

A G E N D A

THE FIRST MEETING OF THE SECONDARY WATER BOARD OF THE CITY OF ST. THOMAS - 2021

MEETING ROOM

Via TEAMS video conferencing

5:00 P.M.

THURSDAY

March 4, 2021

DISCLOSURE OF INTEREST

MINUTES

Confirmation of the minutes of the meeting held on October 22, 2020

ELECTION OF CHAIR AND VICE CHAIR

SELECTION OF UPCOMING 2021 MEETINGS

REPORTS

Report No. SWB01-21 - St. Thomas Area Secondary Water Supply System 2020 Annual and Summary Reports

Report SWB01-21 of the Manager of Water & Sewer – ATTACHMENT A (pg. 2-28)

Report No. SWB02-21 – EMPS Joint Agreement

Report SWB02-21 of the Director of Environmental Services & City Engineer – ATTACHMENT B (pg. 29-53)

UNFINISHED BUSINESS

Lake Huron/Elgin Area Water System Workshop: Verbal update from City Engineer

NEW BUSINESS

Next Meeting

To be determined.

ADJOURNMENT



ATTACHMENT A

Report No.

SWB01-21

File No.

Directed to: Members of Board of Management for the
St. Thomas Area Secondary Water Supply System

Date Authored:

Feb 8, 2021

Meeting Date:

Mar 4, 2021

Department: Environmental Services

Attachment

Prepared By: Chris Andrew
Manager of Water and Sewer

2020 Summary and Annual
Report for St. Thomas
Secondary Water System

Subject: **St. Thomas Area Secondary Water Supply System 2020 Annual and Summary Reports**

Recommendation:

THAT: Report SWB01-21, St. Thomas Area Secondary Water Supply System 2020 Annual and Summary Reports, be received for information.

Background:

The Safe Drinking Water Act, Regulation 170/03, Section 11, requires that owners and administrators of drinking water systems prepare Annual Reports by February 28th of each year. Under Schedule 22, the Regulation also requires the owner of a drinking water system to prepare a Summary Report no later than March 31st of each year.

Analysis:

The City of St. Thomas, Township of Southwold and Municipality of Central Elgin owns the St. Thomas Area Secondary Water Supply System (STASWSS) and the STASWSS portion of the Elgin Middlesex Pumping Station (EMPS) that require that Annual and Summary Reports be prepared to abide by the Safe Drinking Water Act.

The Annual Reports have been completed by the required date of February 28, 2021, on standard Forms provided by the Ministry and will be filed as required. The Summary Report has been completed prior to the required submission date of March 31, 2021. The Annual and Summary Reports are attached as required by the regulations, arrangements have been made to post the reports on the City's web site and copies will be sent to the drinking water systems that receive water from the St. Thomas Area Secondary Water Supply System. Copies of the reports will be made available to the Public upon request at the Environmental Services Department.

Water systems are required to have a DWQMS in place to consistently deliver drinking water that meets applicable legislative, regulatory and owner requirements. This will ensure consumer protection and be a continual improvement tool.

The St. Thomas Area Secondary Water Supply System, which includes a portion of the Elgin Middlesex Pumping Station, is administered by the City of St. Thomas on behalf of the owner, the St. Thomas Area Secondary Water Supply Board. This system transmits water to Southwold, Central Elgin, Dutton Dunwich and St. Thomas. The Ontario Clean Water Agency (OCWA) operates the pumping station on behalf of the board and the transmission main is operated by the City of St. Thomas. The system complies with the Ontario Safe Drinking Water Act, Regulation 170/03, and with the terms and conditions of the applicable Municipal Drinking Water Licences.

Respectfully,

Chris Andrew
Manager of Water and Sewer

Reviewed By:

ES

Treasury

City Manager

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ST. THOMAS AREA SECONDARY WATER SUPPLY SYSTEM

License Number: 190-101
Permit Number: 190-201

Provincial Regulation 170/03
Summary Report

For the Period
January 1, 2020 – December 31, 2020



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1 Summary Report Requirements

1.1 Introduction

The 2020 Summary Report for the St. Thomas Area Secondary Water Supply System (STASWSS) has been prepared to satisfy Schedule 22 of Ontario Regulation 170/03, the requirement to prepare and distribute a summary report of water system operations, outlining regulatory non-compliance with respect to water quality and water system management and administration and evaluating the water system infrastructure adequacy (with respect to its ability to continuing meeting the water demands of the serviced community).

As per Ontario Regulation 170/03, the summary report must:

- a. List the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report; and
- b. For each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure.

The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an agreement, to the flow rates specified in the written agreement.

The information provided is for the purpose of enabling the owner of the system to assess the capacity of the system. This report covers the reporting period from January 1, 2020 to December 31, 2020.

1.2 System Description

The STASWSS is supplied water from the Elgin Middlesex Pumping Station (EMPS) and Reservoir. The EMPS reservoir is filled by the Elgin Area Primary Water Supply System (EAPWSS) which obtains its water from Lake Erie and provides water treatment at the Elgin Area Primary Water Treatment Plant, located on Dexter Line, East of Port Stanley Ontario.

Operation and Maintenance of the EMPS- St. Thomas section is currently under contract with the Ontario Clean Water Agency (OCWA). The operation and maintenance of the associated transmission main and distribution system of the STASWSS is currently conducted by the City of St. Thomas – Environmental Services Dept.

The STASWSS is considered a distribution-only system, providing water directly to the City of St. Thomas and sections of the Southwold and Central Elgin Water Distribution Systems.

1.3 System Approvals and Regulatory Requirements

Operation and Maintenance of the STASWSS is governed by the Safe Drinking Water Act, 2002, and the regulations established under this Act. In accordance with the Safe Drinking Water Act, The Joint Board of Management of the St. Thomas Area Secondary Water Supply System holds a Municipal Drinking Water Licence and Drinking Water Works Permit, which provide approval for the establishment of drinking water infrastructure and provide the authority to operate and maintain said water system.

During the reporting period, The St. Thomas Area Secondary Water Supply System was operated pursuant to the approvals, licences and permits listed below:

- MDWL No. 190-101, issued on June 28 2016
- DWWP No. 190-201, issued on June 28 2016

Ontario Regulation 170/03 – Drinking Water Systems, governs the operation, maintenance and water quality monitoring requirements for municipal drinking water systems in Ontario. Ontario Regulation 128/04 – Certification of Drinking Water System Operations and Water Quality Analysts sets out the requirements for persons performing operational or maintenance activities on the water system. The Safe Drinking Water Act, 2002 and the associated regulations are enforced by the Ministry of Environment, Conservation and Parks (MECP) and monitored through annual inspections by Ministry personnel. Any non-compliant conditions identified during the course of the annual inspection are listed in the Inspection Report issued at the conclusion of the inspection period and are summarized in section 4.1 of this report.

Ontario Regulation 169/03 – Ontario Drinking Water Quality Standards sets the limits for parameters of concern in drinking water. Drinking water quality is monitored by the Operating Authority and any exceedance of the Drinking Water Quality Standards must be reported to the MECP and Public Health Unit, verbally and in written form through the use of a Notice of Adverse Test Results and Issue Resolution Form. Any non-compliant conditions identified through water quality monitoring exercises over the reporting period have been documented on a Notice of Adverse Test Results and Issue Resolution Form and are summarized in section 4.2 of this report.

2 Evaluation of Water Quantities and Flow Rates

The EMPS is situated on a site owned by the Elgin Area Primary Water Supply System and includes the original St. Thomas pump station, constructed in 1966 that services St. Thomas, and sections of the Municipalities of Central Elgin and Southwold. Two additional pump stations were completed in 1994 and service the City of London, as well as the Municipality of Malahide, Town of Aylmer, and the Municipality of Central Elgin.

The St. Thomas pump station is comprised of three high-lift pumps that deliver water through a transmission main that services the St. Thomas Area Secondary Water Supply System. A gas re-chlorination system provides re-chlorination for water being directed to the St. Thomas Area Secondary Water Supply System.

The Ontario Clean Water Agency (OCWA) is currently the Operating Authority for all 3 pump stations located within the EMPS, and ultimately control the pumps directing water into the STASWSS.

OCWA has prepared a Summary Report for their operations at the EMPS for the reporting period, which evaluates the volumes of water delivered to the STASWSS. The report is attached as Appendix A.

3 Water Quality Summary

A summary of water quality testing completed by the City of St. Thomas – Environmental Services Dept. over the course of the reporting period is available in the Annual Report, attached as Appendix B.

A summary of water quality testing completed by OCWA over the course of the reporting period is available in the Annual Report included as an appendix to the Summary Report (Appendix A to this report).

4 Summary of Non-Compliant Conditions

4.1 Ministry of the Environment, Conservation and Parks Inspection

The Ontario Ministry of the Environment, Conservation and Parks (MECP) conducts an inspection of the St. Thomas portion of the Elgin-Middlesex Pumping Station, operated by OCWA, annually along with the St Thomas Area Secondary Water System, operated by the City of St Thomas.

An MECP inspection took place on October 8, 2020. The final inspection report was issued on December 9, 2020. Zero non-compliances were identified within the inspection report.

The MECP Inspection Report identified an inspection risk rating of 0% and achieving an overall final inspection rating of 100%, indicating that the risk was minimal.

MECP Inspection Finding	O.A. Responsible	Action Taken
N/A	N/A	N/A

4.2 Adverse Test Results and Issue Resolution

Any non-compliant conditions identified through water quality monitoring exercises undertaken by St. Thomas Environmental Services over the reporting period, and actions taken are summarized in the table below.

