</sup> of each year which:

- Lists the requirements of the Act, the regulations, the system’s approval and any order that the system failed to meet at any time during the period covered by the report, and the duration of the failure. For each failure referred to, a description of the measures that were taken to correct the failure is required.
- In order to allow the system’s owner to “assess the capability of the system to meet existing and planned uses of the system”, provide a summary of the quantities and flow rates of the water supplied, including monthly average and maximum daily flows and daily instantaneous peak flow rates, with a comparison to the systems rated capacity.



# Elgin Area

Primary Water Supply System

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This report will also be completed by OCWA. The Summary Report will be forwarded to the member municipalities of the EAPWSS as required by the March 31, 2019 deadline. The report will be posted on the Water Systems’ website at <https://huronelginwater.ca/consumer-resources/consumer-reports/> for public information. All Summary Reports are available for viewing at the Elgin Area Water Treatment Plant and at the Board’s Administration Office in London. Copies of all reports are available to the public upon request and free of charge as required by O.Reg. 170/03.

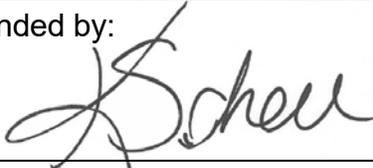
**Compliance Inspections:** The Ministry of the Environment, Conservation and Parks (MECP) conducted an announced physical inspection of the EAPWSS on November 13, 2018. The final inspection report was received on January 30, 2019. The inspection is the subject of a separate report to the Board.

## CONTRACTUAL ISSUES

**ARTICLE 3, “Operation and Maintenance of the Facilities – General”:**

Board staff informally meets with OCWA on a monthly basis to discuss operations and maintenance related issues, and formally on a quarterly basis to review contractual performance. The 2018 fourth quarter Contract Report was received from OCWA on January 30, 2019 and was discussed at the quarterly administration meeting between Board staff and OCWA on February 14, 2019. Copies of the monthly Operations and Maintenance Reports, or quarterly Contract Reports are available at the Board’s Administration Office in London upon request.

This report was written by Erin McLeod, Quality Assurance and Compliance Manager.

Submitted by:  <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> Andrew Henry, P. Eng. Director, Regional Water Supply	Recommended by:  <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer
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**To:** Chair and Members  
Elgin Area Primary Water Supply System Board of Management

**From:** Kelly Scherr, P.Eng., MBA, FEC  
Chief Administrative Officer

**Subject:** Environmental Management System and Quality Management System

## RECOMMENDATION

That the following report with respect to the Environmental Management System and Quality Management System for the Elgin Area Primary Water Supply System **BE RECEIVED** for information.

## BACKGROUND

### **Environmental Management System (EMS)**

The Elgin Area Primary Water Supply System (EAPWSS) has an Environmental Management System (EMS) which has been registered to the ISO 14001 standard since 2003. The EAPWSS underwent a three-year registration audit in October 2017 and was recommended for registration to the ISO 14001:2015 standard for a three-year period (ending in 2020).

The continued utilization and registration of the EMS to the ISO 14001 standard is a requirement of the Service Agreement with Ontario Clean Water Agency (OCWA), the contracted Operating Authority for the EAPWSS.

### **Quality Management System (QMS)**

In 2006, the Drinking Water Quality Management Standard (DWQMS) was integrated with the existing EMS and the combined EMS/QMS is maintained by the contracted Operating Authority. The *Safe Drinking Water Act* (SDWA) and the water system's Municipal Drinking Water Licence (MDWL) require that an accredited Operating Authority be in operational charge of the drinking water system. In order to become accredited, the Operating Authority must utilize and maintain an Operational Plan that meets the requirements of the DWQMS and must undergo an external accreditation audit.

OCWA received full scope DWQMS re-accreditation in October 2016 and is currently accredited for the three-year period ending in 2019.



# Elgin Area

Primary Water Supply System

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## DISCUSSION

### Management Review

The documented EMS/QMS and its performance requires Management Review by Top Management a minimum of once every calendar year to ensure that the management team of the Board and the Operating Authority stay informed of environmental and quality related issues. Items discussed at the Management Review meetings include, but are not limited to, water quality test results, environmental and quality performance, legislative changes, identified non-conformances, corrective and preventive actions, staff suggestions, changing circumstances and business strategies, and resource requirements. Corrective and preventive actions include not only those to address non-conformance issues and opportunities for improvement identified as part of internal and external audits, but also non-compliance issues identified by the Ministry of the Environment, Conservation and Parks (MECP), suggestions from staff, and opportunities for improvement identified during the Management Review process.

In order to carry out more effective Management Review meetings, the Board's administration has opted to conduct shorter meetings at more frequent intervals. Although each required Management Review input may not be covered at every meeting, over the course of the year all required inputs are reviewed at least once. Management Review meetings are held in a combined format for both the EAPWSS and the Lake Huron Primary Water Supply System (LHPWSS).

There were no Management Review meetings conducted during this reporting period.

### Internal Audits

Pursuant to the international ISO 14001 EMS standard and the provincial DWQMS standard, periodic "internal" audits are performed by the Board's administration to ensure continued compliance with legislated, contractual, and other requirements, as well as conformance with the ISO 14001 EMS standard and DWQMS standard. Internal audits also ensure that the ongoing operation of the EAPWSS conforms to the EMS and QMS as implemented. As required by the standards, internal audits are performed a minimum of once every calendar year.

