

A G E N D A

THE THIRD MEETING OF THE ST. THOMAS AREA SECONDARY WATER SUPPLY SYSTEM BOARD OF MANAGEMENT

**ZOOM AND
COMMITTEE ROOM #304**

4:00 P.M.

OCTOBER 16, 2025

DISCLOSURES OF INTEREST

MINUTES

Confirmation of the minutes of the meeting held on August 21, 2025.

NEW BUSINESS

St. Thomas & Area Secondary Water Supply System - Drinking Water Quality Management
System 2025 Management Review

Report SWB-05-25 of the Environmental Compliance Coordinator. **Pages 2-95**

Elevated Water Storage Facility Options

Report SWB-06-25 of the Manager of Development and Compliance. **Pages 96-97**

Elevated Water Storage Facility Licencing Agreement

Report SWB-07-25 of the Environmental Compliance Coordinator. **Pages 98-117**

2026 St. Thomas & Area Secondary Water Supply System Operating Budget, Capital Forecast,
and Water Rates

Report SWB-08-25 of the Environmental Compliance Coordinator. **Pages 118-120**

NEXT MEETING

ADJOURNMENT



Report No.
SWB 05-25

File No.

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

Meeting Date:
October 16, 2025

Department: Environmental Services

Prepared By: Karel Kamerman, B.Sc., C.Tech.
Environmental Compliance Coordinator

Attachment
2025 Management Review
Meeting Minutes for STASWSS

Subject: STASWSS DWQMS 2025 Management Review

Recommendation:

THAT: Report SWB 05-25, relating to St. Thomas Area Secondary Water Supply System (STASWSS) Drinking Water Quality Management System (DWQMS) – 2025 Management Review, be received for information.

Background:

As the Operating Authority for the St. Thomas Area Secondary Water Supply System (STASWSS), the City of St. Thomas Environmental and Infrastructure Services is required to maintain accreditation to the Drinking Water Quality Management Standard (DWQMS). One requirement of the DWQM Standard is to conduct a meeting on an annual basis that evaluates the continuing suitability, adequacy, and effectiveness of our Drinking Water Quality Management System, which has been developed to meet the DWQM Standard. This annual meeting is labelled the Management Review and was conducted on September 15, 2025.

As part of the Management Review Meeting, information related to 16 mandatory (and additional) topics of discussion were reviewed pertaining to the DWQMS and the City’s drinking water system operations and maintenance. The minutes of the meeting are provided as an attachment to this report. Discussion and decisions made as part of the Management Review have been recorded and compiled in the meeting minutes, which were recorded by the Environmental Compliance Coordinator.

The Management Review Meeting was held on September 15, 2025, and was attended by Kevin De Leebeeck (OA Owner Representative/Top Management), Shayne Reitsma (QMS Representative) and Karel Kamerman (Environmental Compliance Coordinator).

Action Items identified as part of the Management Review Meeting have been added to the Corrective and Preventative Action Tracking Spreadsheet. As per the DWQMS Continual Improvement Procedure, the Environmental Compliance Coordinator will follow up on the action items identified to ensure they are addressed within the associated timelines.

Financial Impact:

There is no financial impact to the Board related to this report.

Respectfully,

Karel Kamerman, B.Sc., C.Tech
Environmental Compliance Coordinator

Reviewed By:

City Engineer

Mgr. Develop. &
Compliance



DWQMS Management Review

St. Thomas Area Secondary Water Supply System

September 15, 2025

10:00 AM

St. Thomas City Hall – ES Upper Boardroom

MEETING MINUTES

Attendee(s)

Present: **Kevin De Leebeeck** – Director of Environmental & Infrastructure Services and City Engineer, City of St. Thomas
Shayne Reitsma – Manager of Development & Compliance, City of St. Thomas
Karel Kamerman – Environmental Compliance Coordinator

Regrets: **Chris Andrew** – Manager of Water/Sewer

Agenda Items

a. Incidents Of Regulatory Non-Compliance

The St. Thomas Area Secondary Water Supply System (STASWSS) annual MECP inspection was held on September 16, 2024, for the period of December 1, 2023, to August 31, 2024. The Inspection Report and Inspection Risk Rating documentation, attached, was received January 2025. The STASWSS received a score of 100.00%, noting zero (0) non-compliant matters.

STASWSS Inspection Finding	Actions Taken:
N/A	N/A

b. Incidents Of Adverse Drinking-Water Tests

Zero (0) adverse drinking water events have been reported for the STASWSS over 2024, or as of June 30, 2025.

c. Deviations From Critical Control Point Limits And Response Actions

Zero (0) deviations from the Chlorination Critical Control Point (CCP) have been recorded in 2024 or as of the end of June in 2025 on the STASWSS.

*NOTE: CCP's related to backflow, discolouration and pressure have been removed, effective the July 2025 version of the DWQMS, on the recommendation of our external auditor. Chlorination remains as the only critical control point for the system.

d. Effectiveness Of The Risk Assessment Process

The Hazard Assessment Team convened on October 8, 2024 to review the hazards identified as CCP's and determine if they are indeed true critical control points, as was recommended in the external audit conducted in August 2024. Attendees were in agreement that no control can be applied to prevent

backflow incidents, discolouration or low pressure and an action item was assigned remove the CCP's related to the three drinking water quality concerns, moving pertinent information to Emergency Response Plan procedures. These changes were completed in the July 2025 release of the Emergency Response Plan and Drinking Water Quality Management System.

A review of the Hazard Analyses for the system was completed in February 2025 and resulted in no changes.

Meetings to complete a Risk Assessment for the addition of the South Edgeware Booster Station to the area drinking water systems, and any possible effects to the provision of safe clean drinking water specific to this system have been scheduled for September 18, 2025.

e. Internal And Third-Party Audit Results

Two (2) audits of the DWQMS have been conducted since last management review as of June 30, 2025. All audit findings were placed in the corrective action tracking spreadsheet, discussed in a follow-up meeting, and corresponding actions were taken, or are planned, for each identified non-conformance, as described below. Opportunities for Improvement (OFI's) identified by auditors are also placed in the corrective action tracking spreadsheet and discussed in a follow-up meeting. Actions may or may not be taken in response to OFI's, based on the merit of the finding.

Two (2) internal audits have been completed since the last management review.

From the internal audit conducted on October 23, 2024, the identified non-conformity that relates to the STASWSS DWQMS was:

NC #1: Document and Records Control

- As a result of a recent reorganization of files, several identified record locations changed, however, the table in DW-ADMIN-200 does not yet reflect the new locations.
 - **ACTIONS TAKEN:** Document and Record Control Procedures MUN-DW-QMS-100 & MUN-DW-QMS-200 were updated to reflect new file locations.

From the internal audit conducted on May 28/29, 2025, there were two (2) identified non-conformities, however, they did not relate to the operation of the STASWSS.

The audit reports are attached as appendices to these minutes.

f. Results Of Emergency Response Testing

Emergency Response Testing was completed through the debrief of a real emergency situation encountered by the Operating Authority during 2024 and to June 30, 2025. Summaries are provided below of the resulting actions taken in response of the debrief exercise to better emergency responses in the future.

SYSTEM - Event	Action Items Identified (Status)
STWDS – Station Street Area Boil Water Advisory (Routine Sampling returned results indicating the presence of <i>E. coli</i> bacteria in the water for a sample collected from the Station Street Sample Station. The PHU issued a Boil Water Advisory for an area including approximately 245 homes. Notices were hand delivered and posted to social media.	• Explore Entegrus Email/Text distribution to affected area(s). • Discuss with PHU – Notification methods vs. affected area size. • Expand procedure to describe what processes may be put into play if longer duration or confirmed contamination. (ie. Isolation of areas (backfeeding with bulk truck to supply non-potable, bottled water for pick up at JOE, use of EOC, etc.)

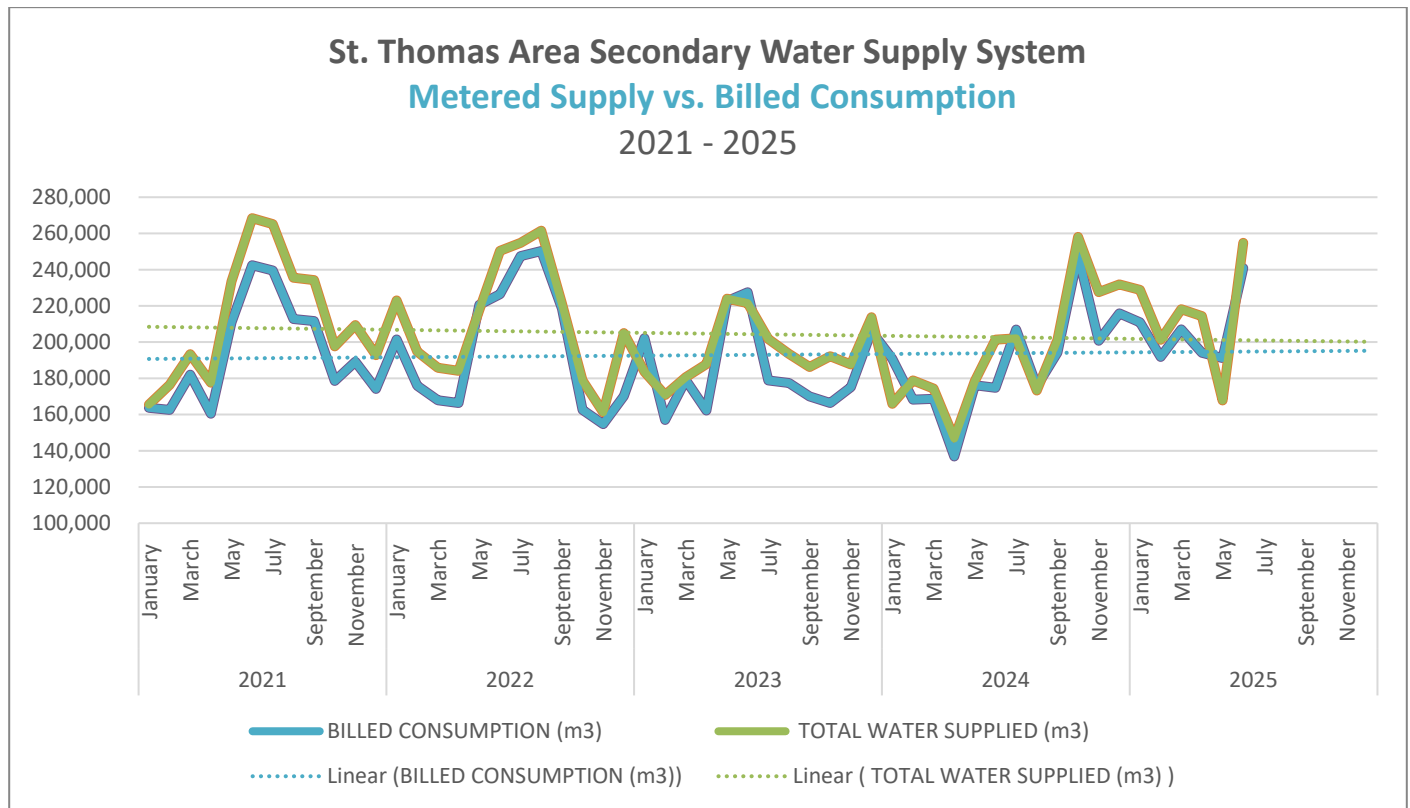
g. Operational Performance

- 2024 Summary and Annual Reports for St. Thomas Area Secondary WSS were reviewed.

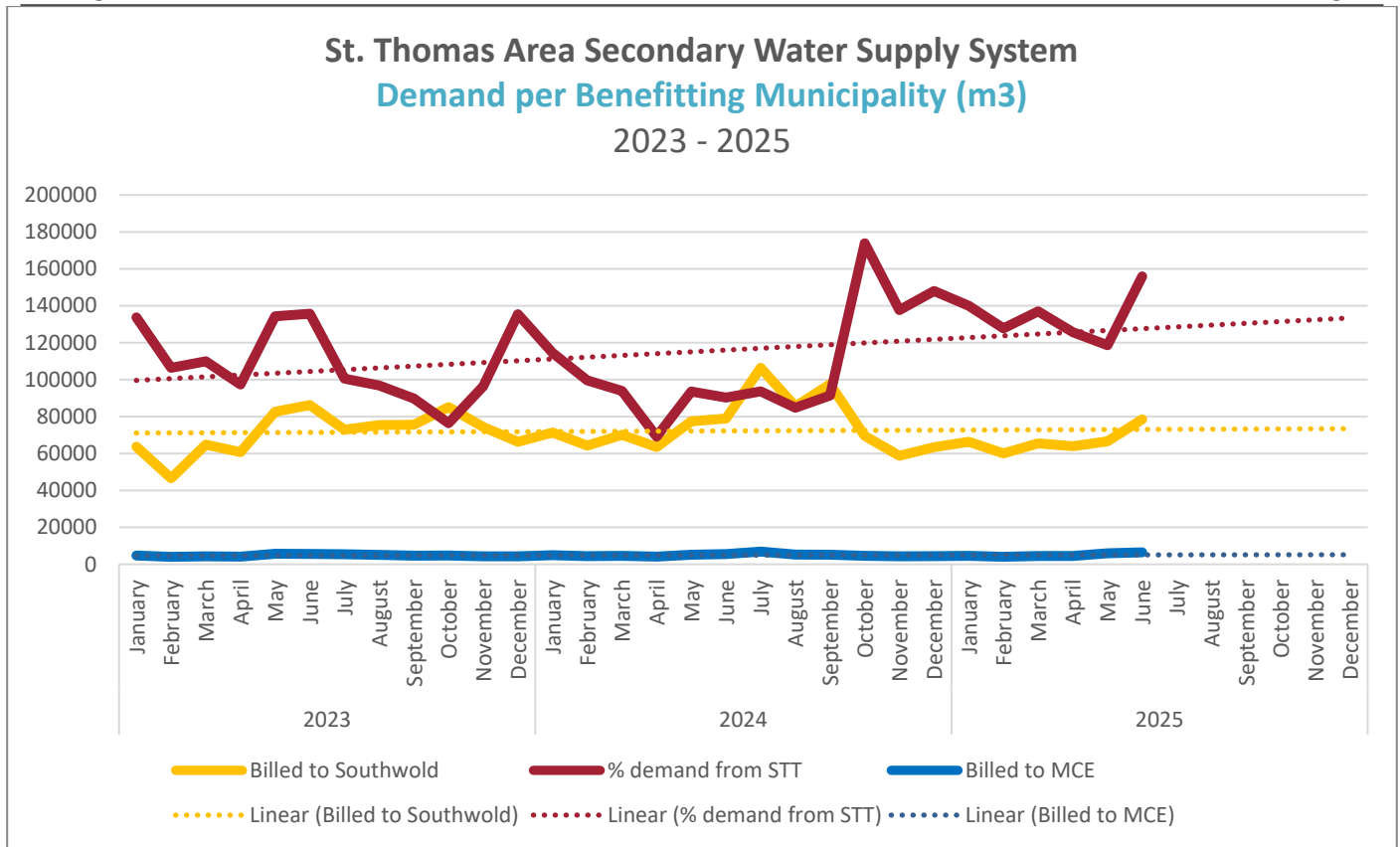
Supply and Demand Flow Trends – STASWSS

Over the 2024 year, the STASWSS purchased a total of 2,339,767 m³ of water from the EAPWSS, a decrease of 0.2% from the year previous. As of the end of June 30, 2025, the STASWSS has purchased 1,285,128 m³ of water, which represents a 23% increase over the same period last year.

