

ST. THOMAS AREA SECONDARY WATER SUPPLY SYSTEM

JOINT BOARD OF MANAGEMENT

Thursday, February 23, 2017 at 4:00 p.m.

City Hall – Room 309

AGENDA

DISCLOSURES OF INTEREST

Minutes

Review and approval of the minutes of November 10, 2016

Reports

1. Report SWB01-17 - 2016 Secondary Annual Reports
2. Report SWB02-17 – OCWA Service Agreement Renewal

Unfinished Business

1. Verbal update on EMPS ownership agreement

New Business

1. Meeting Schedule

Adjournment



Corporation of the
City of St. Thomas

Report No.

SWB 01-17

File No.

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

Date
Meeting Date: February 23, 2017
Date Authored: February 17, 2017

Department: Environmental Services

Prepared By:
Chris Andrew
Manager of Water and Sewer

Nathan Bokma, P. Eng.
Manager of Development and Compliance

Attachments
#1 – 2016 Annual Report for the St. Thomas Area Secondary Water Supply System
#2 – 2016 Compliance Report for the Elgin Middlesex Pumping Station

Subject: **2016 Annual Report for the St. Thomas Area Secondary Water Supply System and 2016 Compliance Report for the Elgin Middlesex Pumping Station**

Recommendation:

THAT: Report SWB 01-17 relating to the 2016 Annual Report for the St. Thomas Area Secondary Water Supply System and 2016 Compliance Report for the Elgin Middlesex Pumping Station, be received for information.

Origin:

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, 2017, 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, 2017. The Annual and Summary Reports are attached with the 2016 EMPS Compliance Report including both the Annual and Summary Reports for the EMPS.

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 Submitted,

Chris Andrew
Manager of Water and Sewer

Nathan Bokma, P. Eng.
Manager of Development and Compliance

Reviewed By:

Treasury

Env. Services

Planning

City Clerk

HR

Other



OPTIONAL ANNUAL REPORT TEMPLATE

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, 2016 through December 31, 2016

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>City of St. Thomas, City Hall Environmental Services 545 Talbot Street St Thomas, Ontario</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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 No

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.city.st-thomas.on.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 St. Thomas Area Secondary Supply System was constructed to supply treated water to the City of St. Thomas, the Ford Motor Company Assembly Plant near Talbotville, and the Municipality of Central Elgin and Township of Southwold. The system consists of an Elevated Water Tower storage tank and trunk water mains to the Ford Plant. A 750 mm diameter watermain is connected to the Primary System at the Old St. Thomas water works site on South Edgeware Road. The pipeline 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

SCADA System Upgrades \$15,000



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
October 12 2016	Total Coliform and E. Coli	NDOGN	cfu/100ml	Flush and resample	October 18 2016

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					
Treated					
Distribution	210	(0)-(NDOGN)	(0)-(NDOGN)	208	(<10)-(>2000)

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 #)
Turbidity		
Chlorine	8760	(0.00)-(2.00)
Sample Collection Cl2	215	(0.76)-(1.96)
Grab Cl2	900	(0.22)-(2.06)
Fluoride (If the DWS provides fluoridation)		

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

NOTE: Record the unit of measure if it is not milligrams per litre. The value of 0.0 was recorded in 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



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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	December 08 2016	0.18	ug/l	No
Arsenic	December 08 2016	0.3	ug/l	No
Barium	December 08 2016	22.3	ug/l	No
Boron	December 08 2016	16	ug/l	No
Cadmium	December 08 2016	<0.003 MDL	ug/l	No
Chromium	December 08 2016	0.40	ug/l	No
*Lead	December 08 2016	0.21	ug/l	No
Mercury	December 08 2016	<0.01 MDL	ug/l	No
Selenium	December 08 2016	0.19	ug/l	No
Sodium	December 08 2016	17.3	mg/l	No
Uranium	December 08 2016	0.043	ug/l	No
Fluoride				
Nitrite				
Nitrate				

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

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			
Distribution	1	0.21	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Dec. 08 2016	<0.02 MDL	ug/l	No
Atrazine + N-dealkylated metabolites	Dec. 08 2016	0.05	ug/l	No
Azinphos-methyl	Dec. 08 2016	<0.05 MDL	ug/l	No
Benzene	Dec. 08 2016	<0.32 MDL	ug/l	No
Benzo(a)pyrene	Dec. 08 2016	<0.004 MDL	ug/l	No
Bromoxynil	Dec. 08 2016	<0.33 MDL	ug/l	No
Carbaryl	Dec. 08 2016	<0.05 MDL	ug/l	No
Carbofuran	Dec. 08 2016	<0.01 MDL	ug/l	No
Carbon Tetrachloride	Dec. 08 2016	<0.16 MDL	ug/l	No
Chlorpyrifos	Dec. 08 2016	<0.02 MDL	ug/l	No
Diazinon	Dec. 08 2016	<0.02 MDL	ug/l	No
Dicamba	Dec. 08 2016	<0.20 MDL	ug/l	No
1,2-Dichlorobenzene	Dec. 08 2016	<0.41 MDL	ug/l	No
1,4-Dichlorobenzene	Dec. 08 2016	<0.36 MDL	ug/l	No
1,2-Dichloroethane	Dec. 08 2016	<0.35 MDL	ug/l	No
1,1-Dichloroethylene (vinylidene chloride)	Dec. 08 2016	<0.33 MDL	ug/l	No
Dichloromethane	Dec. 08 2016	<0.35 MDL	ug/l	No
2-4 Dichlorophenol	Dec. 08 2016	<0.15 MDL	ug/l	No

2,4-Dichlorophenoxy acetic acid (2,4-D)	Dec. 08 2016	<0.19 MDL	ug/l	No
Diclofop-methyl	Dec. 08 2016	<0.40 MDL	ug/l	No
Dimethoate	Dec. 08 2016	<0.03 MDL	ug/l	No
Diquat	Dec. 08 2016	<1 MDL	ug/l	No
Diuron	Dec. 08 2016	<0.03 MDL	ug/l	No
Glyphosate	Dec. 08 2016	<1 MDL	ug/l	No
Malathion	Dec. 08 2016	<0.02 MDL	ug/l	No
MCPA	Dec. 08 2016	<0.00012 MDL	mg/l	No
Metolachlor	Dec. 08 2016	<0.01 MDL	ug/l	No
Metribuzin	Dec. 08 2016	<0.02 MDL	ug/l	No
Monochlorobenzene	Dec. 08 2016	<0.30 MDL	ug/l	No
Paraquat	Dec. 08 2016	<1 MDL	ug/l	No
Pentachlorophenol	Dec. 08 2016	<0.15 MDL	ug/l	No
Phorate	Dec. 08 2016	<0.01 MDL	ug/l	No
Picloram	Dec. 08 2016	<1 MDL	ug/l	No
Polychlorinated Biphenyls(PCB)	Dec. 08 2016	<0.04 MDL	ug/l	No
Prometryne	Dec. 08 2016	<0.03 MDL	ug/l	No
Simazine	Dec. 08 2016	<0.01 MDL	ug/l	No
THM (NOTE: show latest annual average)	2016	30.75	ug/l	No
Terbufos	Dec. 08 2016	<0.01 MDL	ug/l	No
Tetrachloroethylene	Dec. 08 2016	<0.35 MDL	ug/l	No



2,3,4,6-Tetrachlorophenol	Dec. 08 2016	<0.20 MDL	ug/l	No
Triallate	Dec. 08 2016	<0.01 MDL	ug/l	No
Trichloroethylene	Dec. 08 2016	<0.44 MDL	ug/l	No
2,4,6-Trichlorophenol	Dec. 08 2016	<0.25 MDL	ug/l	No
Trifluralin	Dec. 08 2016	<0.02 MDL	ug/l	No
Vinyl Chloride	Dec. 08 2016	<0.17 MDL	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

ELGIN-MIDDLESEX PUMPING STATION
ST.THOMAS AREA SECONDARY WATER SUPPLY SYSTEM
2016 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 5,893 m³/day
Max. Daily Flow 9,721 m³/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

Table of Contents

System Approval	1
Treated Water Requirements	1
Staff Complement and Training	2
History of Facility	2
Process Description	3
Post-Treatment	3
High Lift Pump Station	3
Maintenance	3
Sampling Procedures	4
Flow Measurement and Water Quality Monitoring	4
Statement of Comparison	4
Ministry of the Environment and Climate Change Inspections	5
Benefiting Municipalities	5
Appendix A: Water Quality Summary for 2016	
Appendix B: Total Daily Flow for 2016	
Appendix C: Daily Instantaneous Peak Flow for 2016	
Appendix D: 2016 Annual Report	
Appendix E: Chemical Consumption for 2016	

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:

Effective as of June 1, 2003 the Ontario government enacted new drinking water regulations under the *Safe Drinking Water Act, 2002*. The Drinking Water Systems Regulation (O.Reg. 170/03) replaced the Drinking Water Protection Regulation for Larger Waterworks (O. Reg. 459/00) and the Drinking Water Protection Regulation for Smaller Waterworks Serving Designated Facilities (O. Reg. 505/01).

Staff Complement and Training:

In 2016, 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, three (3) 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).

In 2016, all employees received Director Approved and practical on-the-job training which contributed to annual MOECC 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 site upon which the three booster stations is situated is 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.



In the event of a power failure, an on-site generator can provide sufficient standby power to operate the facility and run 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 EMPS site reservoirs 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 being fixed speed, each being rated at 316 L/s.

Post-Treatment:

The St. Thomas Area and Aylmer Area Secondary Water Supply System pump stations both utilize a gas re-chlorination facility. The facility 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 of 1kg/h.

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 2016 Total Daily Flows and Appendix C for 2016 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 located near Port Stanley. 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 2016. A summary of non-routine maintenance is available in Appendix D, the 2016 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), a disinfection by-product. 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 2016 by licensed OCWA staff and contractors. See Appendix A for a summary of 2016 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 54,605 m³/day, whereby instantaneous peak flow is 632 L/s.

The maximum total daily flow witnessed by the system in 2016 was 9,721 m³/day, approximately 18% of the capacity. The average total daily flow witnessed by the system in 2016 was 5,893 m³/day, approximately 11% of the capacity.

The maximum instantaneous peak flow witnessed by the system in 2016 was 515 L/s, approximately 81% of the capacity. See Appendix B for 2016 total daily flow values and Appendix C for 2016 daily instantaneous peak flow rates.

Ministry of the Environment and Climate Change Inspections:

The Ontario Ministry of the Environment and Climate Change (MOECC) 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 MOECC inspection took place in May 2016. The final inspection report was issued on June 29, 2016. There were no non-compliances identified in the inspection report. The final inspection rating received for the 2016-2017 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 and Climate Change 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 contract to the Aylmer Area Secondary Water Supply System, The Corporation of the City of London and the St.Thomas Area Secondary Water Supply System, with these contracts being administered by the City of St.Thomas on behalf of the various water systems.