Adverse Test Result (Date / Location)	O.A. Responsible	Action Taken
N/A	N/A	N/A

5 List of Appendices

Appendix A – OCWA EMPS – St. Thomas Area Secondary Water Supply System – 2020 Summary Report

Appendix B - St. Thomas Area Secondary Water Supply System – 2020 Annual Report

APPENDIX A

ELGIN-MIDDLESEX PUMPING STATION
ST.THOMAS AREA SECONDARY WATER SUPPLY SYSTEM
2020 COMPLIANCE REPORT
(Schedule 22 Summary Report)

Facility Name: Elgin-Middlesex Pumping Station -
St.Thomas Area Secondary Water Supply System

Mailing Address: Elgin Area Primary Water Supply System
P.O. Box 220
Port Stanley, ON N5L 1J4



Average Daily Flow 7,363m³/day
Max. Daily Flow 12,855m³/day
Source Water Elgin Area Primary Water Supply System

CONTACT INFO:

Contract Administration:
City of St.Thomas, City Hall
Environmental Services
545 Talbot Street, St.Thomas, ON N5P3V7

Contact: Mr. Justin Lawrence
Director of Environmental
Services and City Engineer

Operator:
Ontario Clean Water Agency.
P.O. Box 220, Port Stanley, Ontario N5L 1J4
Contact: Mr. Simon Flanagan - Senior Operations Manager
(519) 782-3101

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System Approval:

The St.Thomas Area Water Supply System is supplied water through the Elgin-Middlesex Pump Station, which receives water from the Elgin Area Primary Water Supply System on Dexter Line, east of Port Stanley, Ontario. During the reporting period, The St.Thomas Area Secondary Water Supply System was operated pursuant to the approvals, licenses and permits listed below.

The supply and distribution of water to the system was governed by the following Municipal Drinking Water Licenses (MDWL) and Drinking Water Works Permits (DWWP):

St.Thomas Area Secondary Water Supply System

- o MDWL No. 190-101, issued on June 28, 2016
- o DWWP No. 190-201, issued on June 28, 2016

The DWWP and MDWL were issued in accordance with the *Safe Drinking Water Act* (SDWA), 2002.



Treated Water Requirements:

The Drinking Water Systems Regulations (O.Reg.170/03) and the Ontario Drinking Water Quality Standards (O.Reg. 169/03) under the *Safe Drinking Water Act*, 2002.

Staff Complement and Training:

In 2020, the St.Thomas facility at the Elgin-Middlesex Pump Station (EMPS) was operated and maintained under the operating authority, Ontario Clean Water Agency. The operational and maintenance staff are based at the Elgin Area Primary Water Supply System (EAPWSS) located east of Port Stanley, Ontario, and share their time between the two facilities. Employees responsible for the operations and maintenance of the facility included one (1) Senior Operations Manager, (1) Compliance Manager, two (2) Team Leads, six (6) full time equivalent operations staff, four (4) full time equivalent maintenance staff and one (1) administrative assistant.

The Compliance Manager shares their work hours between the Lake Huron Primary Water Supply System (LHPWSS) and the Elgin Area Primary Water Supply System (EAPWSS).

Regional staff provides administrative support services to the EMPS which include the Regional/General Manager and Regional Business Manager.

In 2020, all employees received Director Approved and practical on-the-job training which contributed to annual MECP training requirements.

History of Facility:

The EMPS is occupied by three booster stations that comprise an integrated booster station consisting of two in-ground storage reservoirs, each having a capacity of 27.3 million liters. The two storage reservoirs and the site upon which the three booster stations are situated are owned by the Elgin Area Primary Water Supply System (EAPWSS). This includes the original St.Thomas pump station, constructed in 1966 that services St.Thomas, and sections of the Municipalities of Central Elgin and Southwold. Two additional pump stations were completed in 1994 and service the City of London, as well as the Municipality of Malahide, Town of Aylmer, and the Municipality of Central Elgin.

The St.Thomas pump station is comprised of three high-lift pumps that deliver water through a transmission main that services the St. Thomas Area Secondary Water Supply System. A gas re-chlorination system provides re- chlorination for water being directed to the St.Thomas Area Secondary Water Supply System.



In the event of a power failure, an on-site generator can provide sufficient standby power to operate the facility and the St. Thomas pumps.

Remote monitoring and control of all three pump stations is performed by staff at the Elgin Area Primary Water Supply System (EAPWSS) near Port Stanley, Ontario. Remote monitoring and control capabilities are made possible via the EAPWSS and the EMPS SCADA systems.

Process Description:



The Elgin-Middlesex Pump Station (EMPS) receives treated water from the Elgin Area Primary Water Supply System, which treats water at the water treatment plant located on the shores of Lake Erie to the east of Port Stanley. Water from the plant is pumped into the EAPWSS reservoirs located at the EMPS where it is subsequently fed via a series of headers to each of the pumping stations serving the Aylmer Area Secondary Water Supply System, the City of London Distribution System, and the St. Thomas Area Secondary Water Supply System.

The St. Thomas pump station has two duty pumps and one standby pump. All three pumps are equipped with Variable Frequency Drives (VFD). However, the VFD's are presently configured to act as soft starts. Each pump has a rated capacity of 263 L/s.

Post-Treatment:

The St. Thomas Area and Aylmer Area Secondary Water Supply System pump stations both utilize a gas re-chlorination system. The system consists of two scaled 68kg gas chlorine cylinders and three chlorinators equipped with booster pumps. The three chlorinators redundantly serve the Aylmer Area Secondary Water Supply System (AASWSS) and St. Thomas Area Secondary Water Supply System (STASWSS) and have a dosage capacity range of 1-60kg/h of chlorine gas.

High Lift Pump Station:

The three high lift pumps provide redundant pumping capacity into the St. Thomas Area Secondary Water Supply System. See Appendix B for 2020 Total Daily Flows and Appendix C for 2020 Daily Instantaneous Peak Flows.

Maintenance:

Site maintenance was carried out by Ontario Clean Water Agency field services staff based at the Elgin Area Primary Water Supply System. Specialty maintenance services are provided, on an as needed basis by external service providers. All maintenance scheduling is monitored through a computerized maintenance management system.

In addition to the routine preventative maintenance program, a number of maintenance projects were completed at the EMPS in 2020. A summary of non-routine maintenance is available in Appendix D, the 2020 Annual Report.

Sampling Procedures:

All samples collected by licensed OCWA personnel are submitted to CALA accredited laboratories for bacteriological and chemical analysis.

Distribution water samples are taken twice per week at the inlet to the reservoir and submitted for bacteriological analysis. The distribution water entering the St.Thomas Area Secondary Water Supply System is sampled weekly and submitted to an external laboratory for bacteriological analysis. Chlorine residual, for the water entering the St.Thomas Area Secondary Water Supply System, is monitored continuously from the Elgin Area Primary Water Supply System by means of the SCADA system.

On a quarterly basis the distribution water entering the reservoir, as well as the water entering the St.Thomas Area Secondary Water Supply System is sampled and submitted to an accredited laboratory for testing of Total Trihalomethanes (THMs) and Haloacetic Acids (HAA's), disinfection by-products. Twice annually, the distribution water entering the reservoir is sampled and submitted to an accredited laboratory for testing of lead concentrations. All water quality sampling at the Elgin- Middlesex Pump Station is performed in accordance with Ontario Regulation 170/03.

Flow Measurement and Water Quality Monitoring:

Flow is measured in the process utilizing a flow measurement device. Chlorine residual levels are monitored by an on-line analyzer located at the point of entry into the St.Thomas Secondary Water Supply System. These devices were calibrated in 2020 by licensed OCWA staff and contractors. See Appendix A for a summary of 2020 water quality data.

Statement of Comparison:

The previous Certificate of Approval and new Municipal Drinking Water License for the St.Thomas Area Secondary Water Supply System does not identify a rated capacity for the system. The pumping station has an available capacity of 68,169m³/day, whereby instantaneous peak flow is 789 L/s.

The maximum total daily flow witnessed by the system in 2020 was 12,855m³/day, approximately 19% of the capacity. The average total daily flow witnessed by the system in 2020 was 7,363m³/day, approximately 11% of the capacity.

The maximum instantaneous peak flow witnessed by the system in 2020 was 392 L/s, approximately 50% of the capacity. See Appendix B for 2020 total daily flow values and Appendix C for 2020 daily instantaneous peak flow rates.

Ministry of the Environment Conservation and Parks Inspections:

The Ontario Ministry of the Environment Conservation and Parks (MECP) conducts an inspection of the St.Thomas portion of the Elgin-Middlesex Pumping Station annually along with the St Thomas Area Secondary Water System operated by the City of St Thomas. A MECP inspection took place in October 2020. The final inspection report was issued on December 9, 2020. There were no non-compliances identified in the inspection report. The final inspection rating received for the 2020-2021 reporting year was 100.00%

Benefiting Municipalities:

Following the adoption of the Municipal Water and Sewer Transfer Act in 1997, the Ontario Ministry of the Environment Conservation and Parks transferred the ownership of the three booster stations from the Province of Ontario to the water systems' benefiting municipalities. As a result the Aylmer Area Secondary Water Supply System portion of the EMPS and associated equipment is owned by the Aylmer Area Secondary Water Supply System Joint Board of Management, the London portion of the EMPS is owned by the Corporation of the City of London, and the St.Thomas Area Secondary Water System portion of the EMPS and associated appurtenances are owned by the St.Thomas Area Secondary Water System Joint Board of Management. Jointly these water systems benefit, and are managed on behalf of, the communities of Aylmer, Central Elgin, London, Malahide, Southwold and St.Thomas. A list of municipalities that receive water directly and indirectly from the St.Thomas Area Secondary Water Supply System at the EMPS is provided in Appendix D. The Ontario Clean Water Agency operates and maintains the Elgin- Middlesex Pump Station, under contracts to the Aylmer Area Secondary Water Supply System, The Corporation of the City of London and the St.Thomas Area Secondary Water Supply System.

This report was prepared by Ontario Clean Water Agency, the Operating Authority for the St.Thomas portion of the EMPS, on behalf of the St.Thomas Area Secondary Water Supply System Joint Board of Management.

APPENDIX A – 2020 WATER QUALITY SUMMARY

MONTH	POST TREATMENT
	Free Cl ₂ mg/L
January	
Minimum	0.88
Maximum	1.74
Average	1.32
February	
Minimum	0.89
Maximum	1.73
Average	1.32
March	
Minimum	0.83
Maximum	1.73
Average	1.28
April	
Minimum	0.84
Maximum	1.76
Average	1.27
May	
Minimum	0.83
Maximum	1.68
Average	1.25
June	
Minimum	0.77
Maximum	1.66
Average	1.23
July	
Minimum	0.72
Maximum	1.88
Average	1.23
August	
Minimum	0.79
Maximum	1.73
Average	1.21
September	
Minimum	0.80
Maximum	2.11
Average	1.31
October	
Minimum	0.82
Maximum	1.77
Average	1.29
November	
Minimum	0.75
Maximum	1.82
Average	1.34
December	
Minimum	0.88
Maximum	2.03
Average	1.36
Yearly Minimum	0.72
Yearly Minimum	1.66
Yearly Average	1.28

Note: Chlorine residuals obtained from SCADA.