The STASWSS delivered a total of 2,256,551 m³ to its customers in 2024, an increase of 1.4% from the 2,224,471 m³ delivered in 2023. To June 30, 2025, the STASWSS has billed for a total of 1,235,854 m³, representing a 22% increase over the same period last year. The graph below demonstrates the STASWSS Metered Supply vs Billed Consumption data for 2021 – June 30, 2025.



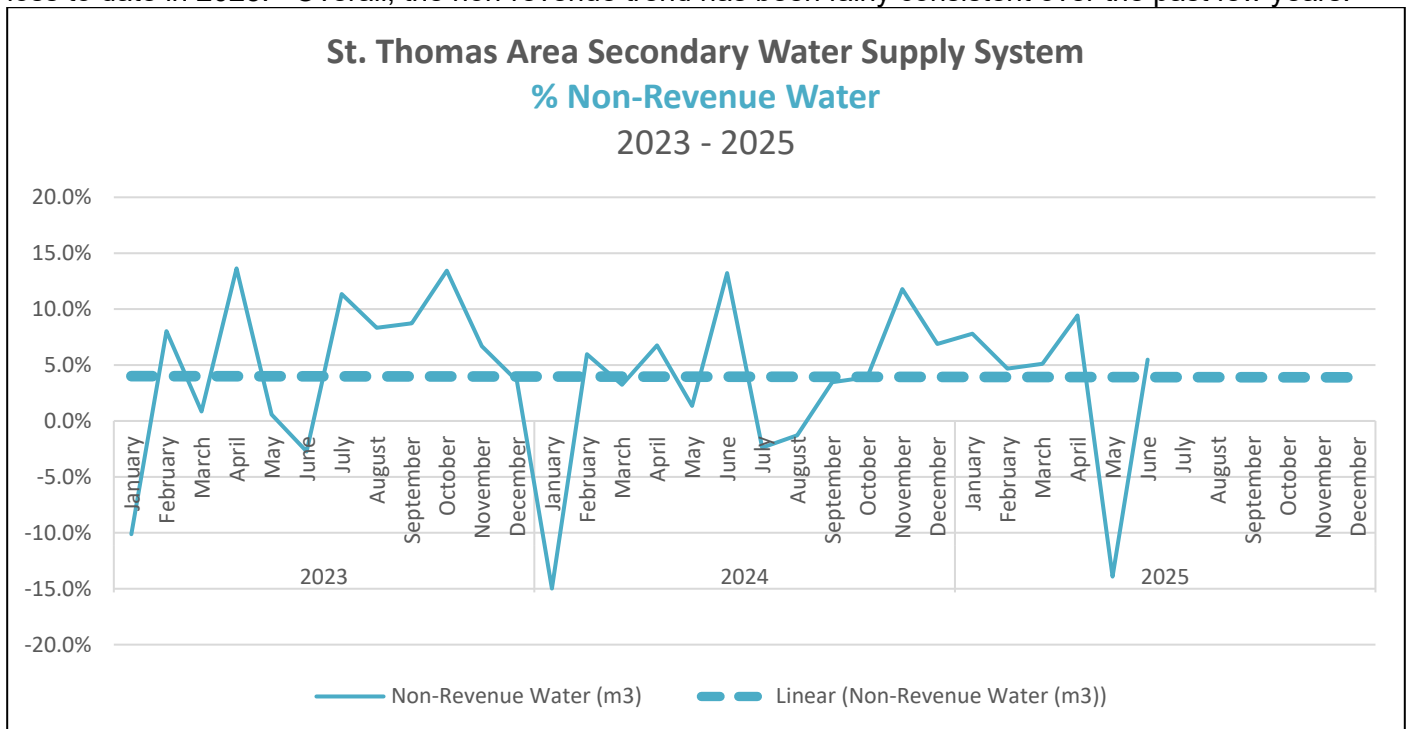
The flows delivered to each municipal partner from 2023 to 2025 are as shown in the graph below.



Non-Revenue Water – STASWSS

The graph below provides a representation of the % of Non-revenue Water from total amount of water purchased. Over the 2024 year, a total of 83,216 m3 was unaccounted for, representing approx. loss of 3.6% over the year. This is a decrease from the 5.1 % loss recorded in 2023.

To June 30, 2025 a total of 49,274 m3 is unaccounted for water so far this year. This equates to a 3.8% loss to date in 2025. Overall, the non-revenue trend has been fairly consistent over the past few years.



- Maintenance Tasks

The following table provides a summary of Maintenance tasks completed on the STASWSS in 2024, and to June 30, 2025.

St. Thomas Secondary WSS			
Task	Maintenance Standard	2024 Completion	2025 Completion (To June 30, 2025)
Valve Checks	Ongoing	100%	100%
Hydrant Checks	Annual Maintenance Frost Checks as required	100% 2 complete rounds	100% 2 complete rounds
Hydrant Painting	As required	None	None
Fire Flow Testing	On Demand	None	None
Tower Inspection	Every 5 years	2023	2023
Directional Flushing	Annually	100% September	100% September

h. Raw Water Supply and Drinking Water Quality Trends

Raw Water Supply

Raw water is supplied through the Elgin Area Primary Water Supply System. On August 23, 2024 and March 11, 2025 the EAPWSS issued Taste and Odour Advisories. The August event was attributed to lake turn-over and the March event to wind, rain and significant spring runoff. A summary of historical colour, taste and odour events is below:

Year	Summary of Event
2021	Fall – colour and odour event related to lake turnover events (numerous complaints received)
2022	Fall – pre-emptive communication, no noticeable deterioration in water quality (no complaints)
2023	Fall (November) – a number of taste and odour complaints from various locations throughout the city. PAC treatment resumed and complaints stopped.

Water Quality Test Results

Reviewed 2024 STASWSS Annual and Summary Reports and 2025 water quality trends to June 30, 2025. A summary of historical water quality results are below.

Microbiological Testing Result Summary				
	# samples	Range of E. coli (cfu/100ml)	Range of Total Coliform (cfu/100 ml)	Range of HPC results (cfu/mL)
2021	104	0 - 0	0 - 0	<10 - 20
2022	161***	0 - 0	0 - 0	<10 - 1170
2023	156***	0 - 0	0 - 0	<10 - 100
2024	105	0 - 0	0 - 0	<10 - NDOG**
2025	54*	0 - 0*	0 - 0*	<10 - 1790*

* - based on data available to June 30, 2025

** - NDOG is a lab code that means there was no data reportable on the sample due to overgrowth that may or may not be representative of water quality. The NDOG result was from a sample taken on April 15, 2024. Resamples were taken on April 18, 2024, returning with a result of <10 CFU/mL. Omitting the NDOG result, the next highest HPC result in 2024 was 100 CFU/mL

*** - includes samples collected by OCWA.

Chlorine Residual Grab Sample Results Summary			
	# samples	MIN Free Chlorine Residual (mg/L)	MAX Free Chlorine Residual (mg/L)
2021	104	0.89	2.09
2022	161	0.77	1.85
2023	156	0.74	1.68
2024	105	0.65	1.47
2025	54*	1.08*	1.71*

* - based on data available to June 30, 2025

Trihalomethane / Haloacetic Acid Monitoring Result Summary			
	# samples	Total THM (Annual Average) ug/L	Total HAA (Annual Average) ug/L
2021	4	30	8.05
2022	4	28.5	6.1
2023	4	31	6.6
2024	4	31	7
2025	3*	26	6.4

* - based on data available to June 30, 2025

No discernable trends have been observed in drinking water quality based on water quality testing and monitoring results.

i. Follow-Up Action Items From Previous Management Reviews

All action items identified in previous management reviews have been addressed. Five (5) action items were identified in the most recent management review.

Item #	Action	Deadline	Responsible Party	Status
2.	Report STASWSS Management Review Meeting Minutes to Owner.	10-31-2024	SR / KK	COMPLETE

j. The Status Of Management Action Items Identified Between Reviews

No Management action items were identified between the reviews.

Throughout the year, there are many discussions between the St. Thomas Secondary System members

with regards to the water distribution systems and their performance. Although there might not be any specific action items noted here, many discussions take place to help improve the system.

k. Changes That Could Affect The DWQMS, QMS Elements, Or Legislative Changes

Anticipated changes that could have an effect on the DWQMS, include:

- DWQMS 3.0 has been proposed
- MDWL renewal
- Connection to the SEBS allows for alternate feed and provides redundancy
- Tower Replacement
- Realignment of the Transmission Line to facilitate Highway 3 By-pass.

l. Consumer Feedback (Including Any Concerns, Complaints, Or Expectations From Customers)

Over the 2024 calendar year and to June 30 in 2025, no complaints or concerns related to water quality or pressures within the STASWSS were received.

m. The Resources Needed to Maintain the Quality Management System

There are adequate resources available to St. Thomas Area Secondary Water Supply System staff to maintain the DWQMS.

n. The results of the infrastructure review

Infrastructure review is an ongoing process.

2026 Proposed projects are listed below. Meetings are held with Central Elgin and Southwold to allow for coordination of projects and shut-downs between the City, STASWSS, Central Elgin and Southwold in order to increase awareness of planned works within the vicinity.

STASWSS - Capital / Development Projects

- Water Tower Project
- Hwy 3 Bypass STASWSS re-routing
- SEBS connection to STASWSS and St Thomas WDS.

o. Operational Plan Currency, Content, And Updates

The St. Thomas Secondary Systems Operational Plan was updated effective July 1, 2025 to a new procedure format.

Significant changes made to the DWQMS since last management review include:

1. Introduction of Responding to Inquiries Regarding Fluoridation Procedure (MUN-DW-SOP-560)
2. Implementation of new procedure format along with updates to the Document Control Procedure (MUN-DW-QMS-100) required to document the new approval process.
3. Transition of three Critical Control Point Procedures to Emerg. Response or Standard Operating Procedure as appropriate, as they were not controllable circumstances (Backflow Control, Discolouration Control, Pressure Control).
4. Removal of duplicate list of essential suppliers in the ESS procedure, opting to list them only in the Emerg. Contact List.
5. Updates were made to the Continuity of Operations Procedure (MUN-DW-ERP-700).

Further updates will be required this year as SEBS comes into operation.

p. Staff Suggestions

No staff suggestions were recorded over the 2024 calendar year or as of June 30, 2025 of this year.

q. Status of Municipal Drinking Water Licence and Drinking Water Works Permits

The St. Thomas AWSS is currently classified as a Level III water distribution system and is operated and maintained under approval provided by Ministry of Environment, Conservation and Parks. The system holds the below list of approvals and classification certificates, which are appended to these minutes.

	ID #	Issue #	Renewal Application Date
DWWP	190-201	3 - Sept. 30, 2021	N/A
MDWL	190-101	5 - Sept. 30, 2021	29-Mar-26
Classification Certificate	5724	Water Distribution Level III	N/A

Identified Action Items

Item #	Action	Deadline	Responsible Party
1.	Report STASWSS Management Review Meeting Minutes to Owner.	10-31-2025	SR / KK
2.			
3.			
4.			

Next Meeting Date: Summer 2026 (TBD)

These minutes were completed by Karel Kamerman and reviewed by Shayne Reitsma, P.Eng.. Any changes or discrepancies should be forwarded to kkamerman@stthomas.ca.

**Ministry of the Environment,
Conservation and Parks**Drinking Water and Environmental
Compliance DivisionSouthwest Region
733 Exeter Road
London, ON N6E 1L3
Phone: 519-873-5000**Ministère de l'Environnement, de la
Protection de la nature et des Parcs**Division de la conformité en matière d'eau
potable et d'environnementRégion Sud-Ouest
733 rue Exeter
London, ON N6E 1L3
Tél: 519-873-5000

January 10, 2025

The Corporation of the City of St Thomas
545 Talbot Street
St Thomas, ON N5P 3V7Attention: Kevin De Leebeeck, Director of Environmental Services/City Engineer
Re: St Thomas Area Secondary Water Supply System Final Inspection Report (#260078897)

The enclosed Drinking Water Inspection Report outlines non-compliance, if any, with Ministry legislation, and policies for the above noted water system. Violations noted in this report, if any, have been evaluated based on community risk. These violations will be monitored for compliance with the minimum standards for drinking water in Ontario as set forth under the *Safe Drinking Water Act* and associated regulations. Where risk is deemed to be high and/or compliance is an ongoing concern, violations will be forwarded to this Ministry's Investigation and Enforcement Branch.