An Environmental Compliance Internal Audit was conducted on January 24, 2019 and a summary of the audit findings is included in Appendix A of this report. Zero (0) non-compliances and zero (0) opportunities for improvement were identified during the audit. The audit report will be discussed at the next Management Review meeting tentatively scheduled for April 2019.

### External Audits

Annual surveillance audits (third-party external audits) are conducted for both the EMS and QMS, with a recertification audit taking place every third year. The external registrar for both the EMS and QMS is currently SAI Global. External audits review all aspects of the EMS or

QMS, including the internal audits, subsequent management reviews, and corrective action processes.

There were no external audits conducted during this reporting period.

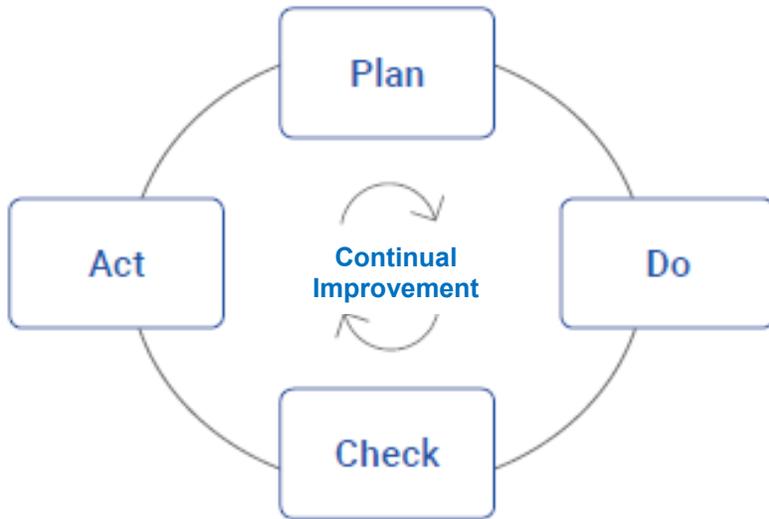
### **Corrective and Preventive Actions**

For the EMS/QMS to be effective on an on-going basis, an organization must have a systematic method for identifying actual and potential non-conformities, making corrections and taking corrective and preventive actions, preferably preventing problems before they occur. The Internal Audit process and Management Review are the two main drivers for identifying potential problems and opportunities for improvement for the EAPWSS and implementing corrective actions. Preventive actions may originate from identified opportunities for improvement as part of an audit, but also staff suggestions and discussions with management.

It is important to note that action items should not be construed as **compliance failures**, but rather an action to be undertaken which will improve the EAPWSS's overall performance.

Action items are the result of the "PLAN-DO-CHECK-ACT" continual improvement process. The identification of action items is a critical component of continual improvement and an essential element of management systems. The identification of action items should be seen as a positive element, as this drives continual improvement.

A key concept of PLAN-DO-CHECK-ACT is that it does not require nor expect 100% conformance but promotes an environment of continual improvement by identifying shortfalls, implementing corrective and preventive measures, and setting objectives and targets for improvement. Figure 1 outlines the general process.



*Figure 1: Plan-Do-Check-Act improvement process*

Since the last report to the Board, no new action items have been added to the EMS/QMS action item tracking system.

As of February 15, 2019, there are currently 17 open action items in the system. Action items are prioritized and addressed using a risk-based approach, and deadlines established given reasonable timeframes and resources that are available. Board staff are pleased with the performance of the corrective and preventive action process and have no concerns with the number of open action items.

All outstanding action items in the system are driven by continual improvement. All open action items are currently either proactive or relate to opportunities for improvement. None of the open action items relate to regulatory issues (i.e. non-compliances), management system non-conformances, or water quality issues.



# Elgin Area

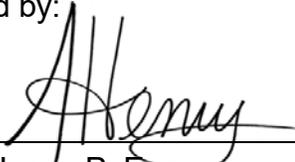
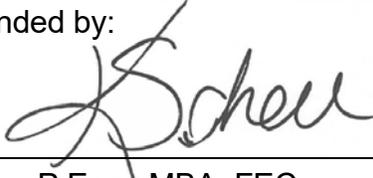
Primary Water Supply System

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## CONCLUSION

The Internal Audits and frequent Management Review meetings continue to effectively identify system deficiencies. The EMS/QMS for the EAPWSS continues to be suitable, adequate and effective. Activities by OCWA continue to address the need for change, and the management systems are being revised and refined as required.

This report was prepared by Erin McLeod, Quality Assurance & Compliance Manager with the assistance of Arlene Tanashi, Compliance Coordinator.

Submitted by:  Andrew Henry, P. Eng. Director, Regional Water Supply	Recommended by:  Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer
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### Attachments:

**Appendix A** – Environmental Compliance Internal Audit Report Summary (January 24, 2019)

**APPENDIX A: ENVIRONMENTAL COMPLIANCE INTERNAL AUDIT REPORT SUMMARY  
(JANUARY 24, 2019)**



## **ENVIRONMENTAL COMPLIANCE AUDIT**

**Audit Date:** January 24, 2019

**Internal Auditor:** Arlene Tanashi (Compliance Coordinator,  
Regional Water Supply)

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### **SUMMARY**

**Audit Purpose:**

The purpose of the audit was to verify compliance with select environmental legislation and other compliance obligations at the Elgin Area Primary Water Supply System (EAPWSS). Internal audits ensure the progress and activity of the Environmental Management System (EMS) is tracked.