APPENDIX B

Date	January m ³	February m ³	March m ³	April m ³	May m ³	June m ³	July m ³	August m ³	September m ³	October m ³	November m ³	December m ³
1	7605	9077	8628	6174	5991	8235	10185	7894	8123	5992	5754	5465
2	7937	8410	7648	6322	7203	7547	10414	6084	6507	5790	4287	5349
3	8353	7749	7224	6693	7537	8553	10638	6676	6514	6201	5589	5533
4	7690	7965	7997	7097	6645	9105	11002	6603	6750	6533	5760	5455
5	8156	7878	8087	7025	6405	9111	11459	7028	6679	5979	5946	6079
6	8543	8539	7317	6775	6532	9776	11414	7919	7140	4542	6405	6620
7	8034	7473	6432	6334	6233	9924	12464	7848	5970	5121	6230	5871
8	7522	8507	6889	6194	6236	9835	11208	8673	6031	5891	6615	5506
9	8327	8559	5859	6201	7179	10383	11284	8773	6855	5896	6093	5748
10	7273	8369	6168	6529	7520	7467	9471	8453	5787	6359	5607	5657
11	7982	7625	6181	6719	6848	7974	7838	8423	6903	5904	5319	5537
12	8270	8059	5928	6232	6992	8278	9356	9001	6434	5854	5812	5901
13	8573	8869	5841	6545	7727	9446	9551	9530	7612	5813	5875	6822
14	7249	8009	6709	6863	7748	9624	10161	9166	6867	6032	6021	6012
15	7832	8664	6830	6863	7372	9971	10312	8665	6159	5552	6223	5518
16	7661	8594	6048	6135	8593	10285	7299	7734	7550	5985	5376	5548
17	7173	8385	6186	6005	7599	10649	8055	7787	7463	6107	5443	5354
18	8222	7895	6302	6288	7679	11170	8830	8170	7628	6489	5510	5948
19	8095	7977	6253	6181	7818	10490	7320	9975	7577	5394	5781	6394
20	7716	7486	6495	6213	8661	11117	8943	8597	7479	5535	5636	6277
21	8184	8267	6801	6005	9594	10313	9441	8525	7580	5775	5364	5945
22	8236	8519	6678	6014	8913	9912	7253	9306	6836	5332	6297	5457
23	7638	8564	6141	6040	8975	7859	8345	9499	6817	5548	5505	6118
24	7468	7889	5928	6124	10424	8399	8693	9013	6606	6030	5810	6178
25	8134	7714	6368	6716	10799	8993	9768	8778	7820	5506	5646	5196
26	8300	7928	6168	6595	10447	9136	12855	7701	7824	4880	5518	5615
27	7645	8168	6481	6329	9992	7218	11160	9005	7558	5964	5311	6278
28	8117	7913	6182	6126	8217	8658	8507	6789	7262	5409	6329	6040
29	7618	8380	6712	5991	7824	9329	7778	6824	6113	5591	6598	5521
30	7337		5987	6151	7745	9380	8401	7283	6019	5553	5617	5962
31	8056		5998		8029		8975	7884		5818		5304
Total	244,946	237,431	204,466	191,479	245,477	278,137	298,380	253,606	208,463	178,375	173,277	180,208
Minimum	7,173	7,473	5,841	5,991	5,991	7,218	7,253	6,084	5,787	4,542	4,287	5,196
Maximum	8,573	9,077	8,628	7,097	10,799	11,170	12,855	9,975	8,123	6,533	6,615	6,822
Average	7,901	8,187	6,596	6,383	7,919	9,271	9,625	8,181	6,949	5,754	5,776	5,813

APPENDIX C

Minimum	270	269	266	268	267	266	265	266	269	267	265	257	257
Maximum	277	278	282	292	293	294	392	291	293	279	290	313	392
Average	273	272	273	280	277	277	276	275	274	274	275	276	275



Drinking-Water System Number:	260078897
Drinking-Water System Name:	Elgin Middlesex Pumping Station - St. Thomas Area Secondary Water Supply System
Drinking-Water System Owner:	St. Thomas Area Secondary Water Supply System Joint Board of Management
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2020 through December 31, 2020

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes ☒ No ☐

Is your annual report available to the public at no charge on a web site on the Internet? Yes ☒ No ☐

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

City of St. Thomas, City Hall
Environmental Services
545 Talbot Street
St Thomas, ON.
N5P 3V7
www.city.st-thomas.on.ca

Elgin Area Primary Water Supply System
Treatment Plant
43665 Dexter Line, Union, ON
N0L 2L0

Complete for all other Categories.

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve?

Yes ☐ No ☐

Number of Interested Authorities you report to:

N/A

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?

Yes ☐ No ☐

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Systems that receive their drinking water directly from the St. Thomas EMPS:

Drinking Water System Name	Drinking Water System Number
St. Thomas Area Secondary Water Supply System	260078897
St. Thomas Distribution System	260002187



Systems that receive their drinking water indirectly from the St. Thomas EMPS:

Drinking Water System Name	Drinking Water System Number
Dutton/Dunwich Distribution System	220002967
Municipality of Central Elgin	260004761
Southwold Distribution Supply	210001362

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes ☒ No ☐

Indicate how you notified system users that your annual report is available, and is free of charge.

- ☒ Public access/notice via the web
☒ Public access/notice via Government Office
☐ Public access/notice via a newspaper
☒ Public access/notice via Public Request
☐ Public access/notice via a Public Library
☐ Public access/notice via other method

Describe your Drinking-Water System

The Elgin Middlesex Pumping Station (EMPS) receives water from the Elgin Area Primary Water Supply System, which is located to the east of Port Stanley. Through various secondary water supply systems, the EMPS serves the Cities of London, St. Thomas, Town of Aylmer, and Municipalities of Central Elgin, Malahide, Dutton-Dunwich and Southwold.

The EMPS is a shared facility encompassing a twin celled reservoir with a total capacity of 54,600m³. Booster pumps are dedicated to directing water to the City of London, St. Thomas Secondary and/or Aylmer Area Secondary Water Supply Systems. A gas chlorine system is utilized to provide re-chlorination for water being directed to the St. Thomas and Aylmer Area Secondary Water Supply Systems. The facility also houses a 600kW standby diesel generator that provides emergency power to pump water into the St. Thomas and Aylmer systems during a power interruption.

Three pipelines exit the EMPS: one exits to the south of the EMPS property and extends west to service the St. Thomas Secondary Water Supply System; the second services the City of London distribution system; the third services the municipalities on the Aylmer Area Secondary Water Supply System.

List all water treatment chemicals used over this reporting period

Chlorine Gas

Were any significant expenses incurred to?

- ☒ Install required equipment
☐ Repair required equipment
☒ Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

- Breaker panel A&B replacement
- Replacement of transformers and relocation
- Pump #3 discharge valve replacement
- Multilin protection relay generator breaker replacement
- Generator load testing connection panel installation
- Chlorine booster pump replacement
- Generator starter replacement
- Replaced underground primary power cables

Notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
N/A	N/A	N/A	N/A	N/A	N/A

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.coli Results (CFU/100 mL) (min #)-(max #)	Range of Total Coliform Results (CFU/100 mL) (min #)-(max #)	Number of Heterotrophic Plate Count (HPC) Samples	Range of HPC Results (CFU/1 mL) (min #)-(max #)
Distribution	56	(0) – (0)	(0) – (0)	56	(<10)-(300)

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples (Continuous Monitoring)	Min	Max	Avg
Free Chlorine Residual (mg/L)	8760	0.72	2.11	1.28

Note: The free chlorine residual spiked on occasion during 2020. Each spike corresponded with a pump start-up. None of the spikes lasted longer than 5 minutes after pump start-up.



Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THM (NOTE: result value is based on one sample)	January 7, 2020 April 7, 2020 July 7, 2020 October 14, 2020	15 17 21 24	µg/L µg/L µg/L µg/L	NO
THM Running Annual Average (RAA)	2020	19.3	µg/L	NO
HAA (NOTE: result value is based on one sample)	January 7, 2020 April 7, 2020 July 7, 2020 October 14, 2020	ND 5.9 7.6 7.6	µg/L µg/L µg/L µg/L	NO
HAA Running Annual Average (RAA)	2020	5.3	µg/L	NO

ND= Non-detect

APPENDIX E 2020 EMPS Treatment	
Month	Total Chlorine Gas Usage - Kg
January	184.4
February	177.4
March	119.6
April	137.9
May	200.7
June	222.7
July	249.2
August	252.5
September	196.6
October	166.3
November	159.5
December	163.6
Yearly Total	2230.4

Please note: Aylmer and St. Thomas combined cl₂ usage

APPENDIX B



Drinking-Water System Number:	260078897
Drinking-Water System Name:	St. Thomas Area Secondary Water Supply System
Drinking-Water System Owner:	Joint Board of Management of the St. Thomas Area Secondary Water Supply System
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2020 through December 31, 2020

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]

Is your annual report available to the public at no charge on a web site on the Internet?
Yes [X] No []

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

City of St. Thomas, City Hall
Environmental Services
545 Talbot Street
St Thomas, Ontario

Complete for all other Categories.

Number of Designated Facilities served:

NA

Did you provide a copy of your annual report to all Designated Facilities you serve?

Yes [] No []

Number of Interested Authorities you report to:

NA

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [] No []

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
City of St. Thomas Water Distribution System	260002187
Municipality of Central Elgin	260004761
Township of Southwold	210001362
Dutton/Dunwich Distribution System	220002967

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [X] No []



Ontario Drinking-Water Systems Regulation O. Reg. 170/03

Indicate how you notified system users that your annual report is available, and is free of charge.

☒ Public access/notice via the web

City of St. Thomas Website – www.st.thomas.ca

☒ Public access/notice via Government Office

☐ Public access/notice via a newspaper

☒ Public access/notice via Public Request

☐ Public access/notice via a Public Library

☐ Public access/notice via other method _____

Describe your Drinking-Water System

The system consists of an Elevated Water Tower storage tank and trunk water mains. A 750 mm diameter watermain is connected to the Primary System at the East Chamber on South Edgeware Road. The watermain follows along South Edgeware Road to Water Works Park, where the West Chamber is located. The watermain then connects to the Elevated Storage Tank, a 0.76 ML (200,000 gallon) steel teardrop elevated tank, that is located just off Water Tower Line Road near Waterworks Park in the City of St. Thomas. The pipeline then extends west for approximately 2.6 km along Edgeware Road to County Road 26 and then along Ford Road/Wonderland Road before turning northwesterly for approximately 3.6 km. to the Ford Chamber located at the northwest corner of Clinton Line (Concession Road 11) and Wonderland Road. At the intersection of Ford Road and Talbotville Road, the diameter of the pipeline is reduced to 500 mm.