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation & Enforcement (II&E) Secretariat and advice of internal/external risk experts. The Inspection Summary Rating Record (IRR) provides the Ministry, the system owner and the local Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance.

Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "*Taking Care of Your Drinking Water: A guide for members of municipal council*" found under "Resources" on the Drinking Water Ontario website at www.ontario.ca/drinkingwater.

Please note the attached IRR methodology memo describing how the risk rating model has improved to better reflect the health related and administrative non-compliance found in an inspection report. IRR ratings are published (for the previous inspection year) in the Ministry's Chief Drinking Water Inspector's Annual Report. **Please note that due to a change in IT systems, the Inspection Rating Report (IRR) cannot be generated at the same time as the inspection report. The IRR will be sent separately and prior to any public release (typically within 1-2 month of the completion of the inspection).** If you have any questions regarding the report, please feel free to call me at (226) 926-1785.

Sincerely,

Meghan Morgan
Provincial Officer, Water Inspector
London District Office
Meghan.Morgan@ontario.cacc. Southwestern Public Health Unit
Kettle Creek Conservation Authority



ST. THOMAS AREA SECONDARY WATER SUPPLY SYSTEM

Physical Address: 490 SOUTH EDGEWARE, , ST.
THOMAS, ON

INSPECTION REPORT

System Number: 260078897

Entity: CORPORATION OF THE CITY
OF ST THOMAS
ST. THOMAS AREA
SECONDARY WATER SUPPLY
SYSTEM JOINT BOARD OF
MANAGEMENT

Inspection Start Date: September 16, 2024

Inspection End Date: December 03, 2024

Inspected By: Meghan Morgan

Badge #: 1315



(signature)

INTRODUCTION

Purpose

This unannounced, focused inspection was conducted to confirm compliance with Ministry of the Environment, Conservation and Parks' (MECP) legislation and conformance with ministry drinking water policies and guidelines.

Scope

The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as management and the operation of the system.

The inspection of the drinking water system included both the physical inspection of the component parts of the system listed in section 4 "Systems Components" of the report and the review of data and documents associated with the operation of the drinking water system during the review period.

This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O. Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA.

This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

Facility Contacts and Dates

The drinking water system is owned by The Joint Board of Management of the St Thomas Area Secondary Water Supply System and operated by the City of St Thomas - Environmental Services Operations Division and the Ontario Clean Water Agency.

The system conveys water to three large municipal residential systems continuously and one large municipal residential system intermittently and is categorized as a Large Municipal Residential System. Information reviewed for this inspection covered the time period of December 1, 2023 to August 31, 2024.

Systems/Components

The St Thomas Area Secondary Water Supply System only maintains/provides secondary disinfection and distribution of water. Primary disinfection is undertaken by another regulated

drinking water system which provides treated water to this drinking water system.

Treated water is received from the Elgin Area Primary Water Supply System and St Thomas Area Secondary Water Supply System provides secondary disinfection boosting, water storage and pressure boosting for the drinking water system.

The Elgin Area Primary Water Supply System is inspected separately from this drinking water system.

Permissions/Approvals

This drinking water system was subject to specific conditions contained within the following permissions and/or approvals (please note this list is not exhaustive) at the time of the inspection in addition to the requirements of the SDWA and its regulations:

Municipal Drinking Water Licence Number: 190-101, Issue 5

Drinking Water Works Permit Number: 190-201, Issue 3

NON-COMPLIANCE

This should not be construed as a confirmation of full compliance with all potential applicable legal requirements. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

RECOMMENDATIONS

This should not be construed as a confirmation of full conformance with all potential applicable BMPs. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

INSPECTION DETAILS

This section includes all questions that were assessed during the inspection.

Ministry Program: DRINKING WATER | **Regulated Activity:** DW Municipal Residential

Question ID	DWMR1018001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the owner ensure that equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner ensured that equipment was installed as required.			

Question ID	DWMR1020001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Were Form 1 documents prepared as required?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Form 1 documents were prepared as required. The owner/operating authority completed one "Form 1 – Record of Watermains Authorized as a Future Alteration" document for the replacement of existing watermains.			

Question ID	DWMR1021001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Were Form 2 documents prepared as required?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Form 2 documents were prepared as required. The owner/operating authority completed four "Form 2 - Record of Minor Modifications or Replacements to the Drinking Water System" during this inspection period. A Director's Notification was also provided for the replacement of the existing Ford Meter			

Chamber and Control Building, and the Southwold Chamber.

Question ID	DWMR1025001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Were all parts of the drinking water system that came in contact with drinking water disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All parts of the drinking water system were disinfected as required.			

Question ID	DWMR1024001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Did records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required.			

Question ID	DWMR1033001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (3); SDWA O. Reg. 170/03 7-2 (4);			
Question: Was secondary disinfectant residual tested as required for the large municipal residential distribution system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Secondary disinfectant residual was tested as required. Ontario Regulation 170/03, Schedule 7-2 (3) requires the owner/operating authority of a large municipal residential system that provides secondary disinfection to ensure that at least seven distribution samples are taken each week and tested immediately for free chlorine residual. At least four of the samples must be taken on one day of the week, and at least three samples must be taken on a second day of the week, at least 48 hours after the samples taken on the first day.			

Grab samples are collected during different days of the week and tested for free chlorine from different locations within the distribution system. The system also uses process chlorine analyzers located at the East Chamber, West Chamber, Southwold Meter Chamber and the Ford Meter Chamber to continuously monitor the free chlorine residual within the distribution system. These continuous chlorine analyzers have alarm set points to ensure the free chlorine residual is maintained above 0.05mg/L. Records were reviewed of the grab samples taken in the distribution system by operators who collect manual samples and all results were greater than 0.05mg/L.

Question ID	DWMR1099001	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: Do records show that water provided by the drinking water system met the Ontario Drinking Water Quality Standards?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records showed that all water sample results met the Ontario Drinking Water Quality Standards.			

Question ID	DWMR1081001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10-2 (1); SDWA O. Reg. 170/03 10-2 (2); SDWA O. Reg. 170/03 10-2 (3);			
Question: Were distribution microbiological sampling requirements prescribed by Schedule 10-2 of O. Reg. 170/03 for large municipal residential systems met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Distribution microbiological sampling requirements were met. Ontario Regulation 170/03 - Schedule 10-2 stipulates that distribution water samples are required to be collected for testing every week within the frequency prescribed by the Regulation. Based on the service population the Owner/Operating Authority is required to take a minimum of 8 distribution samples every month. Every distribution system sample must be analyzed for: E.coli; total coliforms; and 25% of the required samples must be tested for general bacteria population expressed as colony counts on a heterotrophic plate count. A review of the records for the inspection period indicate the number of microbiological samples collected ranged from 12-15 per month.			

Question ID	DWMR1096001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-3 (1);			
Question: Did records confirm that chlorine residual tests were conducted at the same time and location as microbiological samples?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records confirmed that chlorine residual tests were conducted as required.			

Question ID	DWMR1086001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-6.1 (1); SDWA O. Reg. 170/03 13-6.1 (2); SDWA O. Reg. 170/03 13-6.1 (3); SDWA O. Reg. 170/03 13-6.1 (4); SDWA O. Reg. 170/03 13-6.1 (5); SDWA O. Reg. 170/03 13-6.1 (6);			
Question: Were haloacetic acid sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Haloacetic acid sampling requirements were met. Haloacetic Acid samples are required to be collected and tested each calendar quarter from the distribution system in accordance with Schedule 13-6.1 of O.Reg. 170/03 with the frequency stipulated in Schedule 6-1.1(4), and shall be taken from a point in the drinking water system's distribution system that is likely to have an elevated potential for the formation of haloacetic acids. A review of sample records for the inspection period indicated that this requirement has been met and all sample results were below the standard.			

Question ID	DWMR1087001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-6 (1); SDWA O. Reg. 170/03 13-6 (2); SDWA O. Reg. 170/03 13-6 (3); SDWA O. Reg. 170/03 13-6 (4); SDWA O. Reg. 170/03 13-6 (5); SDWA O. Reg. 170/03 13-6 (6);			
Question: Were trihalomethane sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Trihalomethane sampling requirements were met. Trihalomethane samples are required to be collected and tested each calendar quarter from the distribution system in accordance with Schedule 13-6 of O.Reg. 170/03 with the			

frequency stipulated in Schedule 6-1.1(4), and shall be taken from a point in the drinking water system's distribution system that is likely to have an elevated potential for the formation of trihalomethanes. A review of sample records for the inspection period indicated that this requirement has been met and all sample results were below the standard.

Question ID	DWMR1104001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 16-6 (1); SDWA O. Reg. 170/03 16-6 (2); SDWA O. Reg. 170/03 16-6 (3); SDWA O. Reg. 170/03 16-6 (3.1); SDWA O. Reg. 170/03 16-6 (3.2); SDWA O. Reg. 170/03 16-6 (4); SDWA O. Reg. 170/03 16-6 (5); SDWA O. Reg. 170/03 16-6 (6);			
Question: Were immediate verbal notification requirements for adverse water quality incidents met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Immediate verbal notification requirements for adverse water quality incidents were met.			

Question ID	DWMR1101001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 17-1; SDWA O. Reg. 170/03 17-10 (1); SDWA O. Reg. 170/03 17-11; SDWA O. Reg. 170/03 17-12; SDWA O. Reg. 170/03 17-13; SDWA O. Reg. 170/03 17-14; SDWA O. Reg. 170/03 17-2; SDWA O. Reg. 170/03 17-3; SDWA O. Reg. 170/03 17-4; SDWA O. Reg. 170/03 17-5; SDWA O. Reg. 170/03 17-6; SDWA O. Reg. 170/03 17-9;			
Question: For large municipal residential systems, were corrective actions, including any steps directed by the Medical Officer of Health, taken to address adverse conditions?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Corrective actions were taken to address adverse conditions.			

Question ID	DWMR1113001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 10.1 (3);			
Question: Were changes to the system registration information provided to the ministry within ten (10) days of the change?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Changes to the system registration information were provided as required.			

Question ID	DWMR1114001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the owner have evidence that, when required, all legal owners associated with the drinking water system were notified of the requirements of the Municipal Drinking Water Licence and Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had evidence that the required notifications were made. The owner/operating authority has procedures in place that require DWQMS sign-off from new developments, this includes a sign-off that the developers have reviewed the MDWL and DWWP.			

Question ID	DWMR1045001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the owner update the document describing the distribution components within 12 months of completion of alterations to the system in accordance with the Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had up-to-date documents describing the distribution components.			

Question ID	DWMR1060001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the operations and maintenance manual(s) meet the requirements of the Municipal Drinking Water Licence?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The operations and maintenance manual(s) met the requirements of the Municipal Drinking Water Licence. Municipal Drinking Water Licence #190-101, Issue #5, Section 16 of Schedule B outline the minimum requirements for the Operation and Maintenance Manuals. A review of each of the Operation and Maintenance Manuals that submitted by both Operating Authorities indicate			

that the manuals contain the aforementioned requirements as stated in the MDWL including but not limited to; contingency plans, procedures to deal with emergencies and procedures for dealing with complaints associated with the drinking water system.

Question ID	DWMR1062001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-5;			
Question: Did records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment was done by a certified operator, water quality analyst, or person who met the requirements of Schedule 7-5 of O. Reg. 170/03?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was done by a certified operator, water quality analyst, or person who met the requirements of Schedule 7-5 of O. Reg. 170/03.			

Question ID	DWMR1071001	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Did the owner provide security measures to protect components of the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner provided security measures to protect components of the drinking water system. The Elgin Middlesex Pumping Station is equipped with door alarms and motion detectors which are transmitted through SCADA to the Elgin Area Primary Water Supply which is monitored 24 hours a day by the Ontario Clean Water Agency (OCWA). The Elgin Middlesex Pumping Station is also enclosed with security fencing and visited regularly by operators from OCWA. The East Chamber is located on the property of the Elgin Middlesex Pumping Station and therefore also enclosed by security fencing. The West Chamber, Southwold Meter Chamber and the Ford Meter Chamber are all kept locked and are equipped with intrusion alarms.			

Question ID	DWMR1073001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 23 (1);			
Question: Was an overall responsible operator designated for all subsystems which comprise the drinking water system?			

Compliance Response(s)/Corrective Action(s)/Observation(s):

An overall responsible operator was designated for all subsystem.

Question ID	DWMR1074001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 25 (1);			
Question: Were operators-in-charge designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators-in-charge were designated for all subsystems.			

Question ID	DWMR1075001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 22;			
Question: Were all operators certified as required?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All operators were certified as required.			

Question ID	DWMR1076001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Were adjustments to the treatment equipment only made by certified operators?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Adjustments to the treatment equipment were only made by certified operators.			

Question ID	DWMR1117001	Question Type	Information
Legislative Requirement(s): Not Applicable			

Question:

Were there any other items related to the drinking water system that should be recognized in the report?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The following items were noted as being relevant to the drinking water system:

At the time of the site inspection the Ford Water Tower was leaking potable water from the storage facility into the natural environment. The leak is allowing chlorinated water to constantly flow out of the overflow pipe and into a watercourse. The owner/operating authority is currently dechlorinating the discharge of potable water and should continue to do so until the issue has been corrected.



Stakeholder References

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

Many useful materials are available to help you operate your drinking water system. Below is a list of key materials owners and operators of municipal residential drinking water systems frequently use.

To access these materials online click on their titles in the table below or use your web browser to search for their titles. Contact the Ministry if you need assistance or have questions at 1-866-793-2588 or waterforms@ontario.ca.