**Auditor Qualifications:**

Arlene Tanashi has completed a three day training course in ISO 14001:2015 EMS Internal Auditing (see Certificate in Appendix A). The auditor holds an Air Water Resources Field Technology (now Environmental Technology) diploma from Fanshawe College of Applied Arts and Technology.

**Methodology:**

The internal audit was conducted as outlined in EA-ADMIN-1600 Compliance as detailed in the EMS Manual. The audit checklists were generated using Nimonik Environmental Criteria Software and are attached as Appendix B of this report. An in-house Environmental Compliance Internal Audit checklist was also used and is attached as Appendix C of this report.

The audit was comprised of a facility tour and an environmental compliance review of the EAPWSS. The audit was limited to the operation of the water supply system by the contracted operating authority, Ontario Clean Water Agency (OCWA), for the period of their operating tenure, starting July 1, 2012.

Operational documents and records maintained by the operating authority for the period September 20, 2016 through January 24, 2019 were reviewed in conjunction with this compliance evaluation.

**Note:**

The audit was conducted through a review of a sampling of documents, limited interviews and observations by the auditor to demonstrate compliance obligations are being met as outlined in the EMS. The review and audit should not be construed as a complete and comprehensive review of all aspects and all documents.

**Checklist criteria:**

<b>Environmental Compliance</b>	
Federal:	<p>The following Areas of Concern on the Nimonik Canada General Industry Environmental OHS Audit Template:</p> <ul style="list-style-type: none"> <li>• Environmental Emergency (SOR/2003-307)</li> <li>• Discharges to Navigable Waters (Fisheries Act)</li> </ul>
Provincial:	<p>The following Areas of Concern on the Nimonik Ontario General Industry Health and Safety Audit Template:</p> <ul style="list-style-type: none"> <li>• Fire Protection and Prevention Act</li> <li>• OHS: Employers Duties (TSSA questions only)</li> <li>• OHS: Boilers and Pressure Vessels (O. Reg. 220/01)</li> </ul> <p>The following Areas of Concern on the Nimonik Ontario General Industry Environmental Audit Template:</p> <ul style="list-style-type: none"> <li>• Propane Storage &amp; Handling (O. Reg. 211/01 as it applies to forklifts)</li> </ul> <p>The following items had criteria from the in-house checklist:</p> <ul style="list-style-type: none"> <li>• Energy Reporting and Energy Conservation and Demand Management Plans (O. Reg. 507/18)</li> <li>• Building Code (O. Reg. 332/12 Part 8) – Septic systems</li> <li>• Watermain Disinfection Procedure</li> </ul>
Municipal:	<p>The following item had criteria from the in-house checklist:</p> <ul style="list-style-type: none"> <li>• By-Law No. 212 – Noise</li> </ul>
Other:	<p>The following items had criteria from the in-house checklist:</p> <ul style="list-style-type: none"> <li>• Occupancy/License Agreements</li> <li>• Water Supply Agreements</li> <li>• Operating Contract/Service Agreement</li> </ul>

**Interviews Conducted:**

- Denny Rodrigues, Safety Process & Compliance Manager, OCWA
- Simon Flanagan, Senior Operations Manager, OCWA
- John Walker, Operations Manager, RWS
- Erin McLeod, Quality Assurance & Compliance Manager, RWS

**Areas Visited:**

- Elgin Water Treatment Plant, 43665 Dexter Line, Central Elgin

**FINDINGS**

The following is a summary of the findings including non-compliance and opportunities for improvement for the EAPWSS.

**Definitions:**

- A non-compliance (NC) is a non-fulfilment of a regulatory requirement.
- An opportunity for improvement (OFI) describes a regulatory requirement that can be more effectively addressed.

**Positive Findings:**

- Installation of new racking in the boiler room for fluorescent lamp storage as a preventive measure for breakage/spills.
- The operating authority is considering a change in recycling provider which will result in a greater portion of fluorescent lamps being recycled.
- Random check of fire extinguishers, safety stations and spill kits indicated that checks had been completed monthly.

**Regulatory Non-Compliance (NC):**

There were zero (0) non-compliances.

**Regulatory Opportunities for Improvement (OFIs):**

There were zero (0) opportunities for improvement.

**To:** Chair and Members  
Elgin Area Primary Water Supply System Board of Management

**From:** Kelly Scherr, P.Eng., MBA, FEC  
Chief Administrative Officer

**Subject:** Capital Status Report

## RECOMMENDATION

That the following actions be taken with regard to Elgin Area Primary Water Supply System capital projects:

- a) That this report regarding the status capital projects **BE RECEIVED** for information; and,
- b) That projects EA4108 Revenue Meter Replacement Program, EA4109 Plant Reservoir Repairs, EA4114-17 Annual Maintenance (2017), EA4119 WTP Tunnel Repair, EA4139 Control Panel/Wire Cleanup, EA4146 Garage Door Replacement, and EA4154 Polymer System Upgrades **BE CLOSED**, with the surplus funds in the approximate amount of \$408,027 released to the Board's Reserve Funds.

## DISCUSSION

The Capital Project Status Report, attached to this report as Appendix A for the Board's information, provides a brief overview of the status of current capital projects for the Elgin Area Primary Water Supply System. This report is provided for the general information of the Board.