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 – 2016 WATER QUALITY SUMMARY

MONTH	POST TREATMENT	
	Free Cl ₂ mg/L	
January		
Minimum	0.60	
Maximum	1.86	
Average	1.11	
February		
Minimum	0.73	
Maximum	1.52	
Average	1.12	
March		
Minimum	0.72	
Maximum	1.94	
Average	1.17	
April		
Minimum	0.69	
Maximum	1.92	
Average	1.17	
May		
Minimum	0.71	
Maximum	1.75	
Average	1.20	
June		
Minimum	0.81	
Maximum	1.75	
Average	1.26	
July		
Minimum	0.79	
Maximum	1.90	
Average	1.25	
August		
Minimum	0.66	
Maximum	1.70	
Average	1.19	
September		
Minimum	0.67	
Maximum	2.26	
Average	1.25	
October		
Minimum	0.73	
Maximum	1.94	
Average	1.14	
November		
Minimum	0.87	
Maximum	1.90	
Average	1.22	
December		
Minimum	0.89	
Maximum	1.74	
Average	1.32	
Yearly Minimum	0.60	
Yearly Maximum	2.26	
Yearly Average	1.20	

Note: Chlorine residuals obtained from SCADA.

APPENDIX B
ST. THOMAS TOTAL DAILY FLOW - 2016

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	7113	7205	4833	4149	6311	8901	6024	5169	4777	4631	4582	5051	
2	7463	6090	5551	4687	5851	8615	6668	5214	5022	5023	4766	4952	
3	7642	6324	5055	4429	5819	9115	7786	5925	4884	4686	4194	5518	
4	7002	6059	5072	4305	6143	8656	9558	5934	4909	5165	4291	5262	
5	6947	5882	5027	4500	6050	6474	9183	5713	6926	5161	5073	5137	
6	6770	6431	5794	4251	6233	6668	7817	6109	5199	5104	5280	5134	
7	7409	6686	4967	4421	6347	5661	8815	6492	5404	4871	4601	4810	
8	6607	6018	5306	4574	6593	6249	5930	6248	5045	5616	5417	5180	
9	6897	6005	4890	4889	6500	6211	5366	7078	4223	4624	4511	4849	
10	6999	5950	5137	4961	6176	6766	6263	6415	4574	5304	4561	6098	
11	6589	5951	4878	4663	6406	7989	6096	5930	5097	5248	4482	5702	
12	5903	5884	5613	4636	6580	7485	7210	5730	6002	5285	5078	5144	
13	5958	6217	5027	4323	5539	7150	7549	5415	9534	5515	5235	4848	
14	5919	6166	4725	2632	6101	7296	5343	5411	7642	4768	4459	5201	
15	5972	6660	4718	4529	6301	6080	5822	4913	5859	5128	4822	5142	
16	6364	6081	4760	5567	7367	5630	5940	4034	5241	5198	4781	5396	
17	6874	6055	4998	5667	6023	7096	6345	4688	4937	6132	4973	5731	
18	6494	6446	4731	6601	6556	8036	7117	4777	5731	5497	4896	5853	
19	6700	6237	5166	6245	6328	8918	7582	5152	5361	5732	4791	5687	
20	6108	6469	5808	6569	7058	8495	7672	5328	5496	5530	5653	5912	
21	6466	6915	4870	6064	6982	8107	7606	4933	5293	5076	4911	5423	
22	6036	6054	4879	5953	6529	8370	7179	5116	5801	4941	5077	5842	
23	6844	6221	4405	6505	8496	9180	7849	5259	5003	5142	4949	5490	
24	6847	5760	4483	6383	7449	9378	6510	6032	5644	4653	5078	6959	
25	6319	5298	4379	6000	8169	9721	8055	5337	5849	5182	4472	4897	
26	6360	5320	4813	6213	8261	8876	5796	5152	4576	4901	5755	5466	
27	6229	5662	4884	6034	8473	7597	7239	4811	5070	4387	5562	5520	
28	6131	6112	4275	5982	9436	6677	6351	4924	4743	4296	5382	5442	
29	6018	5318	4272	5975	8943	8215	5507	5089	4720	4724	5170	5710	
30	6575		4528	6377	8899	7765	5953	5314	4367	5223	4811	5372	
31	6387		3855		8870		4360	4593		4437		6064	
Total	203,942	177,476	151,699	158,084	216,789	231,377	212,491	168,235	162,929	157,180	147,613	168,792	2,156,607
Minimum	5,903	5,298	3,855	2,632	5,539	5,630	4,360	4,034	4,223	4,296	4,194	4,810	2,632
Maximum	7,642	7,205	5,808	6,601	9,436	9,721	9,558	7,078	9,534	6,132	5,755	6,959	9,721
Average	6,579	6,120	4,894	5,269	6,993	7,713	6,855	5,427	5,431	5,070	4,920	5,445	5,893

Appendix D

2016 Annual Report



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, 2016 through December 31, 2016

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>City of St. Thomas, City Hall Environmental Services 545 Talbot Street St Thomas, ON. N5P 3V7 www.city.st-thomas.on.ca</p> <p>Elgin Area Water Treatment Plant 43665 Dexter Line, Union, ON</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input type="text" value="N/A"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input type="text" value="N/A"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input type="checkbox"/></p>
---	---

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 and 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 Secondary Water Supply Systems. A gas chlorine system is utilized to provide re-chlorination for water being directed to the St. Thomas and Aylmer Secondary 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. Area Thomas Secondary System; the second services the City of London distribution system; the third services the municipalities on the Aylmer Area Secondary 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

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	52	(0) – (0)	(0) – (0)	52	(0) – (20)

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	0.60	2.26	1.20

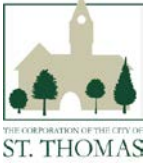
Note: The free chlorine residual spiked on occasion during 2016. Each spike corresponded with a pump start-up. None of the spikes lasted longer than 5 minutes after pump start-up.

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 5, 2016 April 5, 2016 July 5, 2016 October 11, 2016	12 13 19 24	µg/L µg/L µg/L µg/L	NO
THM Running Annual Average (RAA)	2016	17.0	µg/L	NO

APPENDIX E 2016 EMPS Treatment	
Month	Total Chlorine Gas Usage - Kg
January	155.3
February	129.4
March	110.4
April	189.3
May	187.4
June	188.2
July	182.2
August	193.3
September	165.1
October	105.9
November	79.9
December	119.3
Yearly Total	1805.7

Please note: Aylmer and St.Thomas combined cl2 usage



Corporation of the
City of St. Thomas

Report No.
SWB02-17

File No.

Directed to: Mayor Grant Jones and the Members of The Board of Management for The St. Thomas Area Secondary Water Supply System

Meeting Date: February 23, 2017
Date Authored: January 23, 2017

Department: Environmental Services

Attachments

Prepared By: Justin Lawrence
Director, Environmental Services, City Engineer

#1 – Renewal of Services Agreement

Subject: St. Thomas Area Secondary Water Supply System – Services Agreement for the Elgin Middlesex Pump Station

Recommendation:

THAT: Report SWB02-17, St. Thomas Secondary Water Supply System – Services Agreement for the Elgin Middlesex Pump 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 renewal for the services agreement on behalf of the Joint Board of Management.

Origin:

The contract with Ontario Clean Water Agency to manage the Elgin Middlesex Pumping Station (EMPS) is up for renewal as of July 1, 2017.

Analysis:

Staff have reported to the St. Thomas Secondary Water Board several times throughout 2016 about the extension of the OCWA maintenance agreement for a 5 year period. The Elgin Primary Water Board has also been discussing a 5 year extension and will be awarding the contract soon. Staff have been in numerous meetings in the last 6 months with OCWA to negotiate the specific wording of the extension subject to Board approval.

A copy of the final services agreement from OCWA is attached for information. The services agreement overall approach, maintenance details, pricing and defined responsibilities are similar to the previous contract. Pricing was adjusted by inflation as contemplated in the original agreement. The term of the extension is five years starting on July 1st 2017.

OCWA have performed their initial 5 year term very successfully and received consistent top quality ratings on annual reporting.

Our partners at the EMPS include the Aylmer Secondary Water System and the City of London. A final agreement to extend the OCWA contract must include the agreement of those partners.

Respectfully Submitted,

Justin Lawrence,
Director, Environmental Services, City Engineer

Reviewed By: _____
Treasury Env Services Planning City Clerk HR Other

SERVICES AGREEMENT
BETWEEN
ONTARIO CLEAN WATER AGENCY
A N D
THE CORPORATION OF CITY OF LONDON,
AYLMER AREA SECONDARY WATER SUPPLY SYSTEM BOARD OF
MANAGEMENT AND THE
ST. THOMAS AREA SECONDARY WATER SUPPLY SYSTEM BOARD OF
MANAGEMENT

TABLE OF CONTENTS

<u>Description</u>	<u>Page</u>
RECITALS	1
ARTICLE 1 - INTERPRETATION	2
SECTION 1.1 - DEFINITIONS.....	2
ARTICLE 2 - RESPONSIBILITIES OF OCWA	2
SECTION 2.1 - RETENTION OF OCWA.....	2
SECTION 2.2 - PERFORMANCE OF SERVICES.....	2
SECTION 2.3 - STANDARD OF CARE AND BEST PRACTICES.....	3
SECTION 2.4 - OCWA AS INDEPENDENT CONTRACTOR.....	4
SECTION 2.5 - AUTHORIZED REPRESENTATIVES.....	4
SECTION 2.6 - INDEMNIFICATION OF THE CLIENT.....	4
SECTION 2.7 - INSURANCE	
SECTION 2.8 - REPRESENTATIONS AND WARRANTIES OF OCWA	
ARTICLE 3 - RESPONSIBILITIES OF THE CLIENT	
SECTION 3.1 - OBLIGATIONS OF THE CLIENT	
SECTION 3.2 - COVENANTS OF THE CLIENT.....	6
SECTION 3.3 - EXONERATION AND INDEMNIFICATION OF OCWA.....	7
SECTION 3.4. - OCWA HAS NO LIABILITY FOR THE CLIENT'S EMPLOYEES WHILE PROVIDING ORO SERVICES.....	8
ARTICLE 4 - TERM, PAYMENT FOR SERVICES AND OTHER CHARGES	8
SECTION 4.1 - INITIAL TERM OF AGREEMENT.....	8
SECTION 4.2 - ANNUAL PRICE FOR THE INITIAL TERM.....	8
SECTION 4.3 - THE ANNUAL PRICE IN RENEWAL TERMS.....	8
SECTION 4.4 - PAYMENT OF THE ANNUAL PRICE.....	9
SECTION 4.5 - ITEMS NOT INCLUDED IN THE ANNUAL PRICE.....	9
SECTION 4.6 - MAJOR MAINTENANCE EXPENDITURES.....	
SECTION 4.7 - CAPITAL PROJECTS.....	
SECTION 4.8 - UNEXPECTED EXPENSES.....	10
SECTION 4.9 - INTEREST ON LATE PAYMENTS.....	11
SECTION 4.10 - PARTIAL PAYMENT OF DISPUTED INVOICES.....	11
SECTION 4.11 - HYDRO COSTS/UTILITY COSTS.....	11
SECTION 4.12 - OPTIONAL SERVICES.....	12
SECTION 4.13 - ADDITIONAL SERVICES AND CHARGES ASSOCIATED WITH THE MOECC'S MUNICIPAL DRINKING WATER LICENSING PROGRAM.....	12
SECTION 4.14 - CHANGES TO THE AGREEMENT.....	
ARTICLE 5 - DISPUTE RESOLUTION	13
SECTION 5.1 - MEDIATION.....	13
ARTICLE 6 - TERMINATION	13
SECTION 6.1 - TERMINATION OF AGREEMENT.....	13
SECTION 6.2 - EARLY TERMINATION.....	14
SECTION 6.3 - INVENTORY COUNT OF CONSUMABLES/SUPPLIES.....	14