For more information on Ontario's drinking water visit www.ontario.ca/drinkingwater



PUBLICATION TITLE	PUBLICATION NUMBER
FORMS: Drinking Water System Profile Information Laboratory Services Notification Adverse Test Result Notification	012-2149E 012-2148E 012-4444E
Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils	Website
Procedure for Disinfection of Drinking Water in Ontario	Website
Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids	Website
Filtration Processes Technical Bulletin	Website
Ultraviolet Disinfection Technical Bulletin	Website
Guide for Applying for Drinking Water Works Permit Amendments, & License Amendments	Website
Certification Guide for Operators and Water Quality Analysts	Website
Guide to Drinking Water Operator Training Requirements	9802E
Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption	Website
Drinking Water System Contact List	7128E01
Ontario's Drinking Water Quality Management Standard - Pocket Guide	Website
Watermain Disinfection Procedure	Website
List of Licensed Laboratories	Website

Principaux guides et documents de référence sur les réseaux résidentiels municipaux d'eau potable

De nombreux documents utiles peuvent vous aider à exploiter votre réseau d'eau potable. Vous trouverez ci-après une liste de documents que les propriétaires et exploitants de réseaux résidentiels municipaux d'eau potable utilisent fréquemment. Pour accéder à ces documents en ligne, cliquez sur leur titre dans le tableau ci-dessous ou faites une recherche à l'aide de votre navigateur Web. Communiquez avec le ministère au 1-866-793-2588, ou encore à waterforms@ontario.ca si vous avez des questions ou besoin d'aide.



Pour plus de renseignements sur l'eau potable en Ontario, consultez le site www.ontario.ca/eaupotable

TITRE DE LA PUBLICATION	NUMÉRO DE PUBLICATION
Renseignements sur le profil du réseau d'eau potable	012-2149F
Avis de demande de services de laboratoire	012-2148F
Avis de résultats d'analyse insatisfaisants et de règlement des problèmes	012-4444F
Prendre soin de votre eau potable - Un guide destiné aux membres des conseils municipaux	Site Web
Marche à suivre pour désinfecter l'eau potable en Ontario	Site Web
Stratégies pour minimiser les trihalométhanes et les acides haloacétiques de sous-produits de désinfection	Site Web
Filtration Processes Technical Bulletin (en anglais seulement)	Site Web
Ultraviolet Disinfection Technical Bulletin (en anglais seulement)	Site Web
Guide de présentation d'une demande de modification du permis d'aménagement de station de production d'eau potable	Site Web
Guide sur l'accréditation des exploitants de réseaux d'eau potable et des analystes de la qualité de l'eau de réseaux d'eau potable	Site Web
Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable	9802F
Échantillonnage et analyse du plomb dans les collectivités : échantillonnage normalisé ou réduit et admissibilité à l'exemption	Site Web
Liste des personnes-ressources du réseau d'eau potable	Site Web
L'eau potable en Ontario - Norme de gestion de la qualité - Guide de poche	Site Web
Procédure de désinfection des conduites principales	Site Web
Laboratoires autorisés	Site Web



Ministry of the Environment, Conservation and Parks
Drinking Water System Inspection Report Appendix B

Inspection Rating Record and Inspection Risk Methodology

APPLICATION OF THE RISK METHODOLOGY USED FOR MEASURING MUNICIPAL RESIDENTIAL DRINKING WATER SYSTEM INSPECTION RESULTS



The Ministry of the Environment (MOE) has a rigorous and comprehensive inspection program for municipal residential drinking water systems (MRDWS). Its objective is to determine the compliance of MRDWS with requirements under the Safe Drinking Water Act and associated regulations. It is the responsibility of the municipal residential drinking water system owner to ensure their drinking water systems are in compliance with all applicable legal requirements.

This document describes the risk rating methodology, which has been applied to the findings of the Ministry's MRDWS inspection results since fiscal

year 2008-09. The primary goals of this assessment are to encourage ongoing improvement of these systems and to establish a way to measure this progress.

MOE reviews the risk rating methodology every three years.

The Ministry's Municipal Residential Drinking Water Inspection Protocol contains up to 14 inspection modules and consists of approximately 120 regulatory questions. Those protocol questions are also linked to definitive guidance that ministry inspectors use when conducting MRDWS inspections.

ontario.ca/drinkingwater

The questions address a wide range of regulatory issues, from administrative procedures to drinking water quality monitoring. The inspection protocol also contains a number of non-regulatory questions.

A team of drinking water specialists in the ministry assessed each of the inspection protocol regulatory questions to determine the risk (not complying with the regulation) to the delivery of safe drinking water. This assessment was based on established provincial risk assessment principles, with each question receiving a risk rating referred to as the Question Risk Rating. Based on the number of areas where a system is deemed to be non-compliant during the inspection, and the significance of these areas to administrative, environmental, and health consequences, a risk-based inspection rating is calculated by the ministry for each drinking water system.

It is important to be aware that an inspection rating less than 100 per cent does not mean the drinking water from the system is unsafe. It shows areas where a system's operation can improve. The ministry works with owners and operators of systems to make sure they know what they need to do to achieve full compliance.

The inspection rating reflects the inspection results of the specific drinking water system for the reporting year. Since the methodology is applied consistently over a period of years, it serves as a comparative measure both provincially and in relation to the individual system. Both the drinking water system and the public are able to track the performance over time, which encourages continuous improvement and allows systems to identify specific areas requiring attention.

The ministry's annual inspection program is an important aspect of our drinking water safety net. The ministry and its partners share a common commitment to excellence and we continue to work toward the goal of 100 per cent regulatory compliance.

Determining Potential to Compromise the Delivery of Safe Water

The risk management approach used for MRDWS is aligned with the Government of Ontario's Risk Management Framework. Risk management is a systematic approach to identifying potential hazards, understanding the likelihood and consequences of the hazards, and taking steps to reduce their risk if necessary and as appropriate.

The Risk Management Framework provides a formula to be used in the determination of risk:

$$\text{RISK} = \text{LIKELIHOOD} \times \text{CONSEQUENCE}$$

(of the consequence)

Every regulatory question in the inspection protocol possesses a likelihood value (L) for an assigned consequence value (C) as described in **Table 1** and **Table 2**.

TABLE 1:

Likelihood of Consequence Occurring	Likelihood Value
0% - 0.99% (Possible but Highly Unlikely)	L = 0
1 – 10% (Unlikely)	L = 1
11 – 49% (Possible)	L = 2
50 – 89% (Likely)	L = 3
90 – 100% (Almost Certain)	L = 4

TABLE 2:

Consequence	Consequence Value
Medium Administrative Consequence	C = 1
Major Administrative Consequence	C = 2
Minor Environmental Consequence	C = 3
Minor Health Consequence	C = 4
Medium Environmental Consequence	C = 5
Major Environmental Consequence	C = 6
Medium Health Consequence	C = 7
Major Health Consequence	C = 8

The consequence values (0 through 8) are selected to align with other risk-based programs and projects currently under development or in use within the ministry as outlined in **Table 2**.

The Question Risk Rating for each regulatory inspection question is derived from an evaluation of every identified consequence and its corresponding likelihood of occurrence:

- All levels of consequence are evaluated for their potential to occur
- Greatest of all the combinations is selected.

The Question Risk Rating quantifies the risk of non-compliance of each question relative to the others. Questions with higher values are those with a potentially more significant impact on drinking water safety and a higher likelihood of occurrence. The highest possible value would be 32 (4×8) and the lowest would be 0 (0×1).

Table 3 presents a sample question showing the risk rating determination process.

TABLE 3:							
Does the Operator in Charge ensure that the equipment and processes are monitored, inspected and evaluated?							
Risk = Likelihood × Consequence							
C=1	C=2	C=3	C=4	C=5	C=6	C=7	C=8
Medium Administrative Consequence	Major Administrative Consequence	Minor Environmental Consequence	Minor Health Consequence	Medium Environmental Consequence	Major Environmental Consequence	Medium Health Consequence	Major Health Consequence
L=4 (Almost Certain)	L=1 (Unlikely)	L=2 (Possible)	L=3 (Likely)	L=3 (Likely)	L=1 (Unlikely)	L=3 (Likely)	L=2 (Possible)
R=4	R=2	R=6	R=12	R=15	R=6	R=21	R=16

Application of the Methodology to Inspection Results

Based on the results of a MRDWS inspection, an overall inspection risk rating is calculated. During an inspection, inspectors answer the questions related to regulatory compliance and input their “yes”, “no” or “not applicable” responses into the Ministry’s Laboratory and Waterworks Inspection System (LWIS) database. A “no” response indicates non-compliance. The maximum number of regulatory questions asked by an inspector varies by: system (i.e., distribution, stand-alone); type of inspection (i.e., focused, detailed); and source type (i.e., groundwater, surface water).

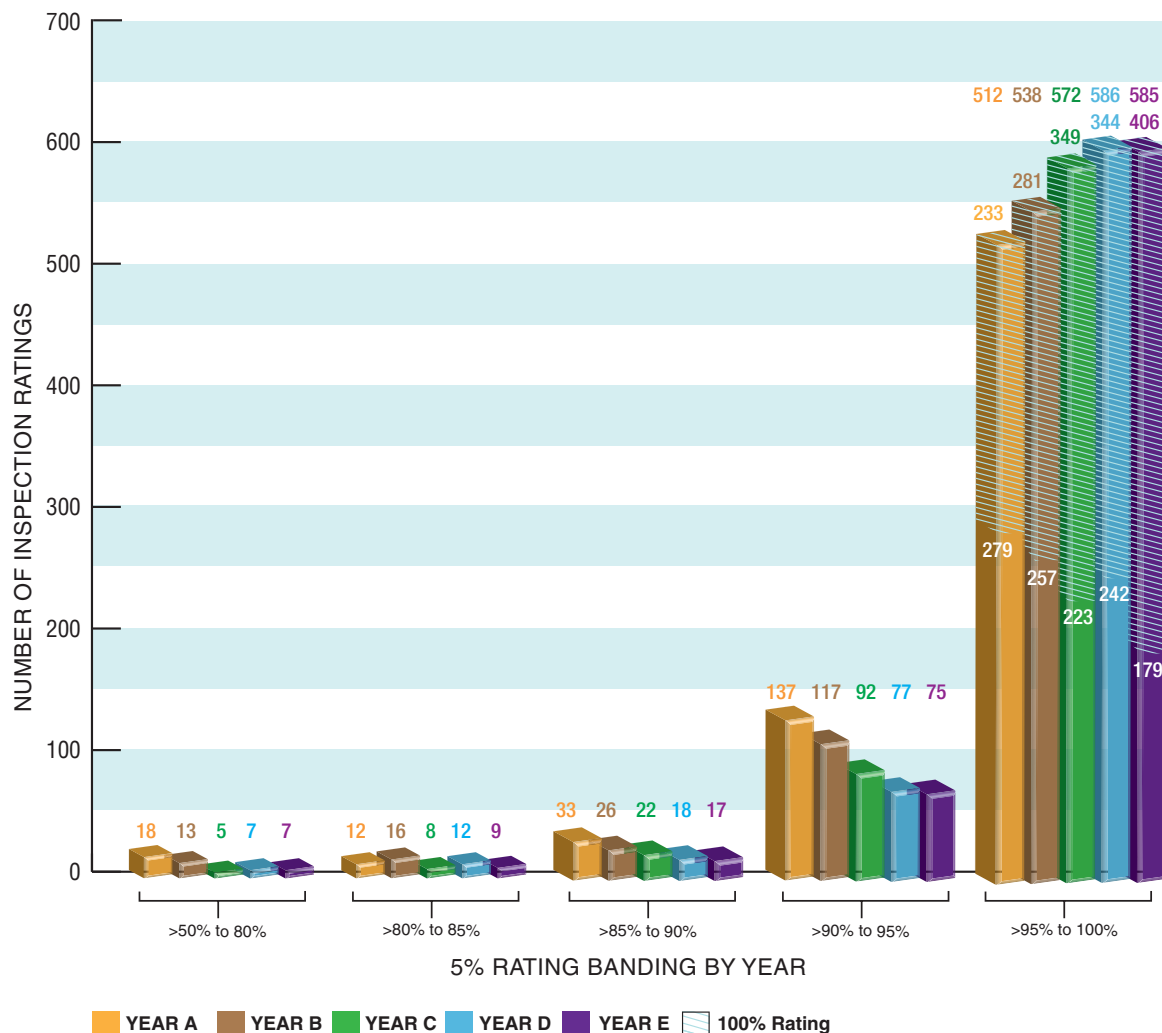
The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

Application of the Methodology for Public Reporting

The individual MRDWS Total Inspection Ratings are published with the ministry's Chief Drinking Water Inspector's Annual Report.

Figure 1 presents the distribution of MRDWS ratings for a sample of annual inspections. Individual drinking water systems can compare against all the other inspected facilities over a period of inspection years.