The status report is divided into four categories of projects, namely:

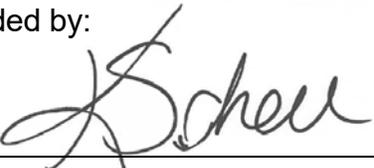
1. **Ongoing Projects:** This section provides a summary list of all projects which are funded by the Board through the Capital Budget and which are currently in-progress. Board funded projects are typically for the replacement or upgrade of existing assets, the construction of new assets, or engineering studies and assessments, as approved by the Board.

Under the terms of the Service Agreement with the contracted operating authority, the Board is also required to pay for some maintenance/repair projects. The benchmark used in the operating contract is that if the value of the material and any contracted labour is over \$30,000, the project is considered Capital Maintenance and the contracted operating authority would fund the first \$30,000, with the balance funded by the Board. Accordingly, the Board maintains an annual "fund" within the Board's capital budget to pay for these projects as they arise.

2. **Completed Projects - Release Surplus to Reserve Funds:** This section provides a summary list of all projects which are presently completed, but do not require additional funds from that budgeted. Should the Board approve the closure of the listed projects, it is the recommendation of staff to release the surplus funds, if any, to the Reserve Fund.

**Completed Projects – Reduce Authorized Debt:** In the case where the project is funded through the issuance of a debenture, should the Board approve the closure of the listed project it is the recommendation of staff to reduce the previously authorized but unissued debt for the project(s).

3. **Completed Projects - Additional Funding Required:** This section provides a summary list of all projects which are presently completed, but require additional funds from that originally approved. Should the Board approve the closure of the listed projects, it is the recommendation of staff to provide the required additional funding from the Board’s Reserve Fund.

Submitted by:  _____ Andrew Henry, P. Eng. Director, Regional Water Supply	Recommended by:  _____ Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer
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**Attachments:** Capital Project Status Summary

**APPENDIX A: CAPITAL PROJECT STATUS SUMMARY**

**A.1 Ongoing Capital Projects**

PROJECT No.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
EA2019-19	Master Water Plan	\$135,000	\$0	Project initiated
EA2180	Elgin Terminal Reservoir Emergency Repairs	\$250,000	\$82,015	Project ongoing
EA4022	Security Upgrades	\$250,000	\$23,917	Project ongoing
EA4023	Residue Management Facility	\$30,200,000	\$27,397,985	Project complete. Awaiting final invoice
EA4039	Record Drawings & Documents	\$180,000	\$166,045	Ongoing annual project
EA4073	Plant Instrumentation	\$501,608	\$469,284	Ongoing annual project
EA4085	IT Security Upgrades	\$604,000	\$447,304	Project ongoing
EA4095	WTP Interior Renovations	\$421,500	\$332,541	Ongoing multi-year project
EA4107	Concrete Crack Injection	\$90,000	\$44,013	Project ongoing
EA4114-18	Annual Maintenance (2018)	\$100,000	\$28,358	Annual program
EA4114-19	Annual Maintenance (2019)	\$100,000	\$0	Annual program
EA4115	Master Key System	\$80,000	\$75,765	Project complete. Awaiting final invoice
EA4125	Low Lift 4kv Switchgear	\$700,000	\$365,964	Project complete. Awaiting final invoice
EA4126	Filter Room HVAC Modifications	\$75,000	\$10,649	Project ongoing
EA4128	High Lift Switchgear	\$1,450,000	\$1,107,060	Project ongoing
EA4129	Server Room Fire Suppression	\$30,000	\$0	Project on hold
EA4131	Cell 1 Isolation Valve	\$100,000	\$14,106	Project complete. Awaiting final invoice
EA4132	Alum Storage Tanks	\$125,000	\$53,709	Project ongoing
EA4133	Coagulation Optimization Study	\$25,000	\$4,449	Project ongoing
EA4136	Service Water Piping Replacement	\$25,000	\$24,953	Ongoing multi-year project
EA4137	Low Lift Service Water Connection	\$50,000	\$30,387	Ongoing multi-year project



**Elgin Area**  
Primary Water Supply System

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<b>Meeting Date:</b> March 7, 2019
<b>File No.:</b>

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
EA4140	Drain Pipe Replacement	\$60,000	\$58,116	Project ongoing
EA4143	EMPS Cell 2 Access House Rehab	\$50,000	\$38,418	Project ongoing
EA4145	Fluoride System Assessment	\$25,000	\$0	Project initiated
EA4148	Low Lift Pump #1 Rebuild	\$150,000	\$22,567	Project ongoing
EA4149	Low Lift HVAC	\$250,000	\$0	Project ongoing
EA4152	PLC Replacements	\$40,000	\$0	Project to be initiated
EA4153	Filter Backwash Upgrades	\$200,000	\$24,327	Project ongoing
EA4156	High Lift Pump Replacement	\$4,851,000	\$110,277	Project ongoing
EA4160	Non-Revenue Meter Replacement Program	\$75,000	\$45,278	Project ongoing
EA4161	Evaluate Pre-Treatment Hydraulics	\$50,000	\$0	Project to be initiated
EA4162	Crop Yield Monitoring – 2013 Pipeline Twinning	\$661,000	\$296	Ongoing multi-year project
EA4169	Sluice Gate Repairs	\$50,000	\$0	Project to be initiated
EA4174	Lighting Motion Sensors (RMF)	\$25,000	\$0	Project to be initiated
EA4175	Pilot – Unchlorinated Filtration	\$25,000	\$0	Project to be initiated
EA4176	Plant Drain Chlorine Sample Line	\$80,000	\$0	Project to be initiated
EA4177	Railings and Guarding	\$50,000	\$0	Project to be initiated
EA4178	UVT Analyzer	\$90,000	\$0	Project to be initiated
EA4179	Window/Glazing Replacement	\$60,000	\$0	Project to be initiated
EA4180	Filter Capacity Evaluation	\$37,000	\$0	Project to be initiated
<b>TOTAL</b>		<b>\$42,321,108</b>	<b>\$30,977,783</b>	