SECTION 6.4 - FINAL SETTLEMENT.....	14
SECTION 6.5 - TRANSFER OF OPERATIONS	14
ARTICLE 7 - GENERAL	15
SECTION 7.1 - OWNERSHIP OF TECHNOLOGY	15
SECTION 7.2 - AGREEMENT TO GOVERN	15
SECTION 7.3 - ENTIRE AGREEMENT	15
SECTION 7.4 - CHANGE IN CIRCUMSTANCE	
SECTION 7.5 - AMENDMENTS AND WAIVERS	16
SECTION 7.6 - SUCCESSORS AND ASSIGNS	16
SECTION 7.7 - SURVIVAL.....	16
SECTION 7.8 - SEVERABILITY	16
SECTION 7.9 - NOTICES	16
SECTION 7.10 - COUNTERPARTS.....	18
SECTION 7.11 - FREEDOM OF INFORMATION	18
SECTION 7.12 - CONFIDENTIALITY	18
SCHEDULE A - THE FACILITY	
SCHEDULE B - DEFINITIONS	
SCHEDULE C - THE SERVICES	
SCHEDULE D – THE ANNUAL PRICE AND OTHER CHARGES	
SCHEDULE E - INSURANCE	
SCHEDULE F - LIST OF PRE-EXISTING CONDITIONS	
SCHEDULE G - REPORTING	
SCHEDULE H – PRICING	
SCHEDULE I – CHANGE ORDER FORM	
SCHEDULE J – EXPENDITURE REQUEST AND APPROVAL TO PROCEED	

SERVICES AGREEMENT

THIS AGREEMENT effective as of the 1st day of July, 2017 (the "Effective Date"),

B E T W E E N

ONTARIO CLEAN WATER AGENCY/AGENCE ONTARIENNE DES EAUX, a corporation established under the *Capital Investment Plan Act, 1993*, c.23, Statutes of Ontario.

("OCWA")

A N D

THE CORPORATION OF CITY OF LONDON, AYLMER AREA SECONDARY WATER SUPPLY SYSTEM BOARD OF MANAGEMENT AND THE ST. THOMAS AREA SECONDARY WATER SUPPLY SYSTEM BOARD OF MANAGEMENT

(the "Client")

RECITALS

- (a) OCWA is in the business of providing operations and maintenance services for water facilities.
- (b) The Client is the owner of the Secondary Water Supply System portion of the Elgin Middlesex Pumping Station more particularly described in Schedule A (the "Facility").
- (c) The Client wishes to retain the services of OCWA to operate and maintain the Facility in accordance with the provisions of this agreement (the "Agreement").
- (d) The Client and OCWA (collectively, the "Parties" and each a "Party") are entering this Agreement to set out their respective rights and obligations with respect to the management, operation and maintenance of the Facility.
- (e) The respective Councils of the Client have passed by-laws authorizing the Client to enter into the Agreement as follows:

 Corporation of the City of St. Thomas: By-Law No. _____ passed on _____
 Corporation of the City of London: By-Law No. _____ passed on _____
 Corporation of the Township of Malahide: By-Law No. _____ passed on _____
- (f) The Client has requested that the Regional Water Supply facilitate the payment of invoices related to the operation, maintenance, and repair of the Facility on behalf of the Client in accordance with the terms and conditions of this Agreement, and recover related

costs from the Client as mutually agreed by the constituent municipalities that comprise the Client.

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 Client and OCWA agree as follows:

ARTICLE 1 - INTERPRETATION

Section 1.1 - Definitions

In this Agreement, definitions are set out in Schedule B, or within applicable provisions as indicated.

ARTICLE 2 - RESPONSIBILITIES OF OCWA

Section 2.1 - Retention of OCWA

- (a) The Client retains OCWA to provide management, operation and maintenance services, and overall responsible operator (“ORO”) duties in respect of the Facility as described in Schedule C to this Agreement, in respect of the Facility (the “Services”).
- (b) The Client acknowledges and agrees that for the purposes of Section 449 of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, OCWA is an agent of the Client.

Section 2.2 - Performance of Services

- (a) OCWA shall deliver the Services in compliance with all applicable Environmental Laws, except as described in Paragraphs 2.2(b) and (c) below and in any of the following circumstances:
 - (i) the Client not making the Major Maintenance Expenditures and/or undertaking the Capital Projects reasonably recommended by OCWA as per Section 4.6 and 4.7 herein;
 - (ii) failure of the Client to meet its representations and warranties specified in this Agreement;
 - (iii) failure of any equipment at the Facility, unless the failure is due to negligent operation and/or maintenance by OCWA;
 - (iv) the water transmitted to the Facility for treatment contains contaminants or pathogens which cannot be treated or removed by the Facility’s treatment

processes;

- (v) the quantity or quality of water transmitted to the Facility exceeds the Facility's design or operating capacity; and
 - (vi) with respect to Overall Responsible Operator duties, the Client not carrying out its duties and responsibilities under this Agreement including, but not limited to, its responsibility for the day-to-day operation of the Facility and for the direction and discipline of any of the Client's Employees assigned to work at the Facility.
- (b) OCWA may temporarily cease to provide or reduce the level of provision of Services hereunder in the event of an emergency, a breakdown or any Uncontrollable Circumstance. OCWA shall, when practicable, try to give the Client reasonable advance notice of any such occurrence, and shall endeavour to coordinate operational activities with the Client in such circumstances.
 - (c) Notwithstanding any other provision of this Agreement, delay in the performance of, or a failure to perform any term of this Agreement by OCWA, shall not constitute default under this Agreement or give rise to any claim for damages suffered by the Client if and to the extent caused by occurrences or circumstances beyond the reasonable control of OCWA (an "Uncontrollable Circumstance"), including but not limited to any circumstances set out in Paragraph 2.2(a), decrees of government, acts of God (including but not limited to hurricanes, tornadoes, floods and other weather disturbances), sabotage, strikes, lockouts and other industrial disturbances, insurrections, war, civil disturbances, pandemics, riots, explosions, fire and acts of third parties.
 - (d) In the event that OCWA determines that a deficiency exists with respect to the compliant operation of the Facility, OCWA will use its best efforts to contact the Client and obtain the Client's approval prior to undertaking any remedial measures to correct the deficiency. The Client acknowledges that such measures may be beyond the scope of the Services and thus subject to an additional charge.
 - (e) Notwithstanding Paragraph 2.2(d) above, the Client recognizes that in an emergency situation or where an Uncontrollable Circumstance exists, OCWA's primary concern will be to use all reasonable efforts to maintain the Facility in compliance with Environmental Laws and that OCWA may be required to correct a deficiency or deal with the emergency situation without obtaining the Client's prior approval. Should such a situation arise, OCWA shall advise the Client as soon as reasonably possible and shall provide as much information as possible to the Client and will work with the Client to ensure the emergency situation is appropriately addressed.

Section 2.3 - Standard of Care and Best Practices

- (a) OCWA shall deliver the Services as would a reasonable operator with like skills in like circumstances.

- (b) OCWA shall operate, maintain and manage the Facility in accordance with Best Practices.

Section 2.4 - OCWA as Independent Contractor

In performing the Services, OCWA shall be acting as an independent contractor and only to the extent and for the specific purposes expressly set forth herein. Neither OCWA nor its employees, agents or subcontractors shall be subject to the direction and control of the Client, except as expressly provided in this Agreement.

Section 2.5 - Authorized Representatives

Each of OCWA and the Client shall be entitled to designate in writing to the other, one or more individuals who shall be authorized to represent it in connection with the day-to-day administration of the provisions of this Agreement (the "Authorized Representative(s)"). Each of the Parties shall be entitled to rely on the acts and approvals given by the other Party's Authorized Representative until such time as it receives a written notification of change of the other Party's Authorized Representative.

Section 2.6 - Indemnification of the Client

- (a) OCWA shall exonerate, indemnify and hold harmless the Client, its directors, officers, elected officials of the Client, employees and agents from and against Claims which may be suffered or incurred by, accrue against or be charged to or recoverable from the Client to the extent that such Claim is solely attributed to OCWA's negligence or wilful misconduct when performing the Services, except where such Claim is due to an Uncontrollable Circumstance or to a condition of the Facility which existed prior to OCWA's commencement of the Services (a "Pre-existing Condition"), including but not limited to those listed in Schedule F. Such Pre-existing Conditions shall be the ongoing responsibility of the Client. OCWA, in providing these Services, is not responsible, accountable or liable, in any way, for Pre-existing Conditions, either directly or indirectly.
- (b) The Client shall be deemed to hold the provisions of this Section 2.6 that are for the benefit of the Client's directors, officers, employees and agents in trust for such directors, officers, employees and agents as third party beneficiaries under this Agreement.
- (c) Notwithstanding Paragraph 2.6(a) above, OCWA shall not be liable in respect of any Claim with respect to the Facilities described in Schedule A to the extent the Claim is covered by the Insurance.
- (d) Claims by the Client for indemnification from OCWA will follow the Indemnification Process as described in Schedule B.