List all water treatment chemicals used over this reporting period

12% Sodium Hypochlorite	Chlorine Gas (EMPS)
Sodium Metabisulphite	

Were any significant expenses incurred to?

☒ Install required equipment

☒ Repair required equipment

☒ Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Tower removal engineering	\$40,000
Scada improvements	\$20,000

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to

Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NA	NA	NA	NA	NA	NA

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	NA	NA	NA	NA	NA
Treated	NA	NA	NA	NA	NA
Distribution	104	(0)-(0)	(0)-(0)	104	(<10)-(150)

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Chlorine (Grab Samples)	104	(0.80)-(1.70)
Chlorine (Continuous Monitoring)	8760	(0.00)-(2.80)

***NOTE:** For continuous monitors use 8760 as the number of samples.*

***NOTE:** The value of 0.00 mg/L was recorded on the continuous chlorine sampler as a result of equipment abnormality/SCADA issue/maintenance work or calibration.*

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
NA	NA	NA	NA	NA

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
NA	NA	NA	NA	NA

Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing	NA	NA	NA
Distribution	NA	NA	NA



Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
HAA5	Mar 3 2020 Jun 3 2020 Sep 9 2020 Dec 11 2020	17.25	ug/L	no
THM (NOTE: show latest annual average)	Mar 3 2020 Jun 3 2020 Sep 9 2020 Dec 11 2020	5.3	ug/L	no

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
NA	NA	NA	NA
NA	NA	NA	NA



ATTACHMENT B

Report No.

SWB02-21

File No.

Directed to:

Members of the Board of Management for the St. Thomas Area Secondary Water Supply System

Date Authored:

02/05/2021

Meeting Date:

03/04/2021

Department:

Environmental Services

Attachment

Prepared By:

Justin Lawrence
Director, Environmental Services, City Engineer

EMPS Joint Occupancy and Use Agreement

Subject:

Joint Occupancy and Use Agreement Elgin-Middlesex Pumping Station

Recommendation:

THAT: Report No. SWB02-21 relating to the Joint Occupancy and Use Agreement Elgin-Middlesex Pumping Station be received for information; and further,

THAT: The City of St. Thomas, in its capacity as the administering municipality for the St. Thomas Area Secondary Water Supply System, be authorized to sign the agreement regarding the Joint Occupancy and Use Agreement for the Elgin-Middlesex Pumping Station on behalf of the Joint Board of Management.

Background:

The City of St. Thomas, Township of Southwold and Municipality of Central Elgin jointly own the St. Thomas Area Secondary Water Supply System (STASWSS) and the STASWSS portion of the Elgin Middlesex Pumping Station (EMPS). The STASWSS is comprised of a transmission main (operated by City of St. Thomas Environmental Services Dept.), and a pumping station, located within the Elgin Middlesex Pumping Station (operated by the Ontario Clean Water Agency (OCWA)). Our partners at the EMPS also include the Aylmer Secondary Water System and the City of London.

The Lake Huron & Elgin Area Water Supply System has drafted an agreement between Elgin, London, St. Thomas and Aylmer outlining the occupancy and use of the Property, the Facility and the EMPS, with the exclusion of the provision of operating services by a contracted operating authority, or the operation of water works by any of the Parties.

This agreement has an effective date of January 1, 2021 and, subject to amendment or termination in accordance with this Section, this Agreement shall continue indefinitely.

The agreement has been reviewed conceptually at the St. Thomas Secondary board a number of times and each of the EMPS partners have also reviewed and agreed conceptually.

Financial Impact:

Costs for this agreement have been reviewed in detail and are fully accommodated in the secondary water rates. The yearly fees that are collected are only spent if projects are completed. So, in the event the fees generate more than is needed each year, then a reserve fund is built up which can only be used at the EMPS on approved projects.

Respectfully Submitted,

Justin Lawrence,
Director, Environmental Services, City Engineer

Reviewed By:

Treasury

Env. Services

Planning

City Clerk

HR

Other

Joint Occupancy and Use Agreement Elgin – Middlesex Pumping Station

THIS AGREEMENT made in quadruplicate the ____ day of _____, 2021

BETWEEN:

THE CORPORATION OF THE CITY OF LONDON
(herein after referred to as "**London**")

AND

THE ST. THOMAS SECONDARY WATER SUPPLY SYSTEM
(herein after referred to as "**St. Thomas**")

AND

THE AYLMER AREA SECONDARY WATER SUPPLY SYSTEM
(herein after referred to as "**Aylmer**")

AND

THE ELGIN AREA PRIMARY WATER SUPPLY SYSTEM
(herein after referred to as "**Elgin**")

(herein after collectively referred to as the "**Parties**")

WHEREAS Elgin owns the property municipally known as 490 South Edgeware Road in the Municipality of Central Elgin (the "**Property**") at which Elgin owns, operates and maintains a terminal reservoir and associated appurtenances of Elgin.

AND WHEREAS Elgin owns and maintains a building on the Property known as the Elgin-Middlesex Pumping Station (the "**EMPS**") that is jointly occupied by London, Aylmer and St. Thomas.

AND WHEREAS London, Aylmer, and St. Thomas jointly occupy the **EMPS** for their operation of pumping stations and associated equipment and appurtenances.

AND WHEREAS Elgin, London, Aylmer, and St. Thomas wish to enter into an Agreement related to the joint occupancy of London, Aylmer, and St. Thomas of the EMPS.

NOW THEREFORE IN CONSIDERATION OF the mutual covenants contained in this Agreement and other good and valuable consideration, the receipt and sufficiency of which is hereby irrevocably acknowledged, the parties agree as follows:

Article 1. INTERPRETATION

Section 1.1 Purpose and Affect

Elgin, London, St. Thomas and Aylmer agree that the scope of this agreement is limited to the occupancy and use of the Property, the Facility and the EMPS, and excludes the provision of operating services by a contracted operating authority, or the operation of water works by any of the Parties.

Section 1.2 Definitions

"Annual Rate"	means the cost per square metre of occupancy charged to each of London, Aylmer, and St. Thomas for their respective occupancy of the Elgin-Middlesex Pumping Station.
"Aylmer"	means the Aylmer Area Secondary Water Supply System, supplying water to the Township of Malahide, The Municipality of Central Elgin, and the Town of Aylmer
"Business Day"	means a day other than any holiday as defined in the Interpretation Act (Ontario) and Boxing Day.
"CMMS"	means the Computerized Maintenance Management System owned and utilized by Elgin, and having given authorization for the use of the CMMS for the purposes of tracking work and activities undertaken for the benefit of the EMPS at no cost or liability to Elgin.
"Elgin"	means the Elgin Area Primary Water Supply System
"EMPS"	means the building which contain the pumps and associated equipment of London, Aylmer, and St. Thomas. For clarity, this includes the original pumping station building constructed in about 1967 and the building addition constructed in 1996 and the associated building services, but excludes the Surge Control Building owned by London and the Storage Building jointly owned by Aylmer and St. Thomas.
"Facility"	means the EMPS building, the Surge Control Building owned by London, the Storage Building jointly owned by Aylmer and St. Thomas, the meter chamber owned by St. Thomas, and any building-related services including the sanitary septic system, the HVAC system, and the electrical system.
"London"	means the Corporation of the City of London
"Property"	means the property owned by Elgin located in the Municipality of Central Elgin, municipally known as 490 South Edgeware Road.
"RWS"	means the Regional Water Supply Division of the City of London, seconded to report to and administer Elgin on behalf of the Board of Management for the Elgin Area Primary Water Supply System.

Joint Use and Occupancy Agreement Elgin – Middlesex Pumping Station

- “SCADA” means the Supervisory Control and Data Acquisition System. Elgin has authorized the routing of control code from the Aylmer SCADA at the EMPS, the London SCADA at EMPS, and St. Thomas SCADA at EMPS for the purposes and benefit of remote operation of the EMPS from Elgin’s water treatment plant at no cost or liability to Elgin.
- “St. Thomas” means the St. Thomas Secondary Water Supply System, supplying water to the city of St. Thomas, the Municipality of Central Elgin, the Municipality of Southwold, and the Municipality of Dutton Dunwich.
- "Uncontrollable Circumstance" means any event or condition which materially alters the rights and obligations of the Parties under this Agreement, or the management, operation or maintenance of the Facility, or the EMPS, which is beyond the reasonable control of or could not reasonably be anticipated by the Party relying thereon as justification for a delay in or non-performance of any obligation of such Party pursuant to this Agreement and shall include but not be limited to:
- i. an act of God, landslide, lightning, earthquake, hurricane, flood, tornado or other natural disaster, fire, explosion, acts of public enemy, terrorism, war, blockade, sabotage, insurrection, riot or public disturbance;
 - ii. an order of any court, administrative or governmental agency of competent jurisdiction which has not been made as a result directly or indirectly of the actions or inaction of Elgin, London, St. Thomas, and/or Aylmer. This specific provision shall be construed strictly against the Party seeking to so rely to excuse non-performance or delay;
 - iii. a Change of Laws. This specific provision be construed strictly against the Party seeking to so rely to excuse non-performance or delay;
 - iv. loss or inability to obtain service from a utility;
 - v. provided, however, that a failure by a Party to perform its obligations under this Agreement arising from or related to such Party's insufficient cash flow or its economic or financial condition generally, shall not constitute an Uncontrollable Circumstance;

Section 1.3 Term, Amendment and Termination

The Parties agree that this agreement has an effective date of January 1, 2021 and, subject to amendment or termination in accordance with this Section, this Agreement shall continue indefinitely.

This Agreement may be amended from time to time by mutual agreement of the Parties. No amendments to this Agreement shall be effective unless in writing and signed by all Parties to this Agreement.

Any Party shall have the right to terminate this Agreement. The terminating Party shall provide twelve (12) months written Notice of Termination to the Parties pursuant to Section 9.9 of this Agreement.