**A.2(a) Completed Projects – Release Surplus to Reserve Funds (\$408,027)**

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
EA4108	Revenue Meter Replacement Program	\$205,000	\$140,093	Project complete
EA4109	Plant Reservoir Repairs	\$400,000	\$309,243	Project complete
EA4114-17	Annual Maintenance (2017)	\$100,000	\$16,320	Project complete
EA4119	WTP Tunnel Repair	\$50,000	\$4,164	Project complete
EA4139	Control Panel / Wire Cleanup	\$25,000	\$23,918	Project complete
EA4146	Garage Door Replacement	\$75,000	\$69,256	Project complete
EA4154	Polymer System Upgrades	\$300,000	\$183,979	Project complete
<b>TOTAL</b>		<b>\$1,155,000</b>	<b>\$746,973</b>	

**A.2(b) Completed Projects – Reduce Authorized Debt**

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
<b>TOTAL</b>		<b>\$ 0</b>	<b>\$ 0</b>	

**A.3 Completed Projects – Additional Funding Required (\$0)**

PROJECT NO.	PROJECT	APPROVED BUDGET	EXPENDED TO DATE *	STATUS
<b>TOTAL</b>		<b>\$ 0</b>	<b>\$ 0</b>	

Notes:

\* Expended as of 15 February 2019

## **Elgin Water Board Meeting Times**

Moved By: Elizabeth Pelosa

Seconded By: Dennis Crevits

This motion is made to move the Elgin Area Water meetings to a day time meeting commencing at 10:00 AM. Dates previously set will remain unchanged. Refreshments will remain served prior to the meeting.

The Board approved meeting schedule for 2019:

March 7, 2019

June 6, 2019

October 3, 2019

December 5, 2019

The following dates are the Board approved meeting schedule for 2020:

March 5, 2020

June 4 2020

October 8, 2020

December 3, 2020

**To:** Chair and Members  
Elgin Area Primary Water Supply System Board of Management

**From:** Kelly Scherr, P.Eng., MBA, FEC  
Chief Administrative Officer

**Subject:** Ministry of the Environment, Conservation and Parks Inspection Report

## RECOMMENDATION

That this report with respect to the Ministry of the Environment, Conservation and Parks (MECP) annual inspection **BE RECEIVED** for the information of the Board of Management; it being noted that the Elgin Area Water Supply System achieved a 100% inspection rating for the period of September 1, 2017 to September 30, 2018.

## PREVIOUS AND RELATED REPORTS

- Ministry of the Environment and Climate Change Inspection Report – March 1, 2018
- Ministry of the Environment and Climate Change Inspection Report – October 6, 2016
- Ministry of the Environment Inspection Report – October 1, 2015
- Ministry of the Environment Inspection Report – October 2, 2014
- Ministry of the Environment Inspection Report - December 5, 2013
- Ministry of the Environment Inspection Report – October 4, 2012
- Ministry of the Environment Inspection Report – December 8, 2011
- Ministry of the Environment Inspection Report – June 9, 2011
- Ministry of the Environment Inspection Report – March 4, 2010
- Ministry of the Environment Inspection Report - June 11, 2009

## BACKGROUND

The MECP conducts an annual inspection of the Elgin Area Primary Water Supply System (EAPWSS). The objective of the inspection is to determine the compliance of the drinking water system with requirements under the *Safe Drinking Water Act*, associated regulations, and MECP issued licences and permits. An inspection report is issued which outlines any non-compliances as well as recommended best management practices for the water system's consideration.

Violations identified within an inspection report, if any, have been evaluated by the MECP based on the potential risk to consumers. Any identified violations are monitored for compliance with the minimum standards for drinking water in Ontario as set forth under the *Safe Drinking Water Act* and associated regulations. Where risk is deemed to be high and/or compliance is an ongoing concern, violations are forwarded to the Ministry's Investigation and Enforcement Branch by the MECP Inspector.

## DISCUSSION

### Inspection Findings

The MECP conducted an announced “focused” inspection of the EAPWSS on November 13, 2018. The final inspection report was issued by the MECP on January 30, 2019. The inspection covered the period from September 1, 2017 through September 30, 2018.

A focused inspection involves fewer activities than normally undertaken in a detailed inspection, and includes the critical elements required to assess key compliance issues. Drinking water systems may be selected for a focused inspection if the past performance has met MECP criteria. Future inspections may be either detailed or focused.

The final inspection report issued by the MECP contained an inspection rating of 100.00% for the inspection period. There were no non-compliances or recommended best management practices identified by the Ministry Inspector. No action is required by either the operating authority or owner.