Section 2.7 - Insurance

- (a) OCWA shall maintain, subject to reasonable availability, insurance coverage as described in Schedule E to this Agreement (the “Insurance”) and the Client shall be an additional insured under the Commercial General Liability and Contractor’s Pollution Liability insurance. The Client acknowledges that, given the unpredictability of the insurance market, deductibles and coverage limits may not be available (or may not be reasonably priced) from year to year. Insurance coverage is reviewed annually. Any changes or increases to the coverage shall be accepted by the Client, acting reasonably. Increases may be charged to the Client in accordance with Schedule D.
- (b) The Client specifically recognizes and agrees that neither OCWA nor the Crown bears any responsibility for the Pre-existing Condition(s) of the Facility. As such, OCWA is not required to obtain insurance for this purpose and the Client has or will obtain its own insurance.
- (c) The Client shall be responsible for securing its own insurance for any other operations with which it is involved that are not part of the Services. The Client acknowledges that OCWA’s Commercial General Liability and Contractor’s Pollution Liability insurance shall not extend to cover any claims, exposure or liability beyond those directly linked to the provision of Services by OCWA staff. The Client further acknowledges that it will have no recourse under OCWA’s Commercial General Liability and Contractor’s Pollution Liability insurance for any operations that do not form part of the Services provided under this Agreement.
- (d) In the event of a claim under the Insurance, the payment of deductibles is as specified in Schedule E
- (e) The policies of insurance obtained by the Client in connection with this Agreement shall be primary, notwithstanding other insurance obtained and maintained by OCWA.

Section 2.8 - Representations and Warranties of OCWA

OCWA represents and warrants to the Client that the following are true and correct:

- (a) that it has full power and authority and has taken all necessary steps to enter into and perform its obligations under this Agreement; and
- (b) OCWA’s staff is trained and capable of providing the Services set out under this Agreement. OCWA acknowledges that OCWA is the employer for the purposes of the *Occupational Health and Safety Act* and its regulations, OCWA is the “employer” of its staff who provide with regard to the provision of Services set out under this Agreement.

ARTICLE 3 - RESPONSIBILITIES OF THE CLIENT

Section 3.1 - Obligations of the Client

- (a) The Client has the full power and authority to enter into and perform its obligations under this Agreement.
- (b) The Client has passed all necessary By-Laws and has obtained all necessary Authorizations to enable it to enter into and perform its obligations under this Agreement and to operate the Facility, (including, without limitation, any Authorizations required from the Ontario Municipal Board and the Ministry of the Environment and Climate Change), and the Authorizations are in good standing.
- (c) The Client has provided OCWA with a true copy of each of the Authorizations referred to in Paragraph 3.1(b) above prior to the date of this Agreement, including a certified copy of each municipal By-Law required to authorize the Client to enter into and perform its obligations under this Agreement.
- (d) As the owner of the Facility, the Client is fully aware of its responsibilities and obligations regarding the operation and maintenance of the Facility under Applicable Laws, including without limitation its responsibilities under the *Safe Drinking Water Act, 2002* (the "SDWA") and the *Occupational Health and Safety Act* (the "OHS") and their regulations.
- (e) The Client confirms that there are no Pre-existing Conditions existing at the Facility which would affect OCWA's ability to operate the Facility in compliance with the terms of this Agreement and Applicable Laws, other than what is listed in Schedule F. The Client acknowledges and agrees that the Client shall be responsible for addressing such Pre-existing Conditions.
- (f) The Client confirms that as of the date of execution of this Agreement, to the best of the Client's knowledge, the Facility is in compliance with all Applicable Laws.
- (g) The Client is not aware of the presence of any designated substances as defined under the *Occupational Health and Safety Act* (the "OHS") at the Facility. The Client acknowledges and agrees that it is responsible for dealing with the designated substances (including but not limited to asbestos) in accordance with the OHS and its regulations and to notify OCWA of the location of any designated substances in the Facility, which is owned and under the Client's control of the Client as set out in paragraph (b) of the Recitals and in Schedule A of this Agreement. (The Client shall supply OCWA with annual updates on all hazardous substances within the Facility building belonging to each Client).

Section 3.2 - Covenants of the Client

The Client hereby covenants the following for the benefit of OCWA:

- (a) The Client agrees to promptly pay all amounts owing to OCWA under this Agreement as they become due, including any interest charges on late payments as determined under Section 4.9.
- (b) The Client agrees to promptly provide OCWA with any information relating to the Facility which could have a bearing on the provision of Services by OCWA, including but not limited to any engineering report prepared in respect of the Facility, any Authorization or amendment to any Authorization, as well as any governmental notice or order relating to the Facility.
- (c) The Client agrees to commit the necessary resources to appropriately address and comply with any such reports, Authorizations, notices or orders.
- (d) The Client shall repair, maintain and keep in a good working state, in accordance with good engineering practices and the standards reasonably applicable to an owner of a like facility, all water works that belong to or are under the control of the Client and that distribute water from the Facility.
- (e) The Client agrees to promptly commit the necessary resources to appropriately address any health and safety issues identified by OCWA which are the responsibility of the Client.

Section 3.3 - Exoneration and Indemnification of OCWA

- (a) Subject to Paragraph 3.3(d) below, the Client shall exonerate, indemnify and hold harmless OCWA, its directors, officers, employees and agents and Her Majesty the Queen in Right of Ontario, as represented by the Minister of the Environment and Climate Change and all directors, officers, employees and agents of the Ministry of the Environment and Climate Change (collectively referred to as the "Indemnified Parties") from and against any and all Claims which may be suffered or incurred by, accrue against, or be charged to or recoverable from any one or more of the Indemnified Parties that solely attributed to the Client's negligence or wilful misconduct.
- (b) OCWA shall be deemed to hold the provisions of this Article 3 that are for the benefit of OCWA's directors, officers, employees and agents and the other Indemnified Parties as defined above, in trust for all such Indemnified Parties as third party beneficiaries under this Agreement.
- (c) Claims by OCWA for indemnification from the Client will follow the Indemnification Process.
- (d) Notwithstanding Paragraph 3.3(a) above, the Client shall not be liable in respect of any Claim:

- (i) to the extent that such Claim is covered by the Insurance; however, the Client shall be responsible for any deductible or self-insured retention amount in accordance with Schedule E; and
- (ii) to the extent that such Claim is caused by OCWA's negligence or wilful misconduct in providing the Services.

Section 3.4. - OCWA Has No Liability for the Client's Employees while Providing ORO Services

- (a) Any and all employees of the Client assigned to work at the Facility at any time or from time to time (the "Client's Employees") shall continue to be employees of the Client at all times and nothing in this Agreement shall undermine or terminate the relationship of employee and employer between the Client and any of the Client's Employees.
- (b) OCWA shall under no circumstances have any liability whatsoever for any of the Client's Employees or any action performed by any of them.
- (c) Notwithstanding any other provisions of this Agreement, OCWA shall not be a "supervisor" as that term is defined under the OSHA or its regulations and the Client acknowledges that it is solely responsible for appointing a "competent person" as a "supervisor" under the OSHA and its regulations. The Client further acknowledges that it is the "employer" under the OSHA of the Client's Employees.

ARTICLE 4 - TERM, PAYMENT FOR SERVICES AND OTHER CHARGES

Section 4.1 - Initial Term of Agreement

This Agreement shall start on the Effective Date and shall continue in effect for a term of five years, ending on June 30, 2022 (the "Initial Term") and then may be renewed for additional five-year renewal terms (the "Renewal Term") upon agreement between the Parties, subject to Sections 4.3 and 6.2 of this Agreement.

Section 4.2 - Annual Price for the Initial Term

Subject to any adjustments made pursuant to other provisions of this Agreement, the Client shall pay OCWA a price for the Services for each Year of the Initial Term as described in Schedule D.

Section 4.3 - The Annual Price in Renewal Terms

The Annual Price for the Renewal Term will be as agreed between the Client and OCWA. If the Parties cannot agree on the Annual Price for the Renewal Term within six (6) months of the beginning of the last Year of the Initial Term or the Renewal Term, as the case may be (the "Current Term"), then this Agreement will be terminated twelve (12) months after

the last day of the Current Term. During this twelve (12) month period or mutually agreed upon extension period, the Client shall pay the Annual Price paid for the last Year of the Current Term, plus an adjustment for inflation calculated as described in Schedule D, pro-rated over that period.

Section 4.4 - Payment of the Annual Price

- (a) The Regional Water Supply on behalf of the Client shall pay OCWA the Annual Price for each Year of the Initial Term or the Renewal Term, in twelve equal monthly payments, in advance, on the first day of each month. Payment shall be made by the Regional Water Supply by pre-authorized bank debit from a bank account designated by the Regional Water Supply.
- (b) The Client and OCWA each acknowledge and agree that the Regional Water Supply is acting on behalf of the Client, and for the convenience of OCWA and the Client, in the payment of invoices and costs associated with the operation, maintenance and repair of the Facility. The Client and OCWA each acknowledge and agree that the Regional Water Supply bears no liability or responsibility with regard to the ownership or operation of the Facility.

Section 4.5 - Items Not Included in the Annual Price

The Annual Price, as further described in Schedule "D", for each Year of the Initial Term and any Renewal Term, covers all charges for the Services, but does not include any charges the following:

- (a) any Capital Projects (as defined in Section 4.7 below) or costs resulting from any failure of the Client to implement reasonably recommended Major Maintenance Expenditures;
- (b) costs or charges for services resulting from a Change in Applicable Laws;
- (c) Unexpected Expenses (as defined in Paragraph 4.8(a) below);
- (d) any charges resulting from adverse tax changes in respect of the Services or the Facility;
- (e) Utility Costs, as set out in Section 4.11;
- (f) charges for any Optional Services that are provided by OCWA to the Client;
- (g) costs and charges associated with providing and/or maintaining continuous monitoring technology (SCADA technology) used in respect of the Facility;
- (h) any costs arising from a significant increase in flows, as set out in Part 1 of Schedule F to this Agreement.

Section 4.6 – Major Maintenance Expenditures

- (a) “Major Maintenance Expenditures” means the charges for all non-routine, non-repetitive activities, repair or replacement of machinery or equipment required for the continuity of operations, safety, and operating performance of the Facility that are necessary to prevent or correct a failure of any component of the equipment which is not included as part of routine Maintenance including labour charges, together with the service Fee or fixed fee basis.
- (b) No later than October 31st of each Year this Agreement is in force, or a date as the Parties may agree in writing, OCWA will provide the Client with rolling six (6)-year recommendations for Major Maintenance Expenditures required for the long term operation of the Facility. The Client’s written approval of the estimate or revised estimate, in the form set out in Schedule “J”, authorizes OCWA to incur the Major Maintenance Expenditures included in the estimate (the “Approved Major Maintenance Expenditures”).
- (c) OCWA will invoice the Client for the Approved Major Maintenance Expenditures together with supporting documentation and the Client shall pay the invoice within thirty (30) days of the date of invoice.
- (d) OCWA will not be required to obtain the prior approval of the Client for any Major Maintenance Expenditure costing less than \$1,000.00.

Section 4.7 - Capital Projects

- (a) “Capital Projects” means changes and improvements to the Facility which include the installation of new technology, improvements to the efficiency, performance and operation of the Facility, replacement of major pieces of equipment, structural modifications to the Facility and the construction and commissioning of new Facilities.
- (b) During the term of this Agreement, the Client may request OCWA to undertake Capital Projects for the Client. The terms and conditions of such Capital Projects including the fee shall be negotiated by OCWA and the Client.