Section 1.4 Identification of Sole Ownership – Elgin

The Parties acknowledge that Elgin is the sole owner of the Property, the two cells of the reservoir on the Property, the valve house on the Property, the swab-catch and settling pond on the Property, the overflow and drain from the reservoir, the site drainage and runoff, the associated piping and appurtenances associated with the transmission pipeline to the Property, and the EMPS and associated building-related services on the Property but excluding the pumps and related equipment owned and operated by London, Aylmer, and St. Thomas.

In addition, the Parties acknowledge that Elgin owns:

- the water meter on the discharge piping after the pumps at the Facility that is associated with St. Thomas;
- the water meter on the discharge piping after the pumps at the Facility that is associated with Aylmer;
- the water meter on the discharge piping after the surge tanks in the Surge Control Building that is associated with London;
- the discharge piping from the reservoir outlet to and including the first isolation valve before the suction header within the EMPS;
- The driveway, perimeter fence, and landscaping of the Property;
- The 25m (approximate) communications tower
- The electrical substation supplying power to the Facility
- The EMPS building-related services including septic system, HVAC, overhead crane, and exterior lighting

The Parties further acknowledge that Elgin does not own, in whole or in part, and has no obligations, except where specifically identified within this Agreement, with respect to assets identified as solely or jointly owned by London, St. Thomas or Aylmer, including but not limited to the Surge Control Building and related assets owned by London, and the Storage Building jointly owned by Aylmer and St. Thomas that was previously used for the storage of diesel fuel for the backup generator.

For greater clarity, the assets on the Property which are owned by Elgin are identified in Schedule A of this Agreement.

Section 1.5 Identification of Sole Ownership – London

The Parties acknowledge that London is the sole owner of the pumps generally referred to as #4, #5, and #6, including their associated electrical systems, controls and appurtenances, the transmission pipeline from the discharge header of London's pumps in the EMPS to London's water distribution system, and the Surge Control Building including all equipment within the building, except the water meter owned by Elgin.

For greater clarity, the assets on the Property which are owned by London are identified in Schedule A of this Agreement, and the assets within the Facility which are owned by London are identified in Schedule B of this Agreement.

Section 1.6 Identification of Sole Ownership – St. Thomas

The Parties acknowledge that St. Thomas is the sole owner of the pumps generally referred to as #1, #2, and #3, including their associated electrical systems, controls and appurtenances, and the transmission pipeline from the discharge header of St. Thomas' pumps in the EMPS to St. Thomas's water transmission system, except the water meter owned by Elgin.

For greater clarity, the assets on the Property which are owned by St. Thomas are identified in Schedule A of this Agreement, and the assets within the EMPS which are owned by St. Thomas are identified in Schedule B of this Agreement.

Section 1.7 Identification of Sole Ownership – Aylmer

The Parties acknowledge that Aylmer is the sole owner of the pumps generally referred to as #7, and #8, including their associated controls and appurtenances, and the transmission pipeline from the EMPS to Aylmer's water transmission system, except the water meter owned by Elgin.

For greater clarity, the assets on the Property which are owned by Aylmer are identified in Schedule A of this Agreement, and the assets within the EMPS which are owned by Aylmer are identified in Schedule B of this Agreement.

Section 1.8 Identification of Joint Ownership

1. *Rechlorination System*

The Parties acknowledge that Aylmer and St. Thomas jointly own a rechlorination system within the EMPS, including associated electrical systems, controls and appurtenances, which benefit Aylmer and St. Thomas.

2. *Backup Generator*

The Parties acknowledge that Aylmer and St. Thomas jointly own a backup generator within the EMPS, including associated electrical systems, controls, fuel storage tank, and appurtenances, which benefit Aylmer and St. Thomas.

3. *Diesel Fuel Storage Tank*

The Parties acknowledge that Aylmer and St. Thomas jointly own an above-ground diesel fuel storage tank located outside the EMPS for the Backup Generator, which benefit Aylmer and St. Thomas.

4. *Suction Headers*

The Parties acknowledge that London, Aylmer, and St. Thomas jointly own the suction headers from after the first isolation valve after the reservoir, up to but excluding the isolation valve before each pump in the EMPS.

5. Storage Building

The Parties acknowledge that Aylmer and St. Thomas jointly own the building which formerly contained an above-ground fuel storage tank. The fuel storage tank was previously decommissioned and removed by Aylmer and St. Thomas, and the fuel tank replaced with an above-ground storage tank located exterior to the EMPS. The building is currently used for storage of materials and equipment associated with Aylmer and/or St. Thomas.

For greater clarity, the assets on the Property which are jointly owned by London, St. Thomas and/or Aylmer are identified in Schedule A of this Agreement, and the assets within the Facility which are jointly owned by London, St. Thomas, and/or Aylmer are identified in Schedule B of this Agreement.

Article 2. Operation and Maintenance of the Terminal Reservoir and Property

Section 2.1 Site Security

London, Aylmer, and St. Thomas acknowledge and agree that the Property, the Facility, and the EMPS (as applicable) will be secured by Elgin's master key and/or access control system. Monitoring of the site security, including any existing door-switches and motion sensors, will be undertaken by Elgin.

Elgin agrees to allow unrestricted access by London, Aylmer, and St. Thomas to the Facility and the EMPS, including the Operating Authority of London, Aylmer, and St. Thomas.

The Parties agree that unrestricted access is not granted to London, Aylmer, and St. Thomas to the two cells of the reservoir on the Property, the valve house on the Property, the swab-catch and settling pond on the Property, the overflow and drain from the reservoir, the associated piping and appurtenances associated with the transmission pipeline to the Property.

Section 2.2 Property Maintenance

Further to [Section 1.4](#), Elgin is responsible for maintaining the Property including snow removal, pavement maintenance, perimeter fencing, grass cutting and landscaping.

Section 2.3 Property Taxes

Elgin is responsible for paying Property Taxes, or payments in lieu of taxes, to the municipality with respect to the Property and Facility.

Article 3. Operation and Maintenance of the Elgin-Middlesex Pumping Station and the Facility

Section 3.1 Maintenance and Repair of the EMPS Building and Building-Related Assets

Elgin shall be responsible for the maintenance and repair of the EMPS building and building-related assets, including the building HVAC, exterior building lighting, septic system, and electrical substation

and excluding the motor control centres and related electrical systems associated with London, Aylmer and St. Thomas.

Section 3.2 Maintenance and Repair of Pumps and Associated Equipment

Notwithstanding Section 2.1, London, Aylmer, and St. Thomas shall each be responsible for maintaining and repairing all assets related to their respective pumps and associated equipment.

Section 3.3 Maintenance and Repair of Jointly Owned Assets

Prior to undertaking the maintenance or repair of jointly owned assets, the joint-owners of the asset shall agree in writing to the apportionment of all related costs associated with the repair. Schedule C of this Agreement may be used as a guide with regard to the apportionment of costs.

Section 3.4 Supervisory Control and Data Acquisition

London, Aylmer, and St. Thomas are each responsible for their respective SCADA systems, including but not limited to the programmable logic controllers (PLC) and human-machine interface (HMI), or other similar control-related equipment, at the EMPS.

If London, Aylmer, and St. Thomas use the same operating authority for the operation of the EMPS that is used by Elgin, Elgin hereby consents to allowing the remote operation of the EMPS to be routed through Elgin's SCADA system and remotely controlled at the Elgin water treatment plant. London, Aylmer and St. Thomas further agree that any routed controls through Elgin's SCADA system shall comply with the network security requirements of Elgin, and any cost associated with adding, maintaining, modifying, or deleting the control routing and associated programming will be at the cost of London, Aylmer, and St. Thomas.

Section 3.5 Computerized Maintenance Management System

If London, Aylmer, and St. Thomas use the same operating authority for the operation of the EMPS that is used by Elgin, Elgin hereby consents to allowing the use of Elgin's CMMS for managing and maintaining the work records associated with the EMPS. The utilization of Elgin's CMMS will be at no cost to London, Aylmer, and St. Thomas.

Notwithstanding the forgoing, any cost associated with the addition of assets, modification of asset data or work schedule, or exportation of data related to assets owned or jointly owned by London, Aylmer and/or St. Thomas, including costs associated with licencing and using Elgin's CMMS, shall be at the cost of London, Aylmer, and St. Thomas.

Section 3.6 Coordination of Operating Authority

London, Aylmer, St. Thomas, and Elgin agree to coordinate the activities of the respective operating authorities for work undertaken at the EMPS, the Facility, and the Property.

Section 3.7 Payment of Operating Expenses

London, Aylmer, and St. Thomas authorize and delegate to the RWS the authority to approve, pay, and recover the regular, reoccurring operational costs incurred with respect to the operation of the EMPS. For further clarity, RWS shall undertake payment of the following regular reoccurring operating expenses on behalf of London, Aylmer, and St. Thomas:

- If the operating authority used by London, Aylmer, and St. Thomas is the same as the operating authority of Elgin, the monthly Service Fee from the operating authority for the operation of the EMPS and the Facility on behalf of London, Aylmer, and St. Thomas
- Electricity
- Natural Gas

All other fees and charges will be paid by London, Aylmer and/or St. Thomas for materials, services and supplies related to the Facility and the EMPS.

In lieu of Elgin paying and providing other services under this Agreement, London, Aylmer, and St. Thomas agree that Elgin will not be allocated costs associated with electricity including but not limited to property maintenance and payment of property taxes.

Section 3.8 Allocation of Operating Expenses

On a monthly basis, RWS will invoice to London, Aylmer, and St. Thomas for the regular reoccurring operational expenses paid by RWS on behalf of London, Aylmer, and St. Thomas as authorized in Section 3.7. The regular reoccurring operational expenses shall be apportioned to each of London, Aylmer, and St. Thomas proportionate to the respective occupancy and/or material utilization.

For greater clarity, the allocation of common operating expenditures which have been authorized for payment are outlined in Schedule C of this Agreement.

Section 3.9 Payment for Occupancy

1. Annual Rate Charged for Occupancy

On or before January 1, 2021 and by January 1st every 5 years thereafter, Elgin will notify each of London, Aylmer, and St. Thomas the Annual Rate charged to each of London, Aylmer and St. Thomas for their respective occupancy of the EMPS.

2. Dedicated Reserve Fund

Revenue from the Annual Rate charged to each of London, Aylmer, and St. Thomas will be placed in a dedicated Reserve Fund which will be used as a source of finance for maintenance, repairs and the renewal of the EMPS building and building-related assets. The dedicated Reserve Fund shall not be used for any other purpose than the maintenance, repair and renewal of the EMPS building and building-related assets, which may include principle and interest payments for debentures and/or intra-Fund loans issued for this purpose.