Due to the length of the Ministry’s final inspection report, this Board report contains a summary only for the general information of the Board. Copies of the complete inspection report as issued by the MECP are available to the Board, the benefiting municipalities, and the public at large from Board staff at the Regional Water Supply office in London upon request. A copy of the full report is also posted on the Regional Water System’s website at:  
<https://huroneginwater.ca/wp-content/uploads/2019/01/EAPWSS-210000871-1-I50ZT-FINAL-REPORT-2018.pdf>

### Risk Rating

The MECP applies a risk rating methodology to establish an annual inspection rating. Any non-compliance identified in the inspection report is evaluated based on the potential to compromise the delivery of safe drinking water to the public. For example, a “failure to document” may have a relatively low risk, whereas a “failure to disinfect” would have a relatively high risk. The primary goal of this type of assessment is to encourage ongoing improvement and to establish a way to measure improvement, which is weighted by the severity of the risk. A low inspection rating does not necessarily mean that drinking water is unsafe, but rather it is an indication of the degree to which there is room for improvement with respect to a drinking water system’s operation.

This methodology of risk assessment and rating has been used consistently by the MECP since the 2008-2009 inspection period, and therefore can serve as a comparative measure both provincially and specifically to the EAPWSS since that time. The methodology utilized for annual inspections is reviewed by the MECP every three years. If changes occur in the application of the methodology and risk ratings, ratings from one three-year period may be slightly inconsistent with another.

The following table outlines the inspection rating for the EAPWSS since 2008:

Reporting Year	Final Inspection Rating	# of Non-compliances	Type of Inspection	Operating Authority
2008-2009	81.97%	16	Detailed	American Water
2009-2010	79.71%	12	Detailed	American Water
2010-2011	81.30%	14	Detailed	American Water
2011-2012	89.32%	8	Detailed	American Water
2012-2013	90.54%	4	Focused	American Water
2013-2014	93.40%	3	Focused	OCWA
2014-2015	100.00%	0	Focused	OCWA
2015-2016	97.36%	1	Detailed	OCWA
2016-2017	100.00%	0	Focused	OCWA
2017-2018	97.17%	3	Focused	OCWA
2018-2019	100.00%	0	Focused	OCWA

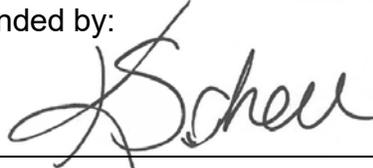
**Correspondence and Communications**

Prior to issuing the final inspection report, the MECP issued a draft copy to the owner and operating authority, providing the opportunity to comment or request clarification on the findings. As no non-compliances or recommended best practices were identified, neither OCWA nor Board staff submitted comments.

**CONCLUSION**

The MECP inspection report has indicated that all requirements of applicable drinking water legislation for the EAPWSS were met for this inspection period. Board staff will continue to review and discuss any inspection findings with the MECP Regional Office as required, to ensure that inspection findings are consistent, appropriate and relevant to the EAPWSS.

This report was written by Erin McLeod, Quality Assurance & Compliance Manager.

Submitted by: 	Recommended by: 
Andrew Henry, P. Eng. Director, Regional Water Supply	Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer



**To:** Chair and Members  
Elgin Area Primary Water Supply System Board of Management

**From:** Kelly Scherr, P.Eng., MBA, FEC  
Chief Administrative Officer

**Subject:** EA2180 Elgin Terminal Reservoir Emergency Repairs

### RECOMMENDATION

That this report with respect to project EA2180 Elgin Terminal Reservoir Emergency Repairs **BE RECEIVED** for the information of the Board of Management.

### PREVIOUS AND RELATED REPORTS

None

### BACKGROUND

Cell #2 of the Elgin Terminal Reservoir was constructed in 1996 to accommodate the new connection to the City of London as well as the Aylmer Secondary Water System supplying the Town of Aylmer and the municipalities of Malahide and Central Elgin. Shortly after completion of the construction of Cell #2, a significant leak was discovered due to poor concrete conditions on the slab floor and drain sumps, as well as broken reservoir drain lines.

In 1997 and 1998, an investigation and subsequent repair project was initiated by the Ontario Clean Water Agency on behalf of the Province of Ontario, who owned the reservoir and primary water supply system at the time. Since the transfer of ownership from the Province of Ontario in 2000, it has been generally known that the reservoir has continued to leak but was determined to be a relatively minor extent and occurred at tolerable rates.

At the time, the leakage was thought to be minor leaking of drain valves, or possibly the repairs undertaken in 1998 weren't as fully effective as initially thought.

## DISCUSSION

During a routine cleaning and inspection in November 2018, the contracted Operating Authority, the Ontario Clean Water Agency (OCWA), discovered an open core hole in the slab floor of Cell #2 of the Elgin Terminal Reservoir. The core hole is approximately 50mm (2 inches) in diameter. Upon initial investigation using a simple measuring tape, it was determined that a void existed below the open core hole that extended at least 1.85m in depth beyond the bottom of the concrete slab floor. The lateral extent of the void could not be determined.

In addition to the open core hole, damaged concrete was discovered in at least one sump pit which exposed the slip-lining repair to the reservoir drain. The extent of damage to the drain line, if any, could not be ascertained at that time.