Figure 1: Year Over Year Distribution of MRDWS Ratings



Reporting Results to MRDWS Owners/Operators

A summary of inspection findings for each system is generated in the form of an Inspection Rating Record (IRR). The findings are grouped into the 14 possible modules of the inspection protocol,

which would provide the system owner/operator with information on the areas where they need to improve. The 14 modules are:

- | | | | |
|-------------------------|------------------------|---------------------------------------|--|
| 1. Source | 5. Process Wastewater | 9. Contingency and Emergency Planning | 12. Water Quality Monitoring |
| 2. Permit to Take Water | 6. Distribution System | 10. Consumer Relations | 13. Reporting, Notification and Corrective Actions |
| 3. Capacity Assessment | 7. Operations Manuals | 11. Certification and Training | 14. Other Inspection Findings |
| 4. Treatment Processes | 8. Logbooks | | |

For further information, please visit www.ontario.ca/drinkingwater

DWS Name: ST. THOMAS AREA SECONDARY WATER SUPPLY SYSTEM
DWS Number: 260078897
DWS Owner: CORPORATION OF THE CITY OF ST THOMAS
Municipal Location: ST. THOMAS

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Compliance Assessment Start Date: Sep-16-2024
Ministry Office: London District Office

Maximum Risk Rating: 263

Inspection Module	Non Compliance Risk (X out of Y)
Certification and Training	0/42
Distribution System	0/4
Logbooks	0/14
Operations Manuals	0/14
Reporting & Corrective Actions	0/53
Treatment Processes	0/85
Water Quality Monitoring	0/51
Overall - Calculated	0/263

Inspection Risk Rating: 0.00%

Final Inspection Rating: 100.00%

DWS Name: ST. THOMAS AREA SECONDARY WATER SUPPLY SYSTEM
DWS Number: 260078897
DWS Owner Name: CORPORATION OF THE CITY OF ST THOMAS
Municipal Location: ST. THOMAS

Regulation: O.REG. 170/03

DWS Category: DW Municipal Residential

Type of Inspection: Focused

Compliance Assessment Start Date: Sep-16-2024

Ministry Office: London District Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 263

Inspection Risk Rating: 0.00%

FINAL INSPECTION RATING: 100.00%

DRINKING WATER QUALITY MANAGEMENT SYSTEM INTERNAL AUDIT REPORT

Audit Date(s): October 23, 2024

Audit Objective:

The objective of the internal audit was to verify and evaluate the degree of conformance of the City of St. Thomas' Quality Management System (QMS), utilized in the operation and maintenance of the St. Thomas Secondary, St. Thomas Distribution, Southwold (Lynhurst Area) and Central Elgin (St. Thomas Suburban Area) Drinking Water Systems, to Ontario's Drinking Water Quality Management Standard, Version 2.0. The internal audit will provide an opportunity to identify process variations within the QMS by auditing all elements. By identifying these sources of variation and by eliminating them through the application of effective corrective action, the operating authority can begin to focus on preventative action and continual improvement.

Audit Scope:

The internal audit was conducted on October 23, 2024. A physical inspection of the Albert Roberts Pump Station was undertaken as part of this audit. The internal audit was conducted as outlined in DW- ADMIN-1200, Rev. 2.8 of the QMS manual. The internal audit was carried out through a review of a sampling of documents and records, interviews and observations by the auditors to demonstrate conformance with the standard by auditing all elements. The review and audit should not be construed as a complete and comprehensive review of all aspects, documents and records.

Internal Auditor(s):

- LEAD: Karel Kamerman, Compliance Coordinator
- Auditor Qualifications can be found in Appendix A to this report.

Audit Criteria:

Ontario's Drinking Water Quality Standard – Version 2.0 as released in February 2017.

Definitions:

- A non-conformance (NC) is a non-fulfillment of the QMS Operational Plan.
- An opportunity for improvement (OFI) describes a requirement that can be more effectively addressed.

Audit Findings:

The following is a summary of the audit findings, including non-conformances and opportunities for improvement. The detailed checklist can be found in Appendix B of this report.

DRINKING WATER QUALITY MANAGEMENT SYSTEM INTERNAL AUDIT REPORT

Non-Conformances:

NC#1: Document and Records Control

As a result of a recent reorganization of files, several identified record locations changed, however, the table in DW-ADMIN-200 does not yet reflect the new locations.

Opportunities for Improvement

OFI#1: Risk Assessment Outcomes

Complete transition of CCP's to Emerg. Response Plans as identified in Hazard Analysis Team Meeting minutes of October 8, 2024.

OFI#2: Competencies

The work order template form created to capture operator to operator training events does not meet the documentation requirements of the MECP Training Requirements for DW Operators document.

OFI#3: Essential Supplies and Services

No sign-off form could be provided for the alternate Chlorine Supplier listed in the ESS procedure (DW-ADMIN-800).

Audit Date(s): May 28 & 29, 2025

Audit Objective:

The objective of the internal audit was to verify and evaluate the degree of conformance of the City of St. Thomas' Quality Management System (QMS), utilized in the operation and maintenance of the St. Thomas Secondary, St. Thomas Distribution, Southwold (Lynhurst Area) and Central Elgin (St. Thomas Suburban Area) Drinking Water Systems, to Ontario's Drinking Water Quality Management Standard, Version 2.0. The internal audit will provide an opportunity to identify process variations within the QMS by auditing all elements. By identifying these sources of variation and by eliminating them through the application of effective corrective action, the operating authority can begin to focus on preventative action and continual improvement.

Audit Scope:

The internal audit was conducted on May 28 and 29th, 2025. Physical inspections of the Albert Roberts Pump Station and West Chamber were undertaken as part of this audit. The internal audit was conducted as outlined in DW- ADMIN-1200, Rev. 2.8 of the QMS manual. The internal audit was carried out through a review of a sampling of documents and records, interviews and observations by the auditors to demonstrate conformance with the standard by auditing all elements. The review and audit should not be construed as a complete and comprehensive review of all aspects, documents and records.

Internal Auditor(s):

- LEAD: Karel Kamerman, Environmental Compliance Coordinator
- Michelle Shannon, Waste Management Coordinator

Auditor Qualifications can be found in Appendix A to this report.

Audit Criteria:

Ontario's Drinking Water Quality Standard – Version 2.0 as released in February 2017.

Definitions:

- A non-conformance (NC) is a non-fulfillment of the QMS Operational Plan.
- An opportunity for improvement (OFI) describes a requirement that can be more effectively addressed.

Audit Findings:

The following is a summary of the audit findings, including non-conformances and opportunities for improvement. The detailed checklist can be found in Appendix B of this report.

DRINKING WATER QUALITY MANAGEMENT SYSTEM INTERNAL AUDIT REPORT

Positive Findings

- DWQMS training spreadsheet appears to be up to date for all operations staff.
- H&S checklists have been implemented.

Non-Conformances:

NC#1: Drinking Water System

Element 6 a)iii requires that a description of procedures in place to maintain disinfection residuals are described within the OP. Review OP's and ensure a description of these procedures are in place. If not, update to include discussion of flushing points.

NC#2 Drinking Water System

A permanent generator has been installed at the ARBS. This equipment is not reflected in the DWWP or Operational Plan.

Opportunities for Improvement

OFI#1: Document and Record Control

An OFI exists to review the document and record lists and ensure proper location is identified. Most records were in identified locations, however, calibration results were not in the identified location (there may be others).

OFI#2: Risk Assessment Outcomes

An OFI exists to complete the updates and transition CCP procedures that are not controllable into SOP's, as actioned in October 2024.

OFI#3: Risk Assessment

The Risk Assessment was completed in 2025, however, the records saved to demonstrate compliance are not viewable. Consider creating minutes for assessment reviews, in addition to assessment team meetings.

OFI#4: Competencies and Training

Both the training tracker and the training plan provided include functionality to track operator certification expiry dates. An opportunity for improvement exists to implement use of this functionality.

OFI#5: Essential Supplies and Services

Consider adding fuel supplier to listing of essential suppliers, given new genset at ARBS.

OFI#6: Infrastructure Review

Consider implementing a process to capture decision making related to infrastructure review.

OFI#7: Infrastructure Maintenance

Consider developing or discussing in procedure any existing KPI's used to monitor the

DRINKING WATER QUALITY MANAGEMENT SYSTEM INTERNAL AUDIT REPORT

effectiveness of our Maint. Programs.

OFI#8 Sampling

OFI to Review sampling program and include locations within pressure zone 3.

OFI#9 Measurement

OFI to review and update equipment list. Eg. Hanna vs. Palintest

OFI#10 Emergency Response Plan

Consider usefulness of maintaining DW-ADMIN-300A, and if considered necessary, review and update as necessary.

OFI#11 Emergency Response Plan

Consider proceduralizing the debrief process to ensure consistency in recording and action tracking.

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St. Thomas Area Secondary Water Supply System

License Number: 190-101

Permit Number: 190-201

Provincial Regulation 170/03
Summary Report

For the Period
January 1, 2024 – December 31, 2024



Table of Contents

1	Summary Report Requirements	1
1.1	Introduction.....	1
1.2	System Description	1
1.3	System Approvals and Regulatory Requirements	2
2	Evaluation of Water Quantities and Flow Rates.....	2
3	Water Quality Summary	3
4	Summary of Non-Compliant Conditions	3
4.1	Ministry of the Environment, Conservation and Parks Inspection	3
4.2	Adverse Test Results and Issue Resolution	3
5	List of Appendices	3

1 Summary Report Requirements

1.1 Introduction

The 2024 Summary Report for the St. Thomas Area Secondary Water Supply System (STASWSS) is being submitted to satisfy Schedule 22 of Ontario Regulation 170/03, the requirement to prepare and distribute a summary report of water system operations, outlining regulatory non-compliance with respect to water quality and water system management and administration and evaluating the water system infrastructure adequacy (with respect to its ability to continuing meeting the water demands of the serviced community).

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

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

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

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

The information provided is for the purpose of enabling the owner of the system to assess the capacity of the system. This report covers the reporting period from January 1, 2024 to December 31, 2024.

1.2 System Description

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

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

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

1.3 System Approvals and Regulatory Requirements

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

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

- MDWL No. 190-101, issue 5
- DWWP No. 190-201, issue 3

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

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

2 Evaluation of Water Quantities and Flow Rates

The EMPS is situated on a site owned by the Elgin Area Primary Water Supply System and includes the original St. Thomas pump station, constructed in 1966 that services St. Thomas, and sections of the Municipality of Central Elgin and Township of 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 areas of the Municipality of Central Elgin.

The St. Thomas pump station is comprised of three high-lift pumps that deliver water through a transmission main that services the St. Thomas Area Secondary Water Supply System. A gas re-chlorination system provides re-chlorination for water being directed to the St. Thomas Area Secondary Water Supply System. The Ontario Clean Water Agency (OCWA) is currently the Operating Authority for all 3 pump stations located within the EMPS, and ultimately control the pumps directing water into the STASWSS. OCWA has prepared a Summary Report for their operations at the EMPS for the reporting period, which evaluates the volumes of water delivered to the STASWSS. The OCWA Report is attached as Appendix A.

3 Water Quality Summary

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

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

4 Summary of Non-Compliant Conditions

4.1 Ministry of the Environment, Conservation and Parks Inspection

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

An MECP inspection was completed in September 2024. There were no non-compliances identified in the report. The systems resulting inspection risk rating was identified as 0% and an overall final inspection rating of 100%.

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

4.2 Adverse Test Results and Issue Resolution

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

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

5 List of Appendices

Appendix A – OCWA EMPS – St. Thomas Secondary Water Supply System – 2024 Summary Report

Appendix B - St. Thomas Secondary Water Supply System – 2024 Annual Report

APPENDIX A

**ELGIN-MIDDLESEX PUMPING STATION
ST. THOMAS AREA SECONDARY WATER SUPPLY
SYSTEM
2024 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 6,327 m³/day
Max. Daily Flow 10,376 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. Kevin De LeeBeeck
Director of Environmental
Services and City Engineer

Operator:
Ontario Clean Water Agency.
P.O. Box 220, Port Stanley, Ontario N5L 1J4
Contact: Mr. Greg Henderson - Senior Operations Manager
(226) 378-5154

Table of Contents

System Approval	1
Treated Water Requirements	1
Staff Complement and Training	1
History of Facility	1
Process Description	2
Post-Treatment	2
High Lift Pump Station	2
Maintenance	2
Sampling Procedures	3
Water Quality Monitoring and Flow Measurement	3
Statement of Comparison	3
Ministry of the Environment Conservation and Parks Inspections	4
Benefiting Municipalities	4
Appendix A: EMPS St. Thomas Water Quality Summary for 2024	
Appendix B: EMPS St. Thomas Total Daily Flow for 2024	
Appendix C: EMPS St. Thomas Daily Instantaneous Peak Flow for 2024	
Appendix D: EMPS St. Thomas 2024 Annual Report	
Appendix E: EMPS Chemical Consumption for 2024	

System Approvals:

The St. Thomas Area Secondary Water Supply System (STASWSS) is supplied water through the Elgin-Middlesex Pump Station, which receives water from the Elgin Area Primary Water Supply System (EAPWSS) 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 is governed by the following Municipal Drinking Water Licenses (MDWL) and Drinking Water Works Permits (DWWP):

- MDWL No. 190-101, issue 5, on September 30, 2021
- DWWP No. 190-201, issue 3, on September 30, 2021

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

Treated Water Requirements:

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

Staff Complement and Training:

In 2024, 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 EAPWSS and share their time between the two facilities. Employees responsible for the operations and maintenance of the facility included one (1) senior operations manager, two (2) team leads, eight (8) full time operations staff, four (4) full time maintenance staff, one (1) technical support specialist, one (1) asset maintenance specialist and four (4) administrative support positions.

In 2024, all employees received Director Approved and practical on-the-job training, which contributed to annual Ministry of the Environment, Conservation and Parks (MECP) training requirements.

History of Facility:

The EMPS is an integrated booster station occupied by three secondary systems, which are fed from two in-ground storage reservoirs, each having a capacity of 27.3 million liters. The two storage reservoirs and the site upon which the three booster stations are situated are owned by the EAPWSS. The original St. Thomas pump station, constructed in 1966 that services St. Thomas, and sections of the Municipalities of Central Elgin and Southwold. Two more pump stations were completed in 1994 that service the Town of Aylmer, Municipality of Malahide, and the City of London.

The STASWSS portion is comprised of three high-lift pumps that deliver water through a transmission main that services the STASWSS. A gas chlorination system provides secondary chlorination for water being directed to the STASWSS.

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 EAPWSS. Remote monitoring and control capabilities are made possible via the EAPWSS and the EMPS SCADA systems

Process Description:



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

Post-Treatment:

The AASWSS and STASWSS both utilize a gas chlorination system for secondary disinfection. The system consists of two scaled 68 kg gas chlorine cylinders and three chlorinators equipped with booster pumps and a dosing capacity of 1-60kg/h.

High Lift Pump Station:

The three high lift pumps provide redundant pumping capacity into the STASWSS. The St.



Thomas pumps are equipped with variable frequency drives (VFD) with each pump having a rated capacity of 263 L/s. With the current VFDs being utilized as soft and stop variable frequency drives.