3. Asset Management Plan

Starting in 2020 and every five-years thereafter, Elgin will update the Asset Management Plan which will form the basis of establishing the long-term financial requirements for the maintenance, repairs and renewal of the EMPS building and building-related assets. The Annual Rate set by Elgin shall be sufficient to ensure the long-term financial requirements necessary are available in the dedicated Reserve Fund for the EMPS.

Article 4. Undertaking Repairs and Capital Investments

Section 4.1 Repairs to Sole-Owned Assets

Where a Party is the sole owner or has the sole care and control of an asset, that respective Party is responsible for any Repair of any asset beyond that which may be included in a service agreement with a contracted operating authority, including the cost of the Repair. That Party is responsible for the coordination of the operating authority and any contractor utilized for the Repair, with the activities undertaken by the other Parties.

Section 4.2 Repairs to Jointly Owned Assets

Where an asset is jointly owned, the Parties which jointly own the asset are collectively responsible for any Repair of the jointly owned asset, beyond that which may be included in a service agreement with a contracted operating authority. The Parties which jointly owned the asset are collectively responsible for the coordination of the operating authority and any contractor utilized for the Repair, with the activities undertaken by the other Parties.

Section 4.3 Capital Improvements

The Parties are separately entitled to undertake capital improvements at the Facility, including the replacement of existing assets or the construction and installation of new assets, subject to Section 7.1 and Section 7.2 of this agreement. The capital improvement is the sole responsibility of the Party, including but not limited to financing, project management, project coordination with other Parties, permits and approvals.

If a capital improvement will be jointly owned by two or more of the Parties, the Parties must agree in writing, prior to undertaking the project, the allocation of the anticipated costs.

The Parties are not entitled to remove, replace, alter, or otherwise modify any asset to which they are not the sole owner without the express written permission of the asset's owner or joint owners.

Article 5. Representations, Warranties and Covenants

Section 5.1 Representations, Warranties and Covenants of Elgin

1. Authority to Contract.

Elgin warrants that it has the power and authority to enter into and carry out all of its obligations under this Agreement.

2. *Provision of Information.*

Elgin shall use reasonable care to prepare and supply to St. Thomas, London, and/or Aylmer, for the benefit of itself or themselves of any report or information required hereunder.

3. *Skilled Personnel.*

Elgin represents and warrants to St. Thomas, London, and Aylmer that they have, and any employee or other person that they may retain to help perform services hereunder, will have all necessary skills, training and qualifications to provide services in accordance with the provisions of this Agreement and applicable law.

4. *Construction and Maintenance.*

Elgin covenants and agrees to construct, repair, maintain, and keep in a good state of repair and in accordance with any good engineering practice and applicable law, certificates of approval, licence and/or permits, all equipment and water works that belong to or are under the care and control of Elgin at the Facility and on the Property.

5. *Access.*

Elgin covenants and agrees to allow unrestricted access to London, Aylmer, and St. Thomas to the Property and the Facility in accordance with Section 2.1 of this Agreement.

Section 5.2 Representations, Warranties and Covenants of London

1. *Authority to Contract.*

London warrants that it has the power and authority to enter into and carry out all of its obligations under this Agreement.

2. *Provision of Information.*

London shall use reasonable care to prepare and supply to Elgin, Aylmer, and/or St. Thomas, for the benefit of itself or themselves of any report or information required hereunder.

3. *Skilled Personnel.*

London represents and warrants to Elgin, Aylmer, and St. Thomas that they have, and any employee or other person that they may retain to help perform services hereunder, will have all necessary skills, training and qualifications to provide services in accordance with the provisions of this Agreement and applicable law.

4. *Construction and Maintenance.*

London covenants and agrees to construct, repair, maintain, and keep in a good state of repair and in accordance with any good engineering practice and applicable law, certificates of approval, licence and/or permits, all equipment and water works that belong to or are under the care and control of London at the Facility.

5. *Use of the Property.*

London covenants and agrees to not utilize the Property without the express written permission of Elgin, except where permitted to by this Agreement.

Section 5.3 Representations, Warranties and Covenants of Aylmer

1. *Authority to Contract.*

Aylmer warrants that it has the power and authority to enter into and carry out all of its obligations under this Agreement.

2. *Provision of Information.*

Aylmer shall use reasonable care to prepare and supply to Elgin, London, and/or St. Thomas, for the benefit of itself or themselves of any report or information required hereunder.

3. *Skilled Personnel.*

Aylmer represents and warrants to Elgin, London, and St. Thomas that they have, and any employee or other person that they may retain to help perform services hereunder, will have all necessary skills, training and qualifications to provide services in accordance with the provisions of this Agreement and applicable law.

4. *Construction and Maintenance.*

Aylmer covenants and agrees to construct, repair, maintain, and keep in a good state of repair and in accordance with any good engineering practice and applicable law, certificates of approval, licence and/or permits, all equipment and water works that belong to or are under the care and control of Aylmer at the Facility.

5. *Use of the Property.*

Aylmer covenants and agrees to not utilize the Property without the express written permission of Elgin, except where permitted to by this Agreement.

Section 5.4 Representations, Warranties and Covenants of St. Thomas

1. *Authority to Contract.*

St. Thomas warrants that it has the power and authority to enter into and carry out all of its obligations under this Agreement.

2. *Provision of Information.*

St. Thomas shall use reasonable care to prepare and supply to Elgin, London, and/or Aylmer, for the benefit of itself or themselves of any report or information required hereunder.

3. *Skilled Personnel.*

St. Thomas represents and warrants to Elgin, London, and Aylmer that they have, and any employee or other person that they may retain to help perform services hereunder, will have all necessary skills, training and qualifications to provide services in accordance with the provisions of this Agreement and applicable law.

4. *Construction and Maintenance.*

St. Thomas covenants and agrees to construct, repair, maintain, and keep in a good state of repair and in accordance with any good engineering practice and applicable law, certificates of approval, licence and/or permits, all equipment and water works that belong to or are under the care and control of St. Thomas at the Facility.

5. *Use of the Property.*

St. Thomas covenants and agrees to not utilize the Property without the express written permission of Elgin, except where permitted to by this Agreement.

Article 6. Liability, Indemnity, and Insurance

Section 6.1 Indemnification of London, Aylmer, and St. Thomas by Elgin

Elgin shall indemnify and hold London, Aylmer, and St. Thomas, their employees, officers, directors, agents and representatives harmless from and against all liability for all damages of any nature whatsoever, including any bodily injury or personal damage claim and any damage to or loss of use or loss of any personal or real property, which is caused by or directly attributable to the negligent or wrongful act of Elgin, its employees, officers, directors, agents and representatives for which it may be responsible in the performance or purported performance of its obligations hereunder, but only to the extent and in proportion to the negligence or fault of Elgin.

Section 6.2 Indemnification of Elgin, Aylmer, and St. Thomas by London

London shall indemnify and hold Elgin, Aylmer and St. Thomas, their employees, officers, directors, agents and representatives harmless from and against all liability for all damages of any nature whatsoever, including any bodily injury or personal damage claim and any damage to or loss of use or loss of any personal or real property, which is caused by or directly attributable to the negligent or wrongful act of London, its employees, officers, directors, agents and representatives for which it may be responsible in the performance or purported performance of its obligations hereunder, but only to the extent and in proportion to the negligence or fault of London.

Section 6.3 Indemnification of Elgin, London, and St. Thomas by Aylmer

Aylmer shall indemnify and hold London, Elgin and St. Thomas, their employees, officers, directors, agents and representatives harmless from and against all liability for all damages of any nature whatsoever, including any bodily injury or personal damage claim and any damage to or loss of use or loss of any personal or real property, which is caused by or directly attributable to the negligent or wrongful act of Aylmer, its employees, officers, directors, agents and representatives for which it may be responsible in the performance or purported performance of its obligations hereunder, but only to the extent and in proportion to the negligence or fault of Aylmer.

Section 6.4 Indemnification of Elgin, London, and Aylmer by St. Thomas

St. Thomas shall indemnify and hold London, Aylmer and Elgin, their employees, officers, directors, agents and representatives harmless from and against all liability for all damages of any nature whatsoever, including any bodily injury or personal damage claim and any damage to or loss of use or loss of any personal or real property, which is caused by or directly attributable to the negligent or wrongful act of St. Thomas, its employees, officers, directors, agents and representatives for which it may be responsible in the performance or purported performance of its obligations hereunder, but only to the extent and in proportion to the negligence or fault of St. Thomas.

Section 6.5 Waiver of Consequential Damages

In no event shall the Parties be liable to each other, and each party specifically waives as against the other, any and all claims for consequential, incidental, indirect, special or punitive damages resulting in any way from performance or non-performance of this Agreement, whether such damages are characterized as arising under breach of contract or warranty, tort (including negligence), fault, strict liability, indemnity, or other theory of legal liability.

Section 6.6 Uncontrollable Circumstances

In the event that performance of this Agreement in the reasonable opinion of a Party is made impossible by reason of an Uncontrollable Circumstance, and if a Party seeks to rely on the occurrence of an act, event or condition as an Uncontrollable Circumstance as grounds for not performing its obligations under this Agreement, then the Party relying on such act, event or condition shall:

1. Provide prompt notice to the other Party of the occurrence of the act, event or condition as soon as reasonably practicable after the Party first knew of such occurrence and give an estimation of its expected duration and the probable impact on the performance of its obligations hereunder,
2. Exercise all reasonable efforts to continue to perform its obligations hereunder,
3. In accordance with this Agreement, as expeditiously as reasonably practicable take action to correct or cure the act, event or condition preventing its performance,
4. Exercise all reasonable efforts to mitigate or limit damages to the other Party, and
5. Provide prompt notice to the other Party of the cessation of the act, event or condition giving rise to its inability *to perform*,

Except as expressly provided under the terms of this Agreement, no Party to this Agreement shall be liable to the other Parties for any loss, damage, delay, default, or failure to perform any obligation to the extent it results from an Uncontrollable Circumstance. The occurrence of an Uncontrollable Circumstance shall not excuse or delay the performance of a Party's obligation to pay monies previously accrued and owing under this Agreement, or to perform any obligation hereunder not affected by the occurrence of the Uncontrollable Circumstance.