The primary concern by both OCWA and Board staff at the time was centred on:

1. The extent of the void underneath the floor slab of Cell #2 which could, if left unaddressed, compromise the structural integrity of the concrete reservoir and lead to contaminated drinking water supplied to area municipalities;
2. The condition of the previously repaired reservoir drain line and the rate of leakage, if any; and,
3. The condition of the leaking inlet valve, outlet valve, and drain valves.

The Board was notified on November 14 via email of the initial findings, a copy of the notification is attached to this report as Appendix A for the Board's information and reference.

Due to the seriousness of the initial findings, and the potential catastrophic failure of the reservoir, project EA2180 Elgin Terminal Reservoir Emergency Repairs was initiated in accordance with the Board's Procurement Bylaw emergency provisions. The budget for this emergency repair was set at \$250,000 subject to the results of the detailed engineering investigation. The Emergency Reserve Fund was utilized as the source of finance for this project.

### **Risk of Contamination**

Because the reservoir was always at least 40% filled, contamination of the drinking water from groundwater intrusion through the open core hole or drain line was not a significant concern as the static pressure within the reservoir would ensure that groundwater could not infiltrate into the reservoir. Notwithstanding, if the reservoir is completely drained at any time in future it is possible that groundwater could infiltrate through the core hole and drain, which would require the reservoir to be completely cleaned and disinfected.

### **Investigation**

GM BluePlan was engaged on an emergency procurement basis to assist in undertaking an engineering assessment of the damage and recommend options for the repair of the reservoir cell. With the assistance of OCWA, GM BluePlan completed an assessment of the concrete

structure, reservoir drain lines, and valves. In order to try and determine the extent of the void under the concrete slab, Ground Penetrating Radar was used utilizing a subcontracted engineering firm. While the Ground Penetrating Radar cannot determine the depth of any void, it was utilized to determine the lateral extent of any void under the floor slab. The entire slab, where possible, was surveyed using the radar assessment technology.

The findings and subsequent actions are summarized below:

### ***Valve Repairs***

The valves were determined to be leaking due to worn valve seats, improper valve-stop settings, and broken valve mounts. The valve-stops and valve mounts were repaired on the inlet, outlet and drain valves by OCWA. The valve-seats of the inlet valve were repaired by OCWA at the time that the valve-stops and mounts were repaired.

The seats for the outlet valve could not be repaired at the time, as it would require the use of a diver once the reservoir cell was put back into operation.

### ***Drain Line***

Detailed video inspection revealed that the slip-lining that was installed in 1998 was still intact and wasn't leaking. Sections of the fill material between the slip-line and the original drain pipe was exposed, but substantially intact. It was determined that this interstitial space could be repaired at the same time as the repairs to the concrete sump.

### ***Floor Slab***

The Ground Penetrating Radar survey revealed that the void originating from the open core hole extended approximately 7 metres in length and 2 metres in width, terminating at the reservoir's underdrains.

*Note: Underdrains are perforated pipes under the floor slab which are used to drain groundwater from under and around the reservoir.*

Limited visual inspection using a CCTV camera inserted into the open core hole determined that while the immediate area below the hole was open, much of the coarse aggregate under the slab was still in place but the fine materials have been washed away. While not ideal, this has likely contributed to limiting the extent of damage found as the floor slab would still be partially supported by the aggregate.

Two additional areas were discovered using the Ground Penetrating Radar that suggested minor voids existed near the underdrains. While we were unable to determine the depth of the probable voids, the lateral extent of the voids were determined to be less than a square meter in each location.

***Repairs and Timeline***

It is speculated that the likely origin of the open core hole could be attributed to either:

- The failure of the core plug after the 1998 investigation and subsequent repair; or,
- The core hole wasn't plugged following the 1998 investigation and subsequent repair.

Regardless of the speculated cause of the now-open core hole, the terms of the transfer of ownership from the Province require that the water system assume all assets on an as-is basis and responsible for undertaking any repairs required. Accordingly, with the assistance of GM BluePlan, a request for quotation was issued on February 8, 2019 for the remaining concrete and underdrain repairs. The quotation period closed on February 22, 2019 and repairs anticipated to begin on March 4, 2019.

At the time of writing this report, the administrative award of the contract and total cost of the repair was not known.

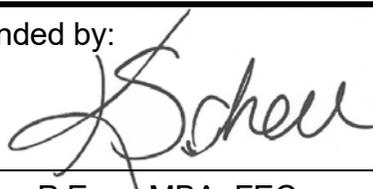
In order to complete repairs before the higher volumes experienced by the water system in the spring, all repairs must be completed by April 19, 2019. This timeline allows for the final cleaning and disinfection of the reservoir cell before being placed back into service.

**CONCLUSION**

The damage to Cell #2 of the Elgin Terminal Reservoir was discovered during routine cleaning and maintenance by the contracted Operating Authority, the Ontario Clean Water Agency. Subsequent investigations revealed that the extent of damage wasn't as much as initially feared, however emergency repairs to the reservoir are required to mitigate the risk of future catastrophic failure.

It is anticipated that all repairs will be completed by April 19, 2019 and the reservoir cell placed back into service by the beginning of May.

This report was written with the assistance of John Walker, Operations Manager.