Maintenance:

Site maintenance was carried out by Ontario Clean Water Agency (OCWA) field services staff based at the EAPWSS. 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 (Maximo).

In addition to the routine preventative maintenance program, several maintenance projects were completed at the EMPS in 2024. A summary of non-routine maintenance is available in Appendix D, the 2024 Annual Report.

Sampling Procedures:

All samples collected by licensed OCWA personnel are submitted to Canadian Association for Laboratory Accreditation (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 STASWSS is sampled weekly and submitted to an external laboratory for bacteriological analysis. Chlorine residual, for the water entering the STASWSS, is monitored continuously from the EAPWSS through the SCADA system.

On a quarterly basis the distribution water entering the reservoir, as well as the water entering the STASWSS is sampled and submitted to an accredited laboratory for testing of total trihalomethanes (THM) and haloacetic acids (HAA). 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 EMPS was performed in accordance with Ontario Regulation 170/03.

Water Quality Monitoring and Flow Measurement:

Water quality is monitored remotely by means of a free chlorine analyzer that was verified by EAPWSS staff. See Appendix A for a summary of 2024 water quality data. Flow leaving the EMPS directed to STASWSS is measured utilizing a magnetic flow measuring device. See Appendix B for 2024 total daily flow values and Appendix C for 2024 daily instantaneous peak flow rates.

Statement of Comparison:

The Municipal Drinking Water License for the STASWSS does not identify a rated capacity for the system. The pumping station has an available capacity of 68,169 m³/day, whereby instantaneous peak flow capacity is rated at 789 L/s.

The maximum total daily flow witnessed by the system in 2024 was 10,376 m³/day, approximately 15% of the capacity. The maximum instantaneous peak flow witnessed by the system in 2024 was 318 L/s, approximately 40% of the capacity. The average total daily flow witnessed by the system in 2024 was 6,327 m³/day, approximately 9% of the capacity.

Ministry of the Environment Conservation and Parks Inspections:

The MECP conducts an inspection of the St. Thomas portion of the EMPS annually along with the STASWSS operated by the City of St Thomas. A MECP inspection took place September 16, 2024 and the final inspection report was issued on January 10, 2025. There were no non-compliances identified in the inspection report. The final inspection rating for the 2024-2025 fiscal year is not yet available.

Benefiting Municipalities:

Following the adoption of the Municipal Water and Sewer Transfer Act in 1997, the Ontario Ministry of the Environment Conservation and Parks transferred the ownership of the three booster stations from the Province of Ontario to the water systems' benefiting municipalities. As a result, the AASWSS 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 STASWSS 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 STSWSS at the EMPS is provided in Appendix D.

The Ontario Clean Water Agency operates and maintains the EMPS, under contracts to the AASWSS, The Corporation of the City of London and the STASWSS.

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 – EMPS ST. THOMAS
WATER QUALITY SUMMARY 2024**

	POST TREATMENT
MONTH	Free Cl ₂ mg/L
January	
Minimum	0.88
Maximum	1.42
Average	1.27
February	
Minimum	0.93
Maximum	1.33
Average	1.25
March	
Minimum	0.92
Maximum	1.77
Average	1.31
April	
Minimum	0.91
Maximum	1.68
Average	1.34
May	
Minimum	0.88
Maximum	1.46
Average	1.28
June	
Minimum	0.82
Maximum	1.49
Average	1.26
July	
Minimum	0.71
Maximum	1.58
Average	1.22
August	
Minimum	0.65
Maximum	1.57
Average	1.18
September	
Minimum	0.73
Maximum	1.79
Average	1.23
October	
Minimum	0.75
Maximum	1.69
Average	1.32
November	
Minimum	0.80
Maximum	1.49
Average	1.28
December	
Minimum	0.91
Maximum	1.72
Average	1.40
Yearly Minimum	0.65
Yearly Maximum	1.79
Yearly Average	1.28

Note: Chlorine residuals obtained from
SCADA.

APPENDIX B
ST. THOMAS TOTAL DAILY FLOW - 2024

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	7,042	6,179	5,545	6,884	6,635	6,299	5,797	6,967	4,438	7,232	6,807	8,355	
2	6,712	6,498	6,179	4,275	5,640	5,439	6,523	6,039	4,917	7,400	7,444	7,402	
3	6,325	7,163	6,738	5,463	5,513	5,456	5,774	5,742	5,772	5,863	7,381	7,383	
4	5,516	7,991	5,386	5,013	5,568	6,156	6,667	5,933	5,625	7,283	6,722	7,439	
5	5,231	6,408	6,784	4,291	6,362	5,455	6,563	5,494	5,723	6,897	6,719	7,135	
6	5,574	6,494	5,684	4,953	5,722	5,485	6,754	4,380	4,126	6,854	7,877	6,949	
7	7,563	6,833	5,034	5,089	5,058	5,125	7,986	4,554	5,315	8,921	7,204	7,640	
8	5,100	4,888	4,769	4,909	6,632	5,685	8,388	5,232	4,741	7,670	7,113	8,257	
9	4,729	5,059	5,099	4,580	5,543	6,235	6,860	5,481	4,592	7,404	7,366	7,573	
10	6,611	5,547	5,036	5,747	4,890	6,414	5,227	5,342	6,463	8,708	7,768	7,713	
11	5,348	5,841	5,018	4,224	4,777	5,741	5,904	5,467	5,404	10,376	7,119	7,255	
12	6,145	5,841	4,585	4,213	5,595	6,508	6,557	7,666	5,864	7,454	7,260	7,236	
13	5,403	5,524	7,033	7,805	4,778	7,413	7,091	7,901	5,742	6,485	6,950	7,135	
14	5,733	5,258	4,903	4,924	5,283	7,296	9,646	6,591	5,029	7,197	6,805	8,006	
15	4,848	5,233	5,710	5,218	5,404	7,553	6,393	7,245	5,950	8,173	7,397	8,042	
16	4,922	5,396	6,105	4,398	5,739	7,597	6,228	7,567	5,663	9,039	7,644	7,762	
17	4,960	6,422	5,199	4,962	4,358	8,492	5,600	7,308	6,005	8,520	7,430	7,919	
18	5,068	7,541	4,406	4,636	6,675	8,043	6,213	6,877	5,298	9,615	7,388	7,722	
19	4,952	8,315	5,724	4,279	6,569	9,181	6,444	5,160	6,291	8,937	7,212	7,744	
20	5,897	6,169	4,694	5,445	8,569	6,443	6,479	5,135	5,173	8,583	6,652	7,479	
21	5,767	5,239	5,034	5,307	6,778	6,751	7,223	6,373	4,829	7,798	7,337	8,112	
22	4,925	5,142	5,102	4,408	6,740	7,232	7,048	8,160	4,549	8,895	7,214	8,096	
23	5,310	4,622	5,531	4,347	7,050	6,311	6,110	6,640	8,239	7,901	7,351	7,540	
24	4,890	5,236	5,612	4,979	7,548	7,135	6,088	5,761	7,402	7,689	7,751	7,490	
25	6,577	6,694	5,401	5,068	6,398	5,785	6,795	6,018	7,382	8,458	7,451	7,577	
26	5,174	6,258	4,837	5,100	8,069	5,669	7,937	6,900	7,283	8,042	7,220	7,117	
27	7,004	5,469	4,866	4,924	4,953	5,180	7,009	5,613	7,111	7,523	7,379	7,244	
28	7,592	5,488	5,099	5,538	5,086	5,354	6,537	5,245	6,685	7,265	7,287	7,389	
29	5,715	4,800	5,017	6,462	5,479	5,121	6,910	6,009	7,928	7,495	7,186	7,432	
30	6,240		5,519	6,271	5,404	4,300	4,954	5,817	7,576	7,057	7,661	7,117	
31	6,058		5,200		5,478		6,109	5,252		6,511		7,270	
Total	178,931	173,548	166,849	153,712	184,293	190,854	205,818	189,866	177,115	243,244	218,094	234,532	2,316,855
Minimum	4,729	4,622	4,406	4,213	4,358	4,300	4,954	4,380	4,126	5,863	6,652	6,949	4,126
Maximum	7,592	8,315	7,033	7,805	8,569	9,181	9,646	8,160	8,239	10,376	7,877	8,355	10,376
Average	5,772	5,984	5,382	5,124	5,945	6,362	6,639	6,125	5,904	7,847	7,270	7,566	6,327

APPENDIX C

ST. THOMAS DAILY INSTANTANEOUS PEAK FLOW - 2024

Date	January L/s	February L/s	March L/s	April L/s	May L/s	June L/s	July L/s	August L/s	September L/s	October L/s	November L/s	December L/s	
1	271	279	284	258	280	274	293	288	291	293	277	280	
2	274	277	283	258	303	293	284	295	281	290	287	282	
3	278	277	288	276	278	281	280	292	282	278	284	280	
4	281	279	280	281	292	289	288	298	280	294	286	282	
5	281	275	285	280	287	275	287	295	293	278	286	280	
6	284	278	286	287	303	282	292	286	294	282	288	282	
7	288	283	275	284	287	259	285	277	292	291	291	278	
8	285	285	274	277	290	265	289	281	280	281	283	280	
9	287	279	316	281	285	273	288	281	278	275	297	280	
10	285	284	277	285	282	256	318	295	285	286	293	282	
11	281	283	274	277	272	269	262	286	278	282	286	281	
12	282	282	271	281	281	281	259	291	278	286	292	278	
13	276	288	282	286	286	281	257	298	288	289	286	278	
14	280	280	282	282	280	288	263	286	289	270	280	281	
15	278	276	284	282	272	293	276	281	284	274	289	280	
16	280	277	280	283	273	296	272	285	289	286	284	281	
17	276	277	281	284	265	282	276	287	284	283	284	281	
18	279	275	280	275	274	288	271	293	278	280	295	281	
19	277	278	283	297	266	282	271	276	292	286	293	288	
20	277	277	278	296	273	285	271	269	292	281	298	283	
21	277	273	275	272	256	290	272	284	283	286	288	286	
22	279	271	268	301	302	282	267	285	293	283	288	289	
23	276	275	274	281	299	273	285	290	293	283	293	283	
24	274	282	273	280	296	279	293	278	284	286	284	287	
25	276	274	273	277	291	271	277	274	280	277	292	285	
26	277	270	273	288	281	271	286	289	300	280	282	284	
27	276	275	273	277	291	290	289	293	290	276	286	286	
28	279	288	263	285	281	286	276	281	281	277	284	283	
29	276	284	251	284	288	284	282	288	287	276	288	278	
30	286		256	276	280	285	289	275	278	275	283	276	
31	276		256		275		296	283		287		280	
Minimum	271	270	251	258	256	256	257	269	278	270	277	276	251
Maximum	288	288	316	301	303	296	318	298	300	294	298	289	318
Average	279	278	277	281	283	280	281	286	286	282	288	282	282



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, 2024 through December 31, 2024

<u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u> Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [] Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [] Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. City of St. Thomas, City Hall Environmental Services 545 Talbot Street St Thomas, ON. N5P 3V7 www.city.st-thomas.on.ca Elgin Area Primary Water Supply System Treatment Plant 43665 Dexter Line, Union, ON N0L 2L0	<u>Complete for all other Categories.</u> Number of Designated Facilities served: N/A Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No [] Number of Interested Authorities you report to: N/A Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []
--	--

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

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

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



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

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

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

Yes ☒ No ☐

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

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

Describe your Drinking-Water System

The Elgin Middlesex Pumping Station (EMPS) receives water from the Elgin Area Primary Water Supply System (EAPWSS), which is located to the east of Port Stanley. Water from the EAPWSS is pumped into the EAPWSS site reservoirs located at the EMPS. The total capacity of the 2 reservoirs is 54,600m³. Through various secondary water supply systems, the EMPS serves the Cities of London, St. Thomas, Town of Aylmer, and Municipalities of Central Elgin, Malahide, Dutton-Dunwich and Southwold.

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

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



List all water treatment chemicals used over this reporting period

Chlorine Gas at EMPS

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

- | |
|--|
| <ul style="list-style-type: none">High lift pump 2 flow control valve replacementDWQMS External Audit |
|--|

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	55	(0)-(0)	(0)-(0)	53	(<10)-(10)

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	0.65	1.79	1.28

**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 2, 2024 April 2, 2024 July 2, 2024 October 1, 2024	17 15 22 29	µg/L µg/L µg/L µg/L	NO
THM Running Annual Average (RAA)	2024	21	µg/L	NO
HAA (NOTE: result value is based on one sample)	January 2, 2024 April 2, 2024 July 2, 2024 October 1, 2024	6.9 6.9 7.3 7.9	µg/L µg/L µg/L µg/L	NO
HAA Running Annual Average (RAA)	2024	7.3	µg/L	NO

ND= Non-detect

APPENDIX E	
EMPS Chemical Consumption - 2024	
Month	Total Chlorine Gas Usage - Kg
January	127.1
February	121.1
March	116.3
April	116.6
May	127.5
June	140.7
July	143.5
August	149.3
September	161.9
October	225.2
November	174.6
December	168.2
Yearly Total	1772

Please note: Aylmer and St.Thomas combined cl2 usage

APPENDIX B



Drinking-Water System Number:	260078897
Drinking-Water System Name:	St. Thomas Area Secondary Water Supply System (Transmission Main)
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, 2024 through December 31, 2024

<u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u> Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X] Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [] Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. City of St. Thomas, City Hall Environmental Services 545 Talbot Street St Thomas, Ontario	<u>Complete for all other Categories.</u> Number of Designated Facilities served: NA Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No [] Number of Interested Authorities you report to: NA Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []
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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

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

Yes [X] No []

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

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

☒ Public access/notice via the web

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

☒ Public access/notice via Government Office

☐ Public access/notice via a newspaper

☒ Public access/notice via Public Request

☐ Public access/notice via a Public Library

☐ Public access/notice via other method _____

Describe your Drinking-Water System

The St. Thomas Area Secondary Water Supply System (STASWSS) consists of a Pumping Station within the Elgin Middlesex Pumping Station (EMPS), a 0.76 ML elevated water tower, several meter chambers, and transmission watermain of 500 mm and 750 mm diameter.