Section 4.8 - Unexpected Expenses

- (a) “Unexpected Expenses” means unanticipated expenditures or additional costs which may include Major Maintenance Expenditures in addition to the Approved Major Maintenance Expenditures, that OCWA reasonably incurs in order to address a Change in Applicable Laws, any Uncontrollable Circumstance, any work required by regulatory order (e.g. MOECC or MOL) or identified through an inspection (e.g. ESA, MOECC, MOL) that is not solely the result of OCWA’s negligence in performing the Services or any other emergency situation, together with the Service Fee.

- (b) In the event that OCWA is required to incur Unexpected Expenses, the prior approval of the Client with respect to those Unexpected Expenses will be required only if time permits. Within ten (10) days of incurring the Unexpected Expenses, OCWA will provide the Client with a report detailing the reasons the Unexpected Expenses were incurred.
- (c) Any Unexpected Expenses will be invoiced to the Client together with appropriate supporting documentation, and the Client shall pay the invoice within thirty (30) days of the date of the invoice.
- (d) In the event that OCWA is required to incur Unexpected Expenses, OCWA will not be required to obtain the prior approval of the Client for any Major Maintenance Expenditure item costing less than \$1,000.

Section 4.9 - Interest on Late Payments

- (a) **Monthly Payment of Annual Price.** If the Client's monthly payment of the Annual Price is not available in its designated bank account on the agreed date of payment, OCWA will notify the Client that the funds were not available. Interest will be charged to the Client starting from the day after the payment was due in the account. Interest shall be paid at a rate determined by the Minister of Finance, from time to time, as payable on overdue accounts, in accordance with the Lieutenant Governor in Council under s.10(4) of the *Financial Administration Act*, R.S.O. 1990, c.F.12, plus any banking charges and an administrative fee.
- (b) **Other Invoices.** Invoices, other than for the monthly payment set out in Section 4.9(a) above, shall be paid no later than thirty (30) days from the date of the invoice and interest shall begin to accrue one (1) day after the payment is due.

Section 4.10 - Partial Payment of Disputed Invoices

If the Client disputes any portion of an invoice, the Client shall pay to OCWA the undisputed portion of the invoice by the due date set out herein and provide OCWA with written notice of such dispute by the due date. Failure to provide such written notice of any such dispute will act as a waiver of any defence or justification for failing to pay the full amount of the invoice by the due date. Within ten (10) days of resolution of the disputed amount, the Client shall pay to OCWA all amounts determined to be payable to OCWA, plus interest in accordance with Section 4.9(a).

Section 4.11 Utility Costs

Each municipality that comprises the Client will be responsible for paying its own Utility Costs that will be invoiced directly to the Regional Water Supply, on behalf of the Client. The Regional Water Supply shall invoice the Utility Costs to the constituent municipalities that comprise the Client as mutually agreed by the constituent municipalities that comprise the Client.

Section 4.12 - Optional Services

- (a) If requested by the Client, OCWA may provide Optional Services to the Client by Change Order as set out in Schedule "I" , provided that the Client and OCWA agree in writing to the specific scope of work required.
- (b) Unless otherwise agreed to in writing, fees for Optional Services which OCWA agrees to provide to the Client shall be billed directly to the Client on a time and materials basis as described in Schedule D.
- (c) Once OCWA has agreed to provide Optional Services to the Client, the Optional Services shall be subject to the terms and conditions of this Agreement, with any necessary changes having been made.

Section 4.13 - Additional Services and Charges Associated with the MOECC's Municipal Drinking Water Licensing Program

Further to Paragraph 4.5(f) above, the Client and OCWA acknowledge that this Agreement does not address any additional services that may be provided by OCWA to the Client that are associated with meeting the requirements of the MOECC's Municipal Drinking Water Licensing Program. The Client and OCWA agree to negotiate, in good faith, any necessary amendments to this Agreement, including adjustments to the Annual Price, required to reflect any such additional services provided by OCWA as well as all costs and charges of OCWA in respect of the Municipal Drinking Water Licensing Program.

any costs and charges related to meeting the requirements of the MOECC's Municipal Drinking Water Licensing Program – 4.5

- For clarity OCWA agrees to perform under the O&M services regular updates, amendments, internal audits and changes as recommended from auditing (OFI, NC, etc).
- Upon a significant regulatory or other required change OCWA would request reimbursement for costs incurred to align the DWQMS program documents to meet new regulatory requirements following Optional Services process section 4.11.
- OCWA will continue with the process in place currently for invoicing Secondary Boards for all external auditing requirements of DWQMS through the expenditure request process

Section 4.14 – Changes to the Agreement

- (a) A Change to the Agreement may be carried out after execution of this Agreement by Change Order. A Change Order shall be based upon agreement between the Parties and shall be reflected in a Change Order form.
- (b) The Parties shall execute a Change Order Form, which shall be substantially in the form found in Schedule "I" which will state their agreement upon all of the following:
 - (i) the new services to be provided;
 - (ii) fees for the services provided under the Change Order;

- (iii) the extent of the adjustment to the maintenance and operating schedule, if any;
- (iv) the extent of any adjustments to the Annual Price, if any; and
- (v) all other effects that the change has on the provisions of this Agreement.

ARTICLE 5 - DISPUTE RESOLUTION

Section 5.1 - Mediation

- (a) If a dispute arises between the Client and OCWA which cannot be resolved within a reasonable time, then the issue shall be referred to a mediator.
- (b) The fees and expenses of the mediator shall be divided equally between the Parties.
- (c) Involvement in mediation is on a without prejudice basis and does not preclude and is not a bar to either Party pursuing whatever legal remedies may be available, including litigation.
- (d) The Parties will consider utilizing a staged dispute resolution process similar to the Dispute Resolution Policy adopted by the Board of Management for the Elgin Area Primary Water Supply System.

ARTICLE 6 - TERMINATION

Section 6.1 - Termination of Agreement

- (a)
 - (i) At least one (1) calendar year before the expiry of the Current Term the Client shall notify OCWA in writing whether it wishes to terminate or renew this Agreement at the end of the Current Term. However, OCWA reserves the right to decline to renew the Agreement by notifying the Client in writing of its decision to decline, within thirty (30) days of receipt of the Client's written request to renew; or
 - (ii) OCWA shall notify the Client in writing that it wishes to terminate this Agreement at the end of the Initial Term.
- (b) During the Initial Term or any Renewal Term, this Agreement may only be terminated by either the Client or OCWA by giving at least thirty (30) days' notice in writing to the other Party if:
 - (i) there has been a material breach of the Agreement;
 - (ii) the Party complaining of the breach has given written notice of the breach to the other Party; and

- (iii) the other Party does not correct the breach within thirty (30) days of receiving the notice.
- (c) If either Party disputes the existence of a breach or that the breach is material, then the dispute may be referred to mediation under Section 5.1 of this Agreement.

Section 6.2 - Early Termination

If this Agreement is terminated for any reason prior to expiry of the Current Term, the Client shall pay OCWA for all Services provided up to the date of termination, and any other amounts owed (including but not limited to charges for Major Maintenance Expenditures, Capital Projects, Unexpected Expenses and Optional Services).

Section 6.3 - Inventory Count of Consumables/Supplies

OCWA and the Client will conduct an inventory count of consumables/supplies at the Facility on the first day of the Initial Term or as soon as the Parties may agree. If OCWA no longer operates the Facility at termination of this Agreement, OCWA shall either:

- (a) ensure that there is the same amount of consumables/supplies at the Facility on the date of termination as there was on the first day of the Initial Term; or
- (b) reimburse the Client for any shortfall.

If the amount of consumables/supplies at the Facility on the date of termination exceeds the amount on the first day of the Initial Term, the Client will either reimburse OCWA for any excess or OCWA may take possession of any excess, as OCWA may determine.

Section 6.4 - Final Settlement

If OCWA ceases to operate and maintain the Facility, there shall be a final settlement of all accounts with respect to the Annual Price and any other expenses incurred by OCWA and amounts owing by or to the Client under this Agreement but not limited to the outstanding debt, if any, owed to OCWA, no later than ninety (90) days after OCWA ceases to provide the Services or thirty (30) days after OCWA has provided the Client with a final invoice, whichever comes later.

Section 6.5 - Transfer of Operations

Upon the termination of this Services Agreement, OCWA will return the following documents to the Client:

- (a) The log book(s) for the Facility.
- (b) The operations manual(s) that were provided by the Client to OCWA at the commencement of the Services with all updates to the expiry date of the Agreement.

- (c) Maintenance and repair records of equipment at the Facility in electronic format.
- (d) A list of emergency phone numbers from the contingency plan binders used by OCWA staff in respect of the Facility.
- (e) The operation plan under the Drinking Water Quality Management Standard (DWQMS) and any Standard Operating procedures (SOPs) identified in the operations plan.

ARTICLE 7 - GENERAL

Section 7.1 - Ownership of Technology

The Client acknowledges and agrees that in providing the Services, OCWA may utilize certain technology developed by or for OCWA, for example, OCWA's WMMS, Outpost 5 and/or PDC (the "Technology"). The Client further agrees that use of the Technology by OCWA with respect to the Facility does not in any way give the Client any ownership or licensing rights in or to the Intellectual Property Rights to the Technology unless otherwise agreed to in writing between the Parties. For greater certainty, nothing in this Section 7.1 shall be interpreted as requiring OCWA to provide the Client with the Technology and any upgrades or other similar technology in respect of the Facility as part of the Annual Price.

Section 7.2 - Agreement to Govern

If there is any inconsistency between the main body of this Agreement and any Schedule to this Agreement, then the provision in the main body shall govern.

Section 7.3 - Entire Agreement

This Agreement constitutes the entire agreement between the Client and OCWA with respect to the subject matter hereof and cancels and supersedes any prior understandings, undertakings, representations, warranties, terms, conditions and agreements, whether collateral, express, implied or statutory, between the Client and OCWA with respect thereto.

Section 7.4 - Change in Circumstance

- (a) In the event that there is a change in circumstances or condition that is not covered under the terms of this Agreement, including, without limitation, a Change in Applicable Laws or change in the scope of services provided (a "Change in Circumstance"), then the Party asserting the occurrence of such Change in Circumstance shall give written notice to the other Party, and the written notice shall contain:
 - (i) details of the Change in Circumstance;
 - (ii) details of the inadequacy of this Agreement; and

- (iii) a proposal for an amending agreement to remedy the Change in Circumstance.
- (b) The Parties shall negotiate in good faith any amendments to this Agreement necessary to give effect to or comply with the Change, including any adjustments to the Annual Price or the Services to be provided, which shall be effected as of the date of the Change. If the Parties dispute the existence of a Change, or the recommendation proposed to rectify the Change or the terms and provisions of any amendment to the Agreement, then either Party may refer the dispute to mediation under Article 5, Dispute Resolution.