Article 7. Changes and Amendments to the Agreement

Section 7.1 New Equipment and Processes

Where a capital improvement is undertaken by London, Aylmer and/or St. Thomas in the EMPS that results in a change in their respective occupancy of the EMPS or Facility, or results in a change in their consumption of natural gas or electricity, the Schedule C of this agreement shall be reviewed and if necessary revised with respect to the allocation of costs based on occupancy and/or utilization.

Any amendments or changes to Schedule C shall be agreed upon in writing by the Parties.

Section 7.2 New Buildings or Building Additions

Buildings or other permanent structures shall not be extended or added to the Property by London, Aylmer, and/or St. Thomas without the express written permission of Elgin.

Section 7.3 Material Changes to the Agreement

A Party must provide Notice to the other Parties upon the initiation of a project or undertaking which may materially affect the allocation of costs, and/or coordination of operational responsibilities, and/or ownership or joint ownership of assets.

Any Party may request that the Agreement and/or Schedules be reviewed by the Parties upon significant changes to processes and equipment at the Facility that materially affect the allocation of costs, and/or coordination of operational responsibilities, and/or ownership or joint ownership of assets.

Section 7.4 Renegotiation of the Agreement

Any Party can give Notice to the other Parties requesting a review and renegotiate the terms and conditions of the Agreement at any time. The Notice must include, at a minimum: (1) identification of proposed changes to the process/equipment, (2) anticipated impact on the agreement, and (3) proposed changes/amendments to the agreement.

A Notice of request to review and amend the Agreement and/or Schedules must be submitted to the Parties in writing. The Parties agree to meet within a reasonable timeframe to discuss proposed amendments to the Agreement and/or Schedules.

All Parties must respond in writing to the notifying Party within 14 days of the Notice, specifying their acceptance of the proposed changes or the timeframe for which the negotiations are to take place.

All changes or amendments to this Agreement must be rendered in writing.

Article 8. Health and Safety

Section 8.1 Asbestos

Elgin will maintain and update at least annually an asbestos inventory of the EMPS, and provide an updated inventory to each of London, Aylmer and St. Thomas. Elgin is responsible for the maintenance, repair and abatement, if and as applicable, of asbestos containing materials that is associated with the EMPS building and building-related assets.

London, Aylmer, and St. Thomas will immediately notify Elgin of any damage observed to asbestos containing substances related to.

Each of London, Aylmer, and St. Thomas are responsible for the maintenance, repair and abatement, if and as applicable, of asbestos containing materials associated with their pumps and associated equipment.

Section 8.2 Notification of Designated Substances

Elgin, London, Aylmer, and St. Thomas acknowledge and agree that each of Elgin, London, Aylmer, and St. Thomas, individually, are each responsible for the notification of designated substances to the Parties, their operating authority, and any contractor undertaking a Repair or Capital Investment on their behalf at the EMPS and the Facility.

Article 9. General Provisions

Section 9.1 Dispute Resolution.

If a dispute arises between the parties, the parties agree that the Dispute Resolution Process outlined in Schedule D shall be used.

Section 9.2 Applicable Law.

This Agreement and its interpretation shall be governed by the laws of the Province of Ontario.

Section 9.3 Headings.

The headings and captions appearing in this Agreement have been inserted for convenience of reference only and in no way define, limit or enlarge the scope or meaning of this Agreement or any provision hereof.

Section 9.4 Entire Agreement.

This Agreement constitutes the entire agreement between the parties hereto and supersedes all previous or contemporaneous communications, representations or agreements. No oral agreement or conversation with any officer, agent or employee of Elgin, London, Aylmer and/or St. Thomas, either before or after the execution of this Agreement, shall affect or modify any of its terms or obligations herein contained.

Section 9.5 Enurement and Assignment.

This Agreement shall enure to the benefit of and be binding upon the Parties and their respective successors and assigns.

Section 9.6 Survival.

Wherever this Agreement contains an express obligation by one or more Parties to indemnify any other Party, such obligation to indemnify shall survive the completion or termination of this Agreement and continue in full force and effect.

Section 9.7 Severability.

Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall, as to that jurisdiction, be ineffective to the extent of such prohibition or unenforceability and shall be severed from the balance of this Agreement, all without affecting the remaining provisions of this Agreement or affecting the validity or enforceability of such provision in any other jurisdiction.

Section 9.8 Waiver.

The failure on the part of either party to enforce its rights as to any provision of this Agreement shall not be construed as a waiver of its rights to enforce such provision in the future.

Section 9.9 Notices.

1. Delivery Mode and Address.

Any Notice required to be or may be given or made by one of the parties hereto to the other, it shall be in writing and shall be delivered in person, transmitted by facsimile, transmitted by e-mail, or similar means of recorded electronic communication, or sent by ordinary or registered mail to the respective addresses of the parties hereto:

If to Elgin:

The Elgin Area Primary Water Supply System
235 North Centre Road, Suite 200
London, Ontario N5X 4E7

Attention: Director – Regional Water
Phone: (519) 930.3505 ext.1355
Facsimile: (519) 474.0451
eMail: GENERAL@HuronElginWater.CA
and copied to: AHENRY@HuronElginWater.CA

Joint Use and Occupancy Agreement
Elgin – Middlesex Pumping Station

If to London:

The Corporation of the City of London
Engineering & Environmental Services
300 Dufferin Avenue
London, ONT N6A 4L9

Attention: Kelly Scherr, Executive Director & City Engineer
Phone: (519) 661-2489, ext. 2391
Facsimile: (519) 661-2354
eMail: KSCHERR@LONDON.CA

If to Aylmer:

The Aylmer Area Secondary Water Supply System
c/o The Corporation of the Township of Malahide
87 John Street South
Aylmer, ONT N5H 2C3

Attention: Chief Administrative Officer / Clerk
Phone: 519-773-5344 ext.225
Facsimile: 519-773-5334
eMail: MALAHIDE@MALAHIDE.CA

If to St. Thomas:

The St. Thomas Secondary Water Supply System
c/o the Corporation of the City of St. Thomas
PO Box 520, 545 Talbot Street
St. Thomas, ONT N5P 3V7

Attention: Justin Lawrence, City Engineer
Phone: (519) 631-1680 x.4165
Facsimile: (519) 631-2130
eMail: JLAURENCE@STTHOMAS.CA

2. Time of Delivery.

Any such Notice shall be deemed to have been given and received on the day on which it was delivered or transmitted (or, if such day is not a Business Day, on the next following Business Day), or if mailed, on the third Business Day following the date of mailing; provided, however, that if at the time of mailing or within three Business Days thereafter there is or occurs a labour dispute or other events which might reasonably be expected to disrupt the delivery of document by mail, any notice hereunder shall be delivered or transmitted by means of recorded electronic communications as aforesaid.

Section 9.10 Counterparts: Electronic Copies

This Agreement may be executed by two or more counterparts, each of which shall be deemed an original instrument and all of which together shall constitute a single instrument. Execution and delivery of this Agreement by electronic or email exchange bearing the copies of a party's signature shall constitute a valid and binding execution and delivery of this Agreement by such party. Such electronic copies shall constitute enforceable original documents.

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**Joint Use and Occupancy Agreement
Elgin – Middlesex Pumping Station**

IN WITNESS WHEREOF Elgin, London, St. Thomas and Aylmer have caused this Agreement to be executed by the affixing of their proper seals attested by the signature of the proper persons duly authorized in that behalf.

THE ELGIN AREA PRIMARY WATER SUPPLY SYSTEM

_____	_____
Chair	Chief Administrative Officer
_____	_____
Date	Date

THE CORPORATION OF THE CITY OF LONDON

_____	_____
Mayor	Clerk
_____	_____
Date	Date

THE AYLMER AREA SECONDARY WATER SUPPLY SYSTEM

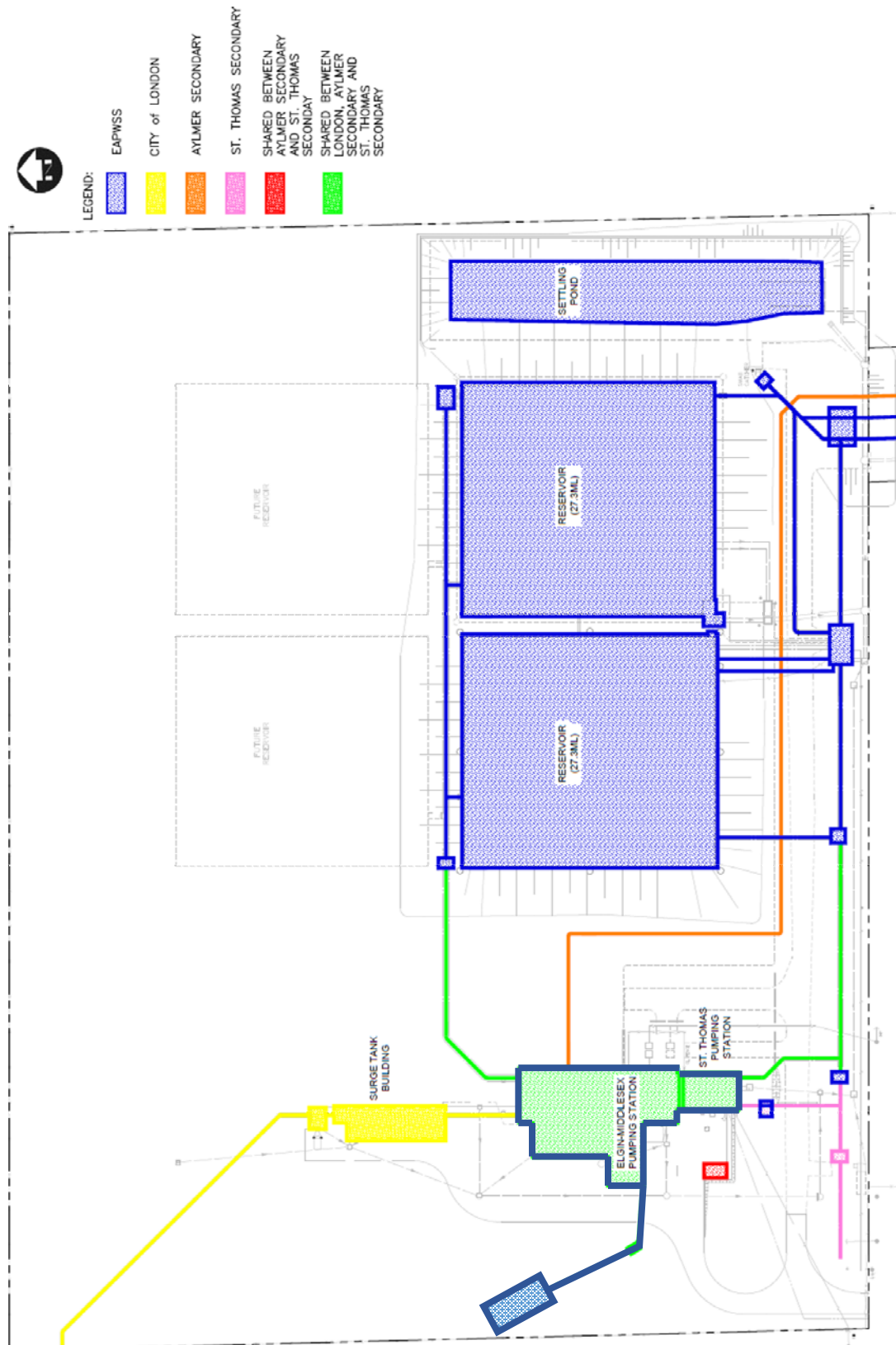
_____	_____
Mayor, Township of Malahide	CAO/Clerk, Township of Malahide
_____	_____
Date	Date