Submitted by: 	Recommended by: 
Andrew Henry, P. Eng. Director, Regional Water Supply	Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer

Attachments: Appendix A – Notice to Board Members, Elgin Terminal Reservoir Emergency Repairs

**APPENDIX A: NOTICE TO BOARD MEMBERS, ELGIN TERMINAL RESERVOIR EMERGENCY REPAIRS**



14 November 2018

OUR FILE No. EA2180

**Elgin Area Water Supply System  
Board of Management**

**Re: Elgin Terminal Reservoir – Emergency Repairs**

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Board Members;

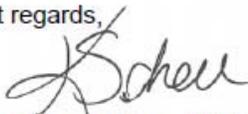
Earlier this week, our contracted operating authority, the Ontario Clean Water Agency (OCWA), was undertaking a routine drainage, inspection and cleaning of cell #2 at the Elgin Terminal Reservoir located northeast of St. Thomas. Upon completion of the draining operation, damage to the reservoir drains and floor slab was discovered which require immediate emergency repairs. The full extent of the damage is still under investigation, however a potentially significant void under the floor slab has been located. If left unrepaired, the void under the floor slab could result in further leakage and potentially the catastrophic failure of the reservoir cell.

Given the nature of and location of the damage discovered, we are confident that the quality and safety of the drinking water supplied to area municipalities has not been compromised. The capacity of the water treatment plant and continued supply to area municipalities is not affected.

This letter is intended to provide you with initial notice that the emergency repairs have been initiated, utilizing the water system's Emergency Reserve Fund. We expect that a detailed engineering inspection will take several days to complete, before a complete repair plan can be developed. Depending on the extent of damage, repairs may take as much as 3 months to complete.

A more detailed report will be provided at the next scheduled meeting of the Board. Should you have any questions or concerns in the meantime, please feel free to contact me or Andrew Henry at your earliest convenience.

Best regards,



Kelly Scherr, P.Eng., MBA, FEC  
Chief Administrative Officer

Elgin Area Primary Water Supply System  
Office 519.930.3505 ext. 1355  
Fax 519.474.0451  
ahenry@huroneiginwater.ca  
[www.huroneiginwater.ca](http://www.huroneiginwater.ca)



c/o The City of London  
Regional Water Supply Division  
235 North Centre Road, Suite 200  
London, ON N5X 4E7

<p><b>To:</b> Chair and Members Elgin Area Primary Water Supply System Board of Management</p> <p><b>From:</b> Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer</p> <p><b>Subject:</b> Project EA4160 – Non-Revenue Flow Meters – Status Update</p>
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**RECOMMENDATION**

That the following actions be taken regarding the continuation of the Non-Revenue Flow Meter Renewal Project (Capital Project EA4160):

- a) The Board of Management for the Elgin Area Water Supply System **APPROVE** an increase in the project budget by \$50,000, for a total project budget of \$125,000, the additional funds being drawn from the Asset Replacement Reserve Fund; and,
- b) The Board of Management for the Elgin Area Water Supply System **RECEIVE** this status report regarding project EA4160 Non-Revenue Flow Meter Renewal Project.

**PREVIOUS AND RELATED REPORTS**

March 1, 2018	Capital Status Report
October 5, 2017	2018 Operating & Capital Budgets

**BACKGROUND**

As part of the 2018 Capital budget, The Board approved a project to systematically replace old and poorly functioning non-revenue flow meters throughout the Elgin Facility. Flow meters within the facility are necessary to control and monitor the various treatment processes. This project proposes a systemic replacement of the old and failing non-revenue meters throughout the water treatment facility to ensure continued process control and regulatory compliance.

In addition to flow meters related to process controls throughout the water treatment plant, the raw water flow meter is also required for regulatory reporting related to the water system’s Permit To Take Water, as well as overall treatment and pump controls for the plant as a whole.

This project does not include the backwash or filter rate meters.

**DISCUSSION**

The water system’s contracted Operating Authority, the Ontario Clean Water Agency (OCWA), systematically replaced the non-revenue meters throughout the water treatment plant. All but two non-revenue meters have now been completed.

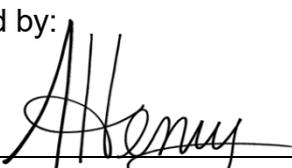
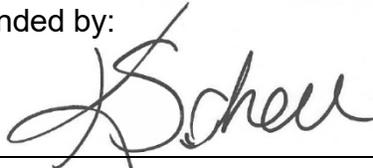
The initial budget approval for this project was for \$75,000. A high-level estimate was used for the installation of the various meters throughout the facility. As old and new meters are of a different lay-lengths, even with the same diameter meter, the actual installation required significantly more fabrication requirements that previously anticipated. As such, there is insufficient budget remaining to complete the installation of the last two meters.

Board staff are seeking to increase the approved budget for this project by \$50,000 in order to complete the replacement of the non-revenue meters.

**PROJECT BUDGET:**

<b>Current Approved Budget - EA4160</b>	<b>\$75,000</b>
<b>Summary of Expenses to Date</b>	<b>\$45,278</b>
<b>Summary of Anticipated Costs</b>	
Supply of 2 x 600mmØ meters (estimate)	\$25,000
Installation and project management (estimate)	\$25,000
<b>Total Projected Cost</b>	<b>\$125,000</b>

Information for this report was provided by John Walker, Operations Manager.

Submitted by:	Recommended by:
	
Andrew Henry, P. Eng. Director, Regional Water Supply	Kelly Scherr, P.Eng., MBA, FEC Chief Administrative Officer