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

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

List all water treatment chemicals used over this reporting period

12% Sodium Hypochlorite

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

\$6200 Marcel Equipment Meter Chamber Commissioning

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

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



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

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	NA	NA	NA	NA	NA
Treated	NA	NA	NA	NA	NA
Distribution	105	(0)-(0)	(0)-(0)	105	(<10)-(NDOG)

* - NDOG is a lab code that means there was no data reportable on the sample due to overgrowth that may or may not be representative of water quality. The NDOG result was from a sample taken on April 15, 2024. Resamples were taken on April 18, 2024, returning with a result of <10 CFU/mL. Omitting the NDOG result, the next highest HPC result in 2024 was 100 CFU/mL

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

	Number of Grab Samples	Range of Results (min #)-(max #)
Chlorine (Grab Samples)	453	(0.65)-(1.57)

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

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

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

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

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

Summary of lead testing under Schedule 15.1 during this reporting period

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

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

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

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
HAA5 (NOTE: show latest annual average)	Jan 8, 2024 Apr 2, 2024 July 8, 2024 Oct 7, 2024	8.5	ug/L	no
THM (NOTE: show latest annual average)	Jan 8, 2024 Apr 2, 2024 July 8, 2024 Oct 7, 2024	30.8	ug/L	no

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

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



MUNICIPAL DRINKING WATER LICENCE

Licence Number: 190-101
Issue Number: 5

Pursuant to the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32, and the regulations made thereunder and subject to the limitations thereof, this municipal drinking water licence is issued under Part V of the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32 to:

**The Joint Board of Management of the
St. Thomas Area Secondary Water Supply System**

**545 Talbot St.
P.O. Box 520, City Hall
St. Thomas, ON N5P 3V7**

For the following municipal residential drinking water system:

St. Thomas Area Secondary Water Supply System

This municipal drinking water licence includes the following:

Schedule	Description
Schedule A	Drinking Water System Information
Schedule B	General Conditions
Schedule C	System-Specific Conditions
Schedule D	Conditions for Relief from Regulatory Requirements

Upon the effective date of this drinking water licence, all previously issued versions are revoked and replaced by this licence.

DATED at TORONTO this 30th day of September, 2021

Signature

Aziz Ahmed, P.Eng.
Director
Part V, *Safe Drinking Water Act*, 2002

Schedule A: Drinking Water System Information

System Owner	The Joint Board of Management of the St. Thomas Area Secondary Water Supply System
Licence Number	190-101
Drinking Water System Name	St. Thomas Area Secondary Water Supply System
Licence Effective Date	September 30, 2021

1.0 Licence Information

Licence Issue Date	September 30, 2021
Licence Effective Date	September 30, 2021
Licence Expiry Date	September 29, 2026
Application for Licence Renewal Date	March 29, 2026

2.0 Incorporated Documents

The following documents are applicable to the above drinking water system and form part of this licence:

2.1 Drinking Water Works Permit

Drinking Water System Name	Permit Number	Issue Date
St. Thomas Area Secondary Water Supply System	190-201	September 30, 2021

2.2 Permits to Take Water

Water Taking Location	Permit Number	Issue Date
Not Applicable	Not Applicable	Not Applicable

2.3 Other Documents

Document Title	Version Number	Version Date

3.0 Financial Plans

The Financial Plan Number for the Financial Plan required to be developed for this drinking water system in accordance with O. Reg. 453/07 shall be:	190-301
Alternately, if one Financial Plan is developed for all drinking water systems owned by the owner, the Financial Plan Number shall be:	190-301A

4.0 Accredited Operating Authority

Drinking Water System or Operational Subsystems	Accredited Operating Authority	Operational Plan No.	Operating Authority No.
St. Thomas Booster Station in the Elgin-Middlesex Pumping Station Building	OCWA	190-401 A	St. Thomas Booster Station in the Elgin-Middlesex Pumping Station Building
Water Supply System	City of St. Thomas – Environmental Services Operations Division	190-401 B	Water Supply System

Schedule B: General Conditions

System Owner	The Joint Board of Management of the St. Thomas Area Secondary Water Supply System
Licence Number	190-101
Drinking Water System Name	St. Thomas Area Secondary Water Supply System
Licence Effective Date	September 30, 2021

1.0 Definitions

1.1 Words and phrases not defined in this licence and the associated drinking water works permit shall be given the same meaning as those set out in the SDWA and any regulations made in accordance with that act, unless the context requires otherwise.

1.2 In this licence and the associated drinking water works permit:

“adverse effect”, “contaminant” and “natural environment” shall have the same meanings as in the EPA;

“alteration” may include the following in respect of this drinking water system:

- (a) An addition to the system,
- (b) A modification of the system,
- (c) A replacement of part of the system, and
- (d) An extension of the system;

“compound of concern” means a contaminant described in paragraph 4 subsection 26 (1) of O. Reg. 419/05, namely, a contaminant that is discharged to the air from a component of the drinking water system in an amount that is not negligible;

“CT” means the CT Disinfection Concept, as described in subsection 3.1.1 of the Ministry’s Procedure for Disinfection of Drinking Water in Ontario, dated July 29 2016.

“Director” means a Director appointed pursuant to section 6 of the SDWA for the purposes of Part V of the SDWA;

“drinking water works permit” means the drinking water works permit for the drinking water system, as identified in Schedule A of this licence and as amended from time to time;

“emission summary table” means a table described in paragraph 14 of subsection 26 (1) of O. Reg. 419/05;

“EPA” means the *Environmental Protection Act*, R.S.O. 1990, c. E.19;

“financial plan” means the financial plan required by O. Reg. 453/07;

“Harmful Algal Bloom (HAB)” means an overgrowth of aquatic algal bacteria that produce or have the potential to produce toxins in the surrounding water, when the algal cells are damaged or die. Such bacteria are harmful to people and animals and include microcystins produced by cyanobacterial blooms.

“licence” means this municipal drinking water licence for the municipal drinking water system identified in Schedule A of this licence;

“Ministry” means the Ontario Ministry of the Environment, Conservation and Parks;

“operational plan” means an operational plan developed in accordance with the Director’s Directions – Minimum Requirements for Operational Plans made under the authority of subsection 15(1) of the SDWA;

“owner” means the owner of the drinking water system as identified in Schedule A of this licence;

“OWRA” means the *Ontario Water Resources Act*, R.S.O. 1990, c. 0.40;

“permit to take water” means the permit to take water that is associated with the taking of water for purposes of the operation of the drinking water system, as identified in Schedule A of this licence and as amended from time to time;

“point of impingement” has the same meaning as in section 2 of O. Reg. 419/05 under the EPA;

“point of impingement limit” means the appropriate standard from Schedule 2 or 3 of O. Reg. 419/05 under the EPA and if a standard is not provided for a compound of concern, the concentration set out for the compound of concern in the document titled “Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants”, as amended from time to time and published by the Ministry and available on a government of Ontario website;

“licensed engineering practitioner” means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act;

“provincial officer” means a provincial officer designated pursuant to section 8 of the SDWA;

“publication NPC-300” means the Ministry publication titled “Environmental Noise Guideline: Stationary and Transportation Sources – Approval and Planning” dated August 2013, as amended;

“SCADA system” means a supervisory control and data acquisition system used for process monitoring, automation, recording and/or reporting within the drinking water system;

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

“sensitive receptor” means any location where routine or normal activities occurring at reasonably expected times would experience adverse effect(s) from a discharge to air from an emergency generator that is a component of the drinking water system, including one or a combination of:

- (a) private residences or public facilities where people sleep (e.g.: single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.),
- (b) institutional facilities (e.g.: schools, churches, community centres, day care centres, recreational centres, etc.),
- (c) outdoor public recreational areas (e.g.: trailer parks, play grounds, picnic areas, etc.), and
- (d) other outdoor public areas where there are continuous human activities (e.g.: commercial plazas and office buildings).

“sub-system” has the same meaning as in Ontario Regulation 128/04 (Certification of Drinking Water System Operators and Water Quality Analysts) under the SDWA;

“surface water” means water bodies (lakes, wetlands, ponds - including dug-outs), water courses (rivers, streams, water-filled drainage ditches), infiltration trenches, and areas of seasonal wetlands;

“UV” means ultraviolet, as in ultraviolet light produced from an ultraviolet reactor.

2.0 Applicability

- 2.1 In addition to any other applicable legal requirements, the drinking water system identified above shall be established, altered and operated in accordance with the conditions of the drinking water works permit and this licence.

3.0 Licence Expiry

- 3.1 This licence expires on the date identified as the licence expiry date in Schedule A of this licence.

4.0 Licence Renewal

- 4.1 Any application to renew this licence shall be made on or before the date identified as the application for licence renewal date set out in Schedule A of this licence.

5.0 Compliance

- 5.1 The owner and operating authority shall ensure that any person authorized to carry out work on or to operate any aspect of the drinking water system has been informed of the SDWA, all applicable regulations made in accordance with that act, the drinking water works permit and this licence and shall take all reasonable measures to ensure any such person complies with the same.

6.0 Licence and Drinking Water Works Permit Availability

- 6.1** At least one copy of this licence and the drinking water works permit shall be stored in such a manner that they are readily viewable by all persons involved in the operation of the drinking water system.

7.0 Permit to Take Water and Drinking Water Works Permit

- 7.1** A permit to take water identified in Schedule A of this licence is the applicable permit on the date identified as the Effective Date of this licence.
- 7.2** A drinking water works permit identified in Schedule A of this licence is the applicable permit on the date identified as the Effective Date of this licence.

8.0 Financial Plan

- 8.1** For every financial plan prepared in accordance with subsections 2(1) and 3(1) of O. Reg. 453/07, the owner of the drinking water system shall:
- 8.1.1 Ensure that the financial plan contains on the front page of the financial plan, the appropriate financial plan number as set out in Schedule A of this licence; and
- 8.1.2 Submit a copy of the financial plan to the Ministry of Municipal Affairs and Housing within three (3) months of receiving approval by a resolution of municipal council or the governing body of the owner.

9.0 Interpretation

- 9.1** Where there is a conflict between the provisions of this licence and any other document, the following hierarchy shall be used to determine the provision that takes precedence:
- 9.1.1 The SDWA;
- 9.1.2 A condition imposed in this licence that explicitly overrides a prescribed regulatory requirement;
- 9.1.3 A condition imposed in the drinking water works permit that explicitly overrides a prescribed regulatory requirement;
- 9.1.4 Any regulation made under the SDWA;
- 9.1.5 Any provision of this licence that does not explicitly override a prescribed regulatory requirement;
- 9.1.6 Any provision of the drinking water works permit that does not explicitly override a prescribed regulatory requirement;
- 9.1.7 Any application documents listed in this licence, or the drinking water works permit from the most recent to the earliest; and

- 9.1.8 All other documents listed in this licence, or the drinking water works permit from the most recent to the earliest.
- 9.1.9 Any other technical bulletin or procedure issued by the Ministry from the most recent to the earliest.
- 9.2** If any requirement of this licence or the drinking water works permit is found to be invalid by a court of competent jurisdiction, the remaining requirements of this licence and the drinking water works permit shall continue to apply.
- 9.3** The issuance of and compliance with the conditions of this licence and the drinking water works permit does not:
 - 9.3.1 Relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including the *Environmental Assessment Act*, R.S.O. 1990, c. E.18; and
 - 9.3.2 Limit in any way the authority of the appointed Directors and provincial officers of the Ministry to require certain steps be taken or to require the owner to furnish any further information related to compliance with the conditions of this licence or the drinking water works permit.
- 9.4** For greater certainty, nothing in this licence or the drinking water works permit shall be read to provide relief from regulatory requirements in accordance with section 46 of the SDWA, except as expressly provided in the licence or the drinking water works permit.

10.0 Adverse Effects

- 10.1** Nothing in this licence or the drinking water works permit shall be read as to permit:
 - 10.1.1 The discharge of a contaminant into the natural environment that causes or is likely to cause an adverse effect; or
 - 10.1.2 The discharge of any material of any kind into or in any waters or on any shore or bank thereof or into or in any place that may impair the quality of the water of any waters.
- 10.2** All reasonable steps shall be taken to minimize and ameliorate any adverse effect on the natural environment or impairment of the quality of water of any waters resulting from the operation of the drinking water system including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.
- 10.3** Fulfillment of one or more conditions imposed by this licence or the drinking water works permit does not eliminate the requirement to fulfill any other condition of this licence or the drinking water works permit.

11.0 Change of Owner or Operating Authority

- 11.1** This licence is not transferable without the prior written consent of the Director.
- 11.2** The owner shall notify the Director in writing at least 30 days prior to a change of any operating authority identified in Schedule A of this licence.
- 11.2.1 Where the change of operating authority is the result of an emergency situation, the owner shall notify the Director in writing of the change as soon as practicable.

12.0 Information to be Provided

- 12.1** Any information requested by a Director or a provincial officer concerning the drinking water system and its operation, including but not limited to any records required to be kept by this licence or the drinking water works permit, shall be provided upon request.

13.0 Records Retention

- 13.1** Except as otherwise required in this licence or the drinking water works permit, any records required by or created in accordance with this licence or the drinking water works permit, other than the records specifically referenced in section 12 or section 13 of O. Reg. 170/03, shall be retained for at least 5 years and made available for inspection by a provincial officer, upon request.