THE ST. THOMAS SECONDARY WATER SUPPLY SYSTEM

_____	_____
Mayor, City of St. Thomas	CAO/Clerk, City of St. Thomas
_____	_____
Date	Date

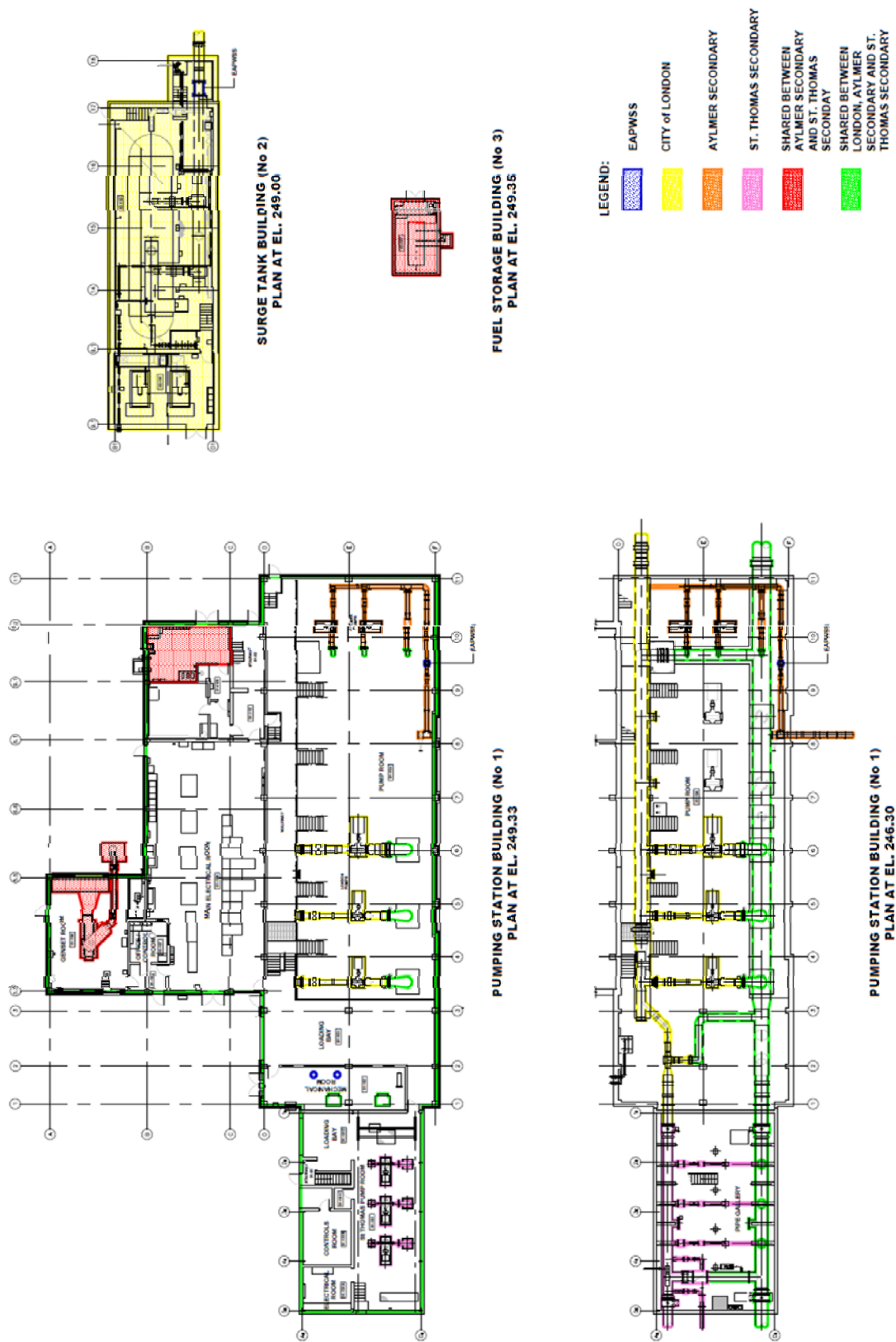
SCHEDULE A

ELGIN-MIDDLESEX PUMPING STATION AND TERMINAL RESERVOIR



SCHEDULE B

ELGIN MIDDLESEX PUMPING STATION – GROUND & BASEMENT LEVELS



SCHEDULE C

ALLOCATION OF COSTS AND EXPENDITURES

Beneficiary by Area:

Where expenditures are agreed to be allocated by area of occupancy or shared occupancy, the following table shall be used for calculating the proportionate allocation of cost:

LOCATION	LONDON (m ²)	ST. THOMAS (m ²)	AYLMER (m ²)	TOTAL (m ²)
Common Hallways, Loading Bay, and Lobbies	50.8 (33.3%)	50.7 (33.3%)	50.7 (33.3%)	152.2
Chlorine Room	n/a	36.7 (50%)	36.6 (50%)	73.3
Backup Generator Room	n/a	31.1 (50%)	31.1 (50%)	62.2
Control Room	3.5 (33.3%)	3.5 (33.3%)	3.5 (33.3%)	10.5
Electrical Room(s)	67.0 (32.7%)	71.0 (34.6%)	67.0 (32.7%)	205.0
Mechanical Room	13.3 (33.3%)	13.2 (33.3%)	13.3 (33.5%)	39.8
Pump Room(s) – ground level	432.2 (67.8%)	113.2 (17.8%)	91.7 (14.4%)	637.1
Pump Room(s) – Basement level	432.2 (61.2%)	181.8 (25.8%)	91.7 (13.0%)	705.7
SUBTOTAL EMPS	999.0 (53.0%)	501.2 (26.6%)	385.6 (20.4%)	1885.8
Surge Control Building	261.3 (100%)	n/a	n/a	261.3
Former Fuel Storage Building	n/a	13.0 (50%)	13.0 (50%)	26.0
TOTAL	1260.3 (58.0%)	514.2 (23.7%)	398.6 (18.3%)	2173.1

Joint Use and Occupancy Agreement Elgin – Middlesex Pumping Station

Operating Expenditures:

Regularly occurring operating expenditures include the service fee payable to a common operating authority contracted to operate and maintain the Elgin-Middlesex Pumping Station on behalf of London, St. Thomas and Aylmer. In addition, common operational costs such as electricity, natural gas, chemicals and fuel are to be divided between the benefiting partners as follows:

EXPENSE	LONDON	ST. THOMAS	AYLMER
Operating Service Fee ¹	69.5%	20.0%	10.5%
Electricity	<i>Electrical cost allocation estimated in proportion to the pump run-times, adjusted for pump size (horsepower), on a monthly basis.²</i>		
Natural Gas (heating) ³	58.0%	23.7%	18.3%
Other Chemicals	n/a	n/a	n/a
Diesel Fuel	n/a	50.0%	50.0%
Chlorine ⁴	n/a	64.5%	35.5%

Repairs and Capital Expenditures – Single Beneficiary:

Capital expenditures and repairs excluded from the service agreement with the operating authority are the responsibility of the party that owns the asset. Where the expenditure is excluded from the service agreement with the operating authority, the party that owns the asset is responsible for all costs associated with the repair or capital investment.

Repairs and Capital Expenditures – Multiple Beneficiary:

Capital expenditures and repairs excluded from the service agreement with the operating authority are the responsibility of the Parties that jointly own the asset. Where the expenditure is excluded from the service agreement with the operating authority, the Parties that jointly own the asset are responsible for all costs associated with the repair or capital investment.

Prior to the repair or capital investment being undertaken, the Parties that jointly own the asset are to agree in writing with respect to project management, budget, and allocation of costs.

¹ Value derived from the estimated volume proportion (5-year average)

² Algorithm used for the allocation of electrical costs on a monthly basis should be adjusted if sub-metering is installed by the Parties.

³ Calculation based on proportion of area of occupancy

⁴ Value derived from the estimated volume proportion (5-year average) between Aylmer and St. Thomas

SCHEDULE D

DISPUTE RESOLUTION PROCESS

In the event of a controversy or dispute between the Parties arising out of or in connection with this Agreement or regarding the interpretation of the provisions thereof, the following process will be followed:

1. The Party alleging a controversy or dispute (the “Disputing Party”) must notify the other Party (the “Recipient Party”) or other Parties (the “Recipient Parties”) in writing of such dispute or controversy (“Dispute Notice”) and specify the particulars of such dispute or controversy in the Dispute Notice.
2. Upon receipt of a Dispute Notice by the Recipient Party(s), the Recipient Party(s) and the Disputing Party must mutually consult in good faith in an attempt to settle amicably and in the spirit of cooperation any such controversy or dispute.
3. If on the date which is fourteen (14) days after the Recipient Party’s receipt of the Dispute Notice the Disputing Party and the Recipient Party(s) have not amicably settled the matter(s) set out in the Dispute Notice then the matter(s) shall be referred to a single arbitrator whose decision shall be final and binding. If the Parties cannot agree on the arbitrator, either party may apply under Section 10 of the Ontario Arbitrations Act for the Court to select an Arbitrator.