Section 7.5 - Amendments and Waivers

No amendment to this Agreement will be valid or binding unless it is in writing and duly executed by both of the Parties hereto. No waiver of any breach of any provision of this Agreement will be effective or binding unless it is in writing and signed by the Party purporting to give such waiver and, unless otherwise provided, will be limited to the specific breach waived.

Section 7.6 - Successors and Assigns

This Agreement shall operate to the benefit of and be binding upon, the Parties hereto and their successors and assigns. This Agreement may be assigned in the discretion of either Party.

Section 7.7 - Survival

All representations and warranties given by each of the Parties, all outstanding payment obligations, and the confidentiality obligation under Section 7.12, shall survive indefinitely the termination of this Agreement.

Section 7.8 - Severability

If any provision of this Agreement is determined to be invalid or unenforceable in whole or in part, such invalidity or unenforceability shall attach only to such provision and everything else in this Agreement shall continue in full force and effect.

Section 7.9 - Notices

- (a) All notices required or permitted to be given under this Agreement shall be in writing and shall be deemed to be properly given if hand-delivered, sent by confirmed facsimile or by registered mail postage prepaid, return receipt requested, or by courier, to the Parties at their respective addresses as set forth below, or to such other addresses as the Parties may advise by like notice. Such notices if sent by facsimile, registered mail or courier shall be deemed to have been given when received.
 - (i) if to the Client:
City of London
663 Bathurst St.
London, ON N5Z 1P8

Telephone: (519) 661-2500 ext. 4938
Fax: (519) 661-2352
Attention: John Simon

City of St. Thomas
545 Talbot St.
St. Thomas, ON N5P 3V7

Telephone: (519) 631-1680 ext. 4164
Fax: (519) 631-2130
Attention: Justin Lawrence

Township of Malahide
87 John St. South
Aylmer, ON N5H 2C3

Telephone: (519) 773-5344 ext. 231
Fax: (519) 773-5334
Attention: Rob Johnson

With copy to the Regional Water Supply:

Elgin Area Primary Water Supply System
235 North Centre Road, Suite 200
London, ON M5X 4E7

Telephone: (519) 930-3505
Fax: (519) 474-0451
Attention: Andrew Henry

(ii) if to OCWA:
Ontario Clean Water Agency
450 Sunset Drive Suite 370
St Thomas, Ontario
N5R 5B1

Telephone: (519) 519 871 6762
Fax: N/A
Email: cmurchland@ocwa.com
Attention: Carol Murchland

(b) A Party to this Agreement may change its address for the purpose of this Section by giving the other Party notice of such change of address in the manner provided in this Section.

Section 7.10 - Counterparts

This Agreement may be executed in counterparts, each of which shall constitute an original and all of which taken together shall constitute one and the same instrument.

Section 7.11 - Freedom of Information

- (a) The Client understands and agrees that this Agreement and any materials or information provided to OCWA through the performance of the Services may be subject to disclosure under the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F.31, as amended, or as otherwise required by law.
- (b) OCWA understands and agrees that this Agreement and any materials or information provided to the Client through the performance of the Services, or owned by the Client and in the possession of OCWA, may be subject to disclosure under the *Municipal Freedom of Information and Protection of Privacy Act*, R.S.O. 1990 c. M.56, as amended, or otherwise required by law.

Section 7.12 - Confidentiality and Security

The Parties shall strictly maintain confidential and secure all material and information provided, directly or indirectly, by the other Party pursuant to this Agreement. Subject to relevant legislation related to freedom of information or the protection of privacy and any other laws, neither Party shall directly or indirectly disclose to any person, either during or following the term of this Agreement, any such material or information provided to it by the other Party without first obtaining the written consent of the Party who provided such material or information, allowing such disclosure.

IN WITNESS WHEREOF the Parties have duly executed this Agreement.

ONTARIO CLEAN WATER AGENCY

By: _____
(XX, VP Finance)

Date of Signing

By: _____
(Terry Bender, VP of Operations)

Date of Signing

THE CORPORATION OF THE CITY OF LONDON

Date of Signing

By: _____
(Matt Brown, Mayor)

Date of Signing

By: _____
(Catharine Saunders, City Clerk)

**AYLMER AREA SECONDARY WATER
SUPPLY SYSTEM BOARD OF
MANAGEMENT**

Date of Signing

By: _____
(XX, Mayor)

Date of Signing

By: _____
(XX, CAO/Clerk)

**ST. THOMAS AREA SECONDARY WATER
SUPPLY SYSTEM BOARD OF
MANAGEMENT**

Date of Signing

By: _____
(Heather Jackson, Mayor)

Date of Signing

By: _____
(Maria Konefal, Clerk Clerk)

SCHEDULE A - The Facility

OVERVIEW

This Schedule contains a description of the following:

- Description of existing system
- Description of future capital works
- Description of scope of work

DESCRIPTION OF EXISTING SYSTEM

Overview

The Elgin Middlesex Pumping Station is located at 490 South Edgeware Road, northeast of the City of St. Thomas in the Municipality of Central Elgin.

The Elgin Middlesex Pumping Station (EMPS) property and buildings are owned by the Elgin Area Primary Water Supply System Joint Board of Management.

Within the Elgin Middlesex Pumping Station is process equipment owned by the following:

1. City of London
2. Aylmer Area Secondary Water Supply System Joint Board of Management, administered by the Township of Malahide
3. St. Thomas Area Secondary Water Supply System Joint Board of Management, administered by the City of St. Thomas

Delineation of the system ownership between the Elgin Area Primary Water Supply System and the other systems is included in the CD/DVD of supporting information that has been provided as part of the *Request for Proposals for Lake Huron & Elgin Area Primary Water Supply Systems Contract Successful Proponent Procurement dated August 2, 2011*, under the folder E3 -Drawings – EMPS.

At present, the Supervisory Control and Data Acquisition (SCADA) system is monitored at the Elgin Area Water Treatment Plant (WTP).

City of London Water System

The City of London portion of the EMPS comprises the following:

- Piping specific to the London pump trains up to and including the flow meter located on the discharge header
- three centrifugal pumps, all at constant speed known as Pump 4, Pump 5 and Pump 6

- one hydropneumatic surge tank with two air compressors
- piping, electrical, mechanical, instrumentation, and SCADA/PLC controls

Aylmer Area Secondary Water Supply System

The Aylmer Area Secondary Water Supply System portion of the EMPS comprises the following:

- Piping specific to the Aylmer pump trains up to and including the flow meter located on the discharge header
- two variable speed centrifugal pumps
- one 600 kW emergency diesel generator (shared with St. Thomas Area Secondary Water Supply System)
- one rechlorination system using chlorine gas (shared with St. Thomas Area Secondary Water Supply System)
- piping, electrical, mechanical, instrumentation, and SCADA/PLC controls

St. Thomas Area Secondary Water Supply System

The St. Thomas Area Secondary Water Supply System portion of the EMPS comprises the following:

- Piping specific to the St. Thomas pump trains up to and including the flow meter located in the East Chamber
- three variable speed centrifugal pumps
- one 600 kW emergency diesel generator (shared with Aylmer Area Secondary Water Supply System)
- one rechlorination system using chlorine gas (shared with Aylmer Area Secondary Water Supply System)
- piping, electrical, mechanical, instrumentation, SCADA/PLC controls

Additional Information

A CD/DVD containing supporting information has been provided as part of the *Request for Proposals for Lake Huron & Elgin Area Primary Water Supply Systems Contract Successful Proponent Procurement dated August 2, 2011*.

DESCRIPTION OF FUTURE CAPITAL WORKS

The City of London intends to pump directly into their Southeast Reservoir and Pump Station with Pump 4 and 5 and have the capability to use Pump 6 to pump directly into the London system. There are no other long-term major capital works planned for the systems.

St Thomas is proposing in 2017 to change the 3 current pumps and electrical starters to 3 new pumps with VFD drives and related SCADA changes

SCHEDULE B - Definitions

In this Agreement, the following terms are defined below or in the section in which they first appear:

“Agreement” means this agreement together with Schedules A, B, C, D, E, F, H, I and J attached hereto and all amendments made hereto by written agreement between OCWA and the Client.

“Annual Price” is defined in Section 1 under Schedule D of this Agreement.

“Applicable Laws” means any and all statutes, by-laws, regulations, permits, approvals, standards, guidelines, certificates of approval, licences, judgments, orders, injunctions, authorizations, directives, whether federal, provincial or municipal including, but not limited to all laws relating to occupational health and safety matters, fire prevention and protection, health protection and promotion, land use planning, environment, Building Code, or workers’ compensation matters and includes Environmental Laws.

“Approved Major Maintenance Expenditures” is defined in Paragraph 4.6(b) of this Agreement.

“Authorizations” means any by-laws, licences, certificates of approval, permits, consents and other authorizations or approvals required under Applicable Laws from time to time in order to operate the Facility.

“Authorized Representative(s)” is defined in Section 2.5 of this Agreement.

“Best Practices” means best Operations and Maintenance and management practices as established in accordance with applicable Canadian water utility or industry standards that a prudent and reasonable operator of the Facilities would follow in similar circumstances, having regard to the objectives and terms of this Agreement.

“Business Days” means a day other than a Saturday, Sunday or statutory holiday in Ontario.

“Capital Projects” is defined in Paragraph 4.7(a) of this Agreement.

“Change in Applicable Laws” means the enactment, adoption, promulgation, modification, issuance, repeal or amendment of any Applicable Laws that occur after the date this Agreement is executed by both Parties.

“Change Order” means the document shown in Schedule “I” describing the changes to the Agreement agreed to by both parties.

“Claim” means any claim, fine, penalty, liability, damages, loss and judgments (including but not limited to, costs and expenses incidental thereto).

“CPI Adjustment” means the percentage difference between the Statistics Canada Consumer Price Index, All Items (Ontario) (“CPI”) during September of the previous Year as compared to the CPI of September of the current Year. For example, the CPI Adjustment for Year 2018, is the CPI of September 2017

“Current Term” is defined in Section 4.3 of this Agreement.

“Crown” means Her Majesty the Queen in Right of Ontario.

“Drinking Water Quality Management Standard (DWQMS)” means the standard that sets out the minimum requirements for the operation of a drinking water system.

“Effective Date” is defined on Page 1 of this Agreement.

“Environmental Laws” means, any and all statutes, by-laws, regulations, permits, approvals, certificates of approval, licences, judgments, orders, judicial decisions, injunctions, and authorizations related to environmental matters or occupational health and safety and which are applicable to the operation of water treatment facilities.

“ESA” means the Electrical Safety Authority.

“Facility” is defined in Paragraph (b) of the Recitals to this Agreement and further described in Schedule A.

“Indemnification Process” means the procedures a Party is required to follow to obtain indemnification:

- (a) upon receipt of a claim, or notice of claim, the Party shall immediately forward such claim or notice of claim to the Indemnifying Party;
- (b) if requested by the Indemnifying Party, the Party shall provide all documentation relating to the claim, or notice of claim;
- (c) the Party shall take such steps necessary to protect its right to defend such claim, or notice of claim, and shall assign such right to the Indemnifying Party including any subrogation rights;
- (d) the Indemnifying Party shall not settle any claim, or notice of claim, without the prior written consent of the Party; and
- (e) the Party shall have the right to take-over the defence of any claim, or notice of claim and the Indemnifying Party shall fully co-operate with such action.

“Indemnified Parties” is defined in Paragraph 3.3(a) of this Agreement.

“indemnifying Party” means the Party responsible for dealing with any Claims and paying out any Claims.

“Initial Term” is defined in Section 4.1 of this Agreement.

“Insurance” is defined in Paragraph 2.7(a) and further described in Schedule E.

“Intellectual Property Rights” means any copyright, trademark, patent, registered design, design right, topography right, service mark, application to register any of the aforementioned rights, trade secret, rights in unpatented know-how, right of confidence and any other intellectual or industrial property rights of any nature whatsoever in any part of the world.

“Major Maintenance Expenditure” is defined in Paragraph 4.6(a) of this Agreement.

“MOECC” means the (Ontario) Ministry of the Environment and Climate Change.

“MOL” means the (Ontario) Ministry of Labour.

“Municipal Drinking Water Licensing Program” means the MOECC’s program which requires owners of municipal drinking water systems to obtain a “municipal drinking water licence” (as defined under the SDWA) in accordance with Part V of the SDWA and as part of such process will require owners to: prepare an operational plan and submit the operational plan to the MOECC; retain an accredited operating authority; obtain a “drinking water works permit” (as defined in the SDWA); prepare and submit a financial plan in accordance with Part V of the SDWA; and obtain a permit to take water.

“OHSA” means the *Occupational Health and Safety Act*, R.S.O. 1990, c. O.1.

“Optional Services” means any services not included in the Annual Price that the Client and OCWA agree in writing to designate as “Optional Services” subject to Section 4.11.

“Overall Responsible Operator” or **“ORO”** means the person who will act as the overall responsible operator pursuant to Section 23 of O.Reg. 128/04 under the *Safe Drinking Water Act, 2002* (the “SDWA”) in respect of the Facility.

“Parties” is defined in Paragraph (d) of the Recitals to the Agreement.

“PDC” or **“Process Data Collection”** means technology that allows process data to be entered into a format that can be viewed, manipulated and retrieved in the form of customized reports.

“Pre-existing Condition” is defined in Schedule “F” of this Agreement.

“Regional Water Supply” is defined as the administrating body for the payment of services and utilities for the Facility. The Regional Water Supply is the Elgin Area Primary Water Supply c/o the Regional Water Supply Division of the City of London, acting in its capacity as Administering Municipality for the Elgin Area Primary Water Supply System in accordance with

Transfer Order Elgin Area W1/1998 (dated November 29, 2000) issued by the Ontario Minister of the Environment. The Client may, at its discretion and acting reasonably, change the entity which acts as the administrating body as identified in this Agreement, subject to the Terms and Conditions of this Agreement, including but not limited to Section 7.10 (Notices).

“Renewal Term” is defined in Section 4.1 of this Agreement.

“Routine Maintenance” means regular and/or repetitive activities recommended by the equipment or facility manufacturer or practices of a prudent operator to maintain the reasonably expected life of the equipment and components thereof and includes preventative maintenance.

“SCADA” means Supervisory Control and Data Acquisition.

“SDWA” means the *Safe Drinking Water Act, 2002*, S.O. 2002 c.32.

“Service Fee” is defined and described in Schedule “D”.

“Services” is defined in Schedule “C” of this Agreement.

“Technology” is defined in Section 7.1 of this Agreement.

“Uncontrollable Circumstance” is defined in Paragraph 2.2(c) of this Agreement.

“Unexpected Expenses” is defined in Paragraph 4.8(a) of this Agreement.

“Utility Costs” means natural gas, electricity, chemicals and diesel costs due to the operation and maintenance of the Facility.

“WMS” or **“Work Management System”** means a computer program used to determine a program of preventive maintenance activities for equipment in a facility based on a risk analysis that considers factors such as equipment life expectancy, present value and replacement cost.

“Year” means the 365 day period from January 1 to December 31 of the following calendar year.

SCHEDULE C - The Services

A. General

OCWA will use trained, certified operators and professional staff to manage, operate and maintain the systems presented in this Services Agreement to:

- Manage, operate and maintain the systems described in this Schedule
- Comply with all Applicable Laws
- Provide insurance coverage as defined in Schedule E
- Have in place adequate contingency and emergency plans acceptable to the Client and employ a workplace safety program that meets or exceeds provincial standards
- Meet the potable water performance criteria
- Conduct onsite sampling and operational testing as necessary, and sampling and laboratory testing with an accredited laboratory in Ontario
- Develop a preventive maintenance program for the facilities, which shall include at a minimum:
 - Pump station (internal) valves, and yard/watermain valves exercised at least annually
 - Maintenance and calibration of instrumentation and analyzers
 - Maintenance of backflow prevention and meters
 - Periodic inspection of pumps and associated equipment
- Deliver detailed monthly, and annual reports to the Client that demonstrate compliance and support all future planning, including operational activities, maintenance activities, and regulatory compliance, and management system conformance. The frequency of reporting is further described in Schedule G.
- Manage all human resource functions such as payroll, recruitment, termination and employee relations
- Ship and receive (and purchase where applicable) all materials, consumables and supplies related to the operation and maintenance of the Facilities
- Obtain and pay for all software excluding the systems' PLC and HMI (SCADA) software, WaterTrax (laboratory information management system) and the Client's CMMS license (any additional CMMS license for use by OCWA is OCWA's responsibility)
- Provide 24-hour 7-day per week monitoring of the pumping systems and facilities, and responding to alarms, emergency response, etc. as necessary (based on twenty-four (24) call-outs per full Year)
 - Total number of call outs (24) for the three (3) combined EMPS systems
 - The above noted 24 callouts is an annual total, if callouts are required beyond the total 24 included these will be invoiced to the respective system following process of optional services
- Pay for all maintenance inclusive of pipes and, sandblasting/recoating of equipment, etc., up to and including \$1,000 per single item. Items in excess of \$1,000 will be invoiced to the Client in addition to the Service Fee
- Pay for telephone communications

Specific components related to the Scope of Services are listed below.

B. Staffing, Training and Certification

OCWA will ensure that the Facility is visited by a licence operator at least once per weekday (Monday to Friday) (excluding Statutory Holidays) for operational checks, includes sampling and testing, equipment operational checks, instrumentation checks, and logbook entries.

OCWA shall respond as necessary and required to alarms and emergencies.

OCWA shall have discretion to staff the Facility as required to fulfill deliver the Services in accordance with this Agreement and comply with the requirements in the *Safe Drinking Water Act*.

All training and fees required to maintain operator's certification in accordance with Applicable Laws shall be OCWA's responsibility.

C. Effective Management and Service Levels

OCWA will perform the Services in compliance with all Applicable Laws in effect at the time of the relevant submission, and as amended from time to time.

D. Control and Accountability

OCWA provide complete and comprehensive financial, operational and maintenance details for all activities related to the Facility's functions.

OWCA will deliver frequent formal and informal reporting to the Client, including but not limited to regular contact regarding day-to-day issues, periodic meetings, and timely delivery of all relevant documentation relating to the management, operation and maintenance of the facilities.

E. Compliance Responsibility

OCWA will ensure complete and timely compliance with all Applicable Laws.

Compliance activities or Capital Improvements that result from changes in the law or from regulatory intervention will be pre-approved by the Client.

F. Capital Improvements

OCWA will record information on the frequency and causes of equipment breakdown and repair prices to determine replacement needs.

OCWA will identify elements of the Facility that require upgrading or improvement and bring these to the attention of the Client with due regard for planning and budgeting requirements. The funding of Capital improvements will be the responsibility of the Client. The Client will have final approval for any Capital Improvement proposed by OCWA. OCWA shall not rely in any way on the Client's annual capital budgets and acknowledges that the identification of a capital improvement in the Client's capital budgets in no way ensures that the capital improvement will be carried out by the Client.

OCWA shall provide support resources for capital projects, detailed report reviews, data compilation, and research of historic information all in support of capital improvements managed by the Secondary Boards or other requested special work.

- A 16 hour total limit on management, team leads and operations/maintenance staff resources for each project under the direction and control of the Secondary Boards.
- OCWA will in consultation with the Client at the initiation phase of each project define the support requested and estimate the number of resource hours forecasted, additional hours will be tracked and invoiced following the Optional Services

G. Asset Protection

OCWA will be the steward of the Facility on behalf of the Client. OCWA will maintain the Facility based on industry standards for similar facilities, normal wear and tear excluded.

OCWA will maintain and utilize the Client's computerized maintenance management system (CMMS; currently incorporated into the CMMS of the Elgin Area Primary Water Supply System) to control and record all maintenance activities, including but not limited to routine, preventative and breakdown maintenance activities.

OCWA will provide the Client with immediate and complete access to all available information relating to the Facility as well as regular reporting.

H. Operational and Maintenance Duties

OCWA will perform regularly scheduled inspections and carry out associated operational and maintenance duties at the Facility, including all related equipment, to ensure that the Facility is operated and maintained effectively. OCWA will perform inspection and maintenance duties in accordance with the Operations Manuals for the Facility, as well as the Operation and Maintenance (O&M) manuals developed and provided by the suppliers of the specific equipment.

I. Services Innovation and Improvement

OCWA will propose innovative strategies to the Client to enhance performance and reduce the overall cost of the Facility's operations without adversely impacting health and safety, or acceptable operating standards.

OCWA will operate and maintain the Facility cooperatively with the Client, including but not limited to the dosage of chlorine for secondary disinfection, and pumping schedules.

The Client will consider cost savings-sharing formula for dealing with savings that result from innovations proposed and implemented by OCWA.

J. Risk Management

OCWA will implement risk identification strategies and create, maintain and implement contingency, emergency, and health and safety plans to manage risk for the Client's facilities within OCWA's control under this Agreement.

OCWA will respond to emergency situations within thirty (30) minutes and appropriate staffing will be available within sixty (60) minutes.

K. Site Visits

OCWA will facilitate site visits at the Facility on a periodic basis. Visitors to the Facility will include the Client's staff, MOECC staff, maintenance services staff as well as the Health Units' staff.

L. Potable Water Performance Criteria

At all times, OCWA will deliver the Services in accordance with the requirements of the *Safe Drinking*

Water Act, the Drinking Water Systems Regulation (O. Reg. 170/03) and the Ontario Drinking Water Quality Standards (O. Reg. 169/03), except for Uncontrollable Circumstances.

M. Sampling and Testing Requirements

OWCA will perform sampling and testing at the Facility in accordance with the *Safe Water Drinking Act*, the Drinking Water Systems Regulation (O. Reg. 170/03), Municipal Drinking Water Licences (or Certificates of Approval) and Applicable Laws.

Sampling and testing shall occur for the following three sub-systems separately:

1. City of London
2. Aylmer Area Secondary Water Supply System
3. St. Thomas Area Secondary Water Supply System

N. Addressing Potential Performance Concerns

OCWA is committed to maintaining excellent client service and transparent communications with regarding the performance of its staff working at the Facility. If the Client has concerns about the work performance of OCWA's staff, these concerns can be forwarded in writing to OCWA's General Manager for the Facility. The Client's concerns about the work performance of OCWA's staff will be thoroughly reviewed with the assistance of OCWA's Human Resources Department, and dealt with on a case-by-case basis. OCWA will apprise the Client of the actions taken to improve performance. In addressing issues of staff work performance, OCWA will attempt to have a resolution that is satisfactory to both Parties.

SCHEDULE D – The Annual Price And Other Charges.

1. Annual Price for the Initial Term

In accordance with Section 4.2 and subject to any adjustments made pursuant to other provisions of this Agreement, the Client shall pay OCWA a price for the Services for each Year of the Initial Term in the following amounts (the “Annual Price”):

- (i) For the period from **January 1, 2017** through to **December 31, 2017** (Year One) inclusive: **\$191,180.00** CPI at 1.8% CPI = **\$194,621.24**.
- (ii) For **January 1, 2018** through to **December 31, 2018** (Year Two) inclusive: **\$194,621.24 + CPI as defined September of the 2018. The following years will be set by adding CPI as defined in September to the current annual rate (Example 2019 will be calculated 2018 rate + CPI as defined in September** The CPI Adjustment shall be calculated annually as soon as necessary information is available from Statistics Canada (Canadian All Item CPI Index) based on September defined values.

2. Payment of the Annual Price

In Year One of the Initial Term, the monthly payment of the Annual Price shall be **\$16,218.44/month**. The first payment shall be due and payable on January 1, 2017.

3. Optional Services

Unless otherwise agreed to in writing, fees for Optional Services which OCWA agrees to provide to the Client shall be billed directly to the Client on a time and materials basis at the following rates which may be adjusted on an annual basis:

- (a) Labour rates on Business Days, Monday to Friday (0730 to 1600) shall be billed at **\$100.00/hour/person** for an operations manager; **\$90.00/hour/person** for a team lead; **\$70.00/hour/person** for operations and maintenance staff, plus applicable expenses and plus vehicle expenses at **\$0.50/km/vehicle**;
- (b) Labour rates for after hours and on weekends shall be billed at **\$127.50/hour/person** for an operations manager; **\$97.50/hour/person** for a team lead; **\$97.50/hour/person** for operations and maintenance staff with a minimum four (4) hour charge; plus applicable expenses and plus vehicle expenses at **\$0.50/km/vehicle**.
- (c) Costs for parts, equipment and supplies, and outside labour charges (i.e., contractors), used by OCWA staff to provide the Optional Services shall be billed to the Client, and the Client will pay such costs together with a Service Fee.

“Service Fee” means an additional fee charged to the Client when OCWA purchases materials, supplies, equipment or contractor’s services on behalf of the Client. For any individual item or service purchased, the Service Fee shall be calculated as follows:

- (a) 15% of the first \$10,000; plus
- (b) 10% on the amount from \$10,000 to \$50,000; plus

(c) 5% on the amount in excess of \$50,000.

For example, the Service associated with a capital project which required \$56,000 in supplies and materials would be \$5,800 ($15\% \times \$10,000 + 10\% \times \$40,000 + 5\% \times \$6,000$).

SCHEDULE E - Insurance

A summary of the insurance coverage that OCWA will arrange for in respect of the Facility is described below:

Property and Machinery/Boiler Insurance for the Client is provided through Regional Water Supply for the Facilities.

Automobile Insurance

Coverage: Automobile Liability for OCWA owned or leased vehicles.

Limit: \$5,000,000

Commercial General Liability Insurance

Coverage: Third party liability including legal fees, for property damage and/or bodily injury as caused by OCWA's negligence arising out of OCWA's operations of the Facilities.

Limit: \$50,000,000 per occurrence.

Deductible: \$50,000 for the year 2017; subject to change on an annual basis.

Contractor's Pollution Liability/Professional Liability Insurance

Coverage: Professional Liability: To pay on behalf of OCWA sums which OCWA shall become legally obligated to pay as damages and/or claims expense as a result of claims made first against OCWA, and reported to the insurer, in writing during the policy period, automatic extended reporting period (60 days), and by reason of any act, error or omission in professional services rendered or that should have been rendered by OCWA, or by any person for whose acts errors or omissions OCWA is legally responsible, and arising out of the conduct of OCWA's profession.

Pollution legal liability covering third party property damage and bodily injury and clean up costs for pollution conditions arising out of the performance of the services provided by OCWA.

Limit: \$10,000,000 per loss on a Claims Made basis with automatic, extended reporting periods for Pollution Liability. \$10,000,000 aggregate.

Limit: \$5,000,000 for Professional Liability Insurance

Deductible: \$100,000 for the year 2017; subject to change on an annual basis.

SCHEDULE F - List of Pre-Existing Conditions

As per Paragraph 3.1(e) of this Agreement, the following Pre-existing Conditions have been identified:

- Potential changes to operating requirements and impacts associated with the commissioning of the City of London's Southeast Reservoir & Pumping Station located on Highbury Avenue
- City of London's contracted minimum daily current average volume is 22.7 million litres
- St Thomas upgrading 3 pumps, VFDs and SCADA modifications planned for 2017

SCHEDULE G - Reporting

EMPS Reporting Plan		
Report	Frequency	Submission
Operations, Maintenance and Compliance	Monthly	10 business days following month end, submitted electronically
Annual Report (MOECC) (O. Reg. 170, Section 11)	Annually	February 1
Yearly Summary Report (O. Reg. 170, Schedule 22)	Annual	February 28
Capital Recommendations	Quarterly/annually	Quarterly and by October 31 for preceding year
Contingency and Emergency Preparedness		Within 90 days of the start of the contract
Review of provision of infrastructure	Annually	Oct 31
Management Review	Annually	30 days after review
Internal Audit Report	Annually	30 days after audit
Initial Condition Survey		90 days from the start of the contract
Final Condition Survey		60 days prior to end of term

Proposed Meeting Schedule		
Meeting	Frequency	Agenda
Operations and Maintenance	Quarterly	Based on Secondary Board Scheduling
Annual performance review	Annual (year end)	Review of operations, maintenance, compliance and capital for the year.
Capital Recommendations	Annual (Q3)	Presentation of recommended capital for coming year

SCHEDULE H – Pricing

EMPS Price Proposal						
Item	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	Year 6 2022
Total Fixed Price, excluding taxes	\$191,180.00 (\$191,180 – full year) +CPI	\$194,621 +CPI	2018 Total plus CPI	2019 Total plus CPI	2020 Total plus CPI	2021 Total plus CPI
Total	\$194,621.24					

The CPI Adjustment (Canadian All Item CPI), which will be calculated in accordance with Section 1 above.

The Parties agree that the Annual Fee includes:

Salaries and Benefits – salaries, on call, ORO

Transportation and Communication – telephones, data communication, cell phone, training

Services – vehicles, lab equipment, repairs and maintenance, lab analysis, insurances

Supplies and Equipment – lubricants, calibration, vehicle fuel, safety, laboratory, hardware supplies

Costs Included in the Annual Price:

- Annual DWQMS maintenance costs
- On call costs
- Lab costs
- Data communication and phones costs
- Lifting device annual inspections
- 20 hours per week for operator
- Operator hours are Monday to Friday excluding weekends and holidays
- Shared ORO from Elgin Plant and/or Elgin Middlesex Hub
- **Costs Excluded from the Annual Price:**
- Initial and final condition surveys
- All capital costs
- All natural gas, diesel fuel and utilities costs
- Writing the DWQMS operational plans
- External DWQMS audit
- Chlorine gas

The Parties confirm that OCWA will continue to invoice for chlorine gas to St, Thomas and Malahide in such manner as agreed to by the Parties.

SCHEDULE I - Change Order Form



**Ontario Clean Water Agency
Agence Ontarienne Des Eaux**

Change Order Form

Change Being Requested

Name of Change:			
Ontario Clean Water Agency (OCWA)	Per: _____ Name: _____ Title: _____	Date (YYYY/MM/DD):	
Client	Per: _____ Name: _____ Title: _____	Date (YYYY/MM/DD):	

Adjustment

Check Appropriate Type of Change

Apply (Y/N)	Type of Change:
	Adjustment to Estimate
	Change to Service
	Impact

Adjustment to Estimate

Description – Attach Additional Documentation if Required

Change in Services

Description – Attach Additional Documentation if Required

SCHEDULE J - Expenditure Request and Approval to Proceed



Hub Name
Hub Address
City, ON Code
Phone: XXX-XXX-XXXX Fax: XXX-XXX-XXXX

PART 1

Facility Name:			
Project Name:			
Project Number:		Estimated Project Start Date:	
Total Estimated Cost of the Project:	\$	Detailed Quote Attached:	<input type="checkbox"/> Yes <input type="checkbox"/> No

It is recognized that this is a budget estimate and the final price may vary. OCWA will provide additional justification where the final invoice price varies from the estimate by more than 10%

Type of Project:

- Maintenance Project
 Out of Scope Work
 Contingency
 Emergency
 Health & Safety

Description of Project or Expenditure:

Submission Prepared By:

Name (Print)	Signature	Date
<i>Authorized Representative for the Ontario Clean Water Agency</i>		

PART 2

Approval to Proceed:

Approved
 Declined
 Deferred
 Reason if Declined or Deferred:

The Ontario Clean Water Agency is authorized to proceed with the project/expenditure according to the description and cost estimate provided above. This may include but not limited to the hiring of sub-contractors, consulting firms, etc. as required. The Municipality agrees to pay OCWA the costs associated with this work upon its completion based on the terms of the Municipality's agreement with OCWA.

Approved By:

Name (Print)	Signature	Date
<i>Authorized Representative for the Municipality</i>		

PART 3

OCWA Internal Use Only:			
Client PO / Project #:		Date:	
Project Start Date:		Project Completion Date:	
OCWA Invoice #		Date:	
OCWA Account Code:		OCWA Work Order #	