14.0 Chemicals and Materials

- 14.1** All chemicals and materials used in the alteration or operation of the drinking water system that come into contact with water within the system shall meet all applicable standards set by both the American Water Works Association ("AWWA") and the American National Standards Institute ("ANSI") safety criteria standards NSF/60, NSF/61 and NSF/372.
- 14.1.1 In the event that the standards are updated, the owner may request authorization from the Director to use any on hand chemicals and materials that previously met the applicable standards.
- 14.2** The most current chemical and material product registration documentation from a testing institution accredited by either the Standards Council of Canada or by the American National Standards Institution ("ANSI") shall be available at all times for each chemical and material used in the operation of the drinking water system that comes into contact with water within the system.
- 14.3** Conditions 14.1 and 14.2 do not apply in the case of the following:
- 14.3.1 Water pipe and pipe fittings meeting AWWA specifications made from ductile iron, cast iron, PVC, fibre and/or steel wire reinforced cement pipe or high density polyethylene (HDPE);
- 14.3.2 Articles made from stainless steel, glass, HDPE or Teflon®;

- 14.3.3 Cement mortar for watermain lining and for water contacting surfaces of concrete structures made from washed aggregates and Portland cement;
- 14.3.4 Gaskets that are made from NSF approved materials;
- 14.3.5 Food grade oils and lubricants, food grade anti-freeze, and other food grade chemicals and materials that are compatible for drinking water use that may come into contact with drinking water, but are not added directly to the drinking water; or
- 14.3.6 Any particular chemical or material where the owner has written documentation signed by the Director that indicates that the Ministry is satisfied that the chemical or material is acceptable for use within the drinking water system and the chemical or material is only used as permitted by the documentation.

15.0 Drawings

- 15.1 All drawings and diagrams in the possession of the owner that show any treatment subsystem as constructed shall be retained by the owner unless the drawings and diagrams are replaced by a revised or updated version showing the subsystem as constructed subsequent to the alteration.
- 15.2 Any alteration to any treatment subsystem shall be incorporated into process flow diagrams, process and instrumentation diagrams, and record drawings and diagrams within one year of the alteration being completed or placed into service.
- 15.3 Process flow diagrams and process and instrumentation diagrams for any treatment subsystem shall be kept in a place, or made available in such a manner, that they may be readily viewed by all persons responsible for all or part of the operation of the drinking water system.

16.0 Operations and Maintenance Manual

- 16.1 An up-to-date operations and maintenance manual or manuals shall be maintained and applicable parts of the manual or manuals shall be made available for reference to all persons responsible for all or part of the operation or maintenance of the drinking water system.
- 16.2 The operations and maintenance manual or manuals, shall include at a minimum:
 - 16.2.1 The requirements of this licence and associated procedures;
 - 16.2.2 The requirements of the drinking water works permit for the drinking water system;
 - 16.2.3 A description of the processes used to achieve secondary disinfection within the drinking water system;
 - 16.2.4 Procedures for monitoring and recording the in-process parameters necessary for the control of any treatment subsystem and for assessing the performance of the drinking water system;

- 16.2.5 Procedures for the operation and maintenance of monitoring equipment;
- 16.2.6 Contingency plans and procedures for the provision of adequate equipment and material to deal with emergencies, upset conditions and equipment breakdown;
- 16.2.7 Procedures for dealing with complaints related to the drinking water system, including the recording of the nature of the complaint and any investigation and corrective action taken in respect of the complaint;
- 16.3** Procedures necessary for the operation and maintenance of any alterations to the drinking water system shall be incorporated into the operations and maintenance manual or manuals prior to those alterations coming into operation.
- 16.4** All of the procedures included or referenced within the operations and maintenance manual must be implemented.

Schedule C: System-Specific Conditions

System Owner	The Joint Board of Management of the St. Thomas Area Secondary Water Supply System
Licence Number	190-101
Drinking Water System Name	St. Thomas Area Secondary Water Supply System
Licence Effective Date	September 30, 2021

1.0 Additional Sampling, Testing and Monitoring

Drinking Water Health and Non-Health Related Parameters

- 1.1** For a drinking water system or drinking water subsystem identified in column 1 of Tables 1 and 2 and in addition to any other sampling, testing and monitoring that may be required, sampling, testing and monitoring shall be undertaken for a test parameter listed in column 2 at the sampling frequency listed in column 3 and at the monitoring location listed in column 4 of the same row.

Table 1: Drinking Water Health Related Parameters

Column 1 Drinking Water System or Drinking Water Subsystem Name	Column 2 Test Parameter	Column 3 Sampling Frequency	Column 4 Monitoring Location
Not Applicable	Not Applicable	Not Applicable	Not Applicable

Table 2: Drinking Water Non-Health Related Parameters

Column 1 Drinking Water System or Drinking Water Subsystem Name	Column 2 Test Parameter	Column 3 Sampling Frequency	Column 4 Monitoring Location
Not Applicable	Not Applicable	Not Applicable	Not Applicable

Environmental Discharge Parameters

- 1.2** Pursuant to Condition 10 of Schedule B of this licence, the owner may undertake the following environmental discharges associated with the maintenance and/or repair of the drinking water system:
- 1.2.1 The discharge of potable water from a watermain to a road or storm sewer;
 - 1.2.2 The discharge of potable water from a water storage facility or pumping station:
 - 1.2.2.1 To a road or storm sewer; or

- 1.2.2.2 To a watercourse where the discharge has been dechlorinated and if necessary, sediment and erosion control measures have been implemented.
- 1.2.3 The discharge of dechlorinated non-potable water from a watermain, water storage facility or pumping station to a road or storm sewer;
- 1.2.4 The discharge of potable water or non-potable water from a treatment subsystem to the environment where if necessary, the discharge has been dechlorinated and sediment and erosion control measures have been implemented.
- 1.2.5 The discharge of any excess water to a road, storm sewer or the environment, associated with the management of materials excavated as part of watermain construction or repair, where necessary sediment, erosion and environmental control measures have been implemented.

2.0 Studies Required

- 2.1 Not applicable

3.0 Source Protection

- 3.1 The owner of the drinking water system shall implement risk management measures, as appropriate, to manage any potential threat to drinking water that results from the operation of the drinking water system.
- 3.2 The owner of the system shall notify the Director in writing within thirty (30) days of any approved changes to an applicable source protection plan that impact the assessed threat level of a fuel oil system identified in Schedule A of drinking water works permit.
- 3.3 The notification required in condition 3.2 shall include:
 - 3.3.1 A description of the changes and their impact on the assessed threat level of the fuel oil system(s); and,
 - 3.3.2 A timeline for re-assessing the threat level and providing the results of the assessment to the Director.

Schedule D: Conditions for Relief from Regulatory Requirements

System Owner	The Joint Board of Management of the St. Thomas Area Secondary Water Supply System
Licence Number	190-101
Drinking Water System Name	St. Thomas Area Secondary Water Supply System
Licence Effective Date	September 30, 2021

Effective the date of issue of this licence, no relief from regulatory requirements is authorized by the Director under section 46 of the SDWA in respect of the drinking water system.



DRINKING WATER WORKS PERMIT

Permit Number: 190-201

Issue Number: 3

Pursuant to the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32, and the regulations made thereunder and subject to the limitations thereof, I hereby issue this drinking water works permit under Part V of the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32 to:

**The Joint Board of Management of the
St. Thomas Area Secondary Water Supply System**
545 Talbot St
St. Thomas, ON N5P 3V7

For the following municipal residential drinking water system:

St. Thomas Area Secondary Water Supply System

This drinking water works permit includes the following:

Schedule	Description
Schedule A	Drinking Water System Description
Schedule B	General
Schedule C	All documents issued as Schedule C to this drinking water works permit which authorize alterations to the drinking water system
Schedule D	Process Flow Diagrams

Upon the effective date of this drinking water works permit #190-201, all previously issued versions of permit #190-201 are revoked and replaced by this permit.

DATED at TORONTO this 30th day of September, 2021

Signature

Aziz Ahmed, P.Eng.
Director
Part V, *Safe Drinking Water Act*, 2002

Schedule A: Drinking Water System Description

System Owner	The Joint Board of Management of the St. Thomas Area Secondary Water Supply System
Permit Number	190-201
Drinking Water System Name	St. Thomas Area Secondary Water Supply System
Permit Effective Date	September 30, 2021

1.0 System Description

- 1.1 The following is a summary description of the works comprising the above drinking water system:

Overview

The **St. Thomas Area Secondary Water Supply System** receives treated water from the Elgin Area Primary Water Supply System. The treated water is supplied from the Elgin Area Primary Water Supply System Water Treatment Plant near Port Stanley and is sent through Pipeline A – 750 mm and Pipeline B - 900 mm to the Elgin-Middlesex Pumping Station. The water is then delivered into the St. Thomas Area Secondary Water Supply System transmission main.

There are three connections from the St. Thomas Area Secondary Water Supply to the City of St. Thomas Distribution System through the East Chamber, the West Chamber and the St. George Chamber. The St. George Chamber is operational only when the pressure in the immediate vicinity falls below 380 kPa.

The Secondary Line also supplies water to the Municipality of Central Elgin, the Township of Southwold and the Municipality of Dutton-Dunwich.

The **St. Thomas Area Secondary Water Supply System** consists of:

- St. Thomas Booster Station located in Elgin-Middlesex Pumping Station Building
- Ford Tower
- East Chamber, West Chamber and St. George Chamber
- Approximately 11.2 km of water transmission main
- Ford Meter Chamber

Pumping Stations

St. Thomas Booster Station in the Elgin-Middlesex Pumping Station (EMPS) Building

Location	490 South Edgeware Road, Municipality of Central Elgin, ON
UTM Coordinates	NAD 83: UTM Zone 17: 488296 m E 4737955 m N
Pumping Equipment	Pump Nos. 1, 2 and 3 - rated at 263 L/s at 42 m TDH. Equipped with variable frequency drives.
Rechlorination Equipment	A gas chlorination disinfection system with facilities shared between the Aylmer Secondary Water Supply System (ASWSS) and St. Thomas Area Secondary Water Supply System (STASWSS). The system includes:
	One (1) dual weigh scale with space for two (2) 68 kg cylinders (duty/standby) with automatic switchover (shared between ASWSS and STASWSS)
	One (1) 22.75 kg/d chlorinator and associated equipment (dedicated to ASWSS)
	One (1) 22.75 kg/d chlorinator and associated equipment (dedicated to STASWSS)
	One (1) 22.75 kg/d chlorinator and associated equipment (shared standby between ASWSS and STASWSS)
Instrumentation and controls	Chlorine residual analyzer located in the East Chamber
Standby Power	600 kW Diesel Engine Generator, shared by the Aylmer Secondary and the St. Thomas Secondary
Notes	A dual celled reservoir shared amongst the City of St. Thomas, Aylmer Secondary, the Town of Aylmer and the City of London/County of Middlesex, each cell 27,300 m ³ capacity. Owned by the Elgin Area Primary Water Supply System (EAPWSS)

Elevated Storage Tanks

Ford Tower

Location	43897 Water Tower Line, St. Thomas, ON
UTM Coordinates	NAD 83: UTM Zone 17: 484884 m E 4738549 m N
Total Volume	763 m ³
Notes	Water level is monitored at the EMPS, which is regulated and controlled through operation of the St. Thomas pumps in the EMPS. SCADA is currently monitored 24/7 by operators at the EAPWSS (Elgin Treatment Plant)

Other Subsystem, Components

East Chamber

Location	490 South Edgeware Road, Municipality of Central Elgin, ON
UTM Coordinates	NAD 83: UTM Zone 17: 487948 m E 4737786 m N
Notes	Water supply to the City of St. Thomas Distribution System and is regulated through valves and monitored through SCADA system. Free Chlorine Analyzer

West Chamber

Location	2 South Edgeware Road, Waterworks Park, St. Thomas, ON
UTM Coordinates	NAD 83: UTM Zone 17: 484731 m E 4737807 m N
Notes	Water supply to the City of St. Thomas Distribution System and is regulated through valves and monitored through SCADA system. Free Chlorine Analyzer

St. George Chamber

Location	Intersection of Wellington Road and Ford Line, Township of Southwold, ON
UTM Coordinates	NAD 83: UTM Zone 17: 482804 m E 4737991 m N
Equipment	

Fuel Oil Systems

Fuel Storage Locations

Location	UTM NAD83 Zone17 488075.88 mE 4737853.81 mN
Description	Diesel Fuel – 10,000L
Fuel Type	Diesel
Source Protection Area	Not Applicable
Notes	

Location	UTM NAD83 Zone17 488075.88 mE 4737853.81 mN
Description	Diesel Fuel – 455L
Fuel Type	Diesel
Source Protection Area	Not Applicable
Notes	

Watermains

1.2 Watermains within the distribution system comprise:

1.2.1 Watermains that have been set out in each document or file identified in column 1 of Table 1.

Table 1: Watermains	
Column 1 Document or File Name	Column 2 Date
STASWSS Mapping_November 2020.pdf	November 2020

1.2.2 Watermains that have been added, modified, replaced or extended further to the provisions of Schedule C of this drinking water works permit on or after the date identified in column 2 of Table 1 for each document or file identified in column 1.

1.2.3 Watermains that have been added, modified, replaced or extended further to an authorization by the Director on or after the date identified in column 2 of Table 1 for each document or file identified in column 1.

Schedule B: General

System Owner	The Joint Board of Management of the St. Thomas Area Secondary Water Supply System
Permit Number	190-201
Drinking Water System Name	St. Thomas Area Secondary Water Supply System
Permit Effective Date	September 30, 2021

1.0 Applicability

- 1.1 In addition to any other applicable legal requirements, the drinking water system identified above shall be altered and operated in accordance with the conditions of this drinking water works permit and the licence #190-101.
- 1.2 The definitions and conditions of licence #190-101 are incorporated into this permit and also apply to this drinking water system.

2.0 Alterations to the Drinking Water System

- 2.1 Any document issued by the Director to be incorporated into Schedule C to this drinking water works permit shall provide authority to alter the drinking water system in accordance with the applicable conditions of this drinking water works permit and licence #190-101.
- 2.2 All documents issued by the Director as described in condition 2.1 shall form part of this drinking water works permit.
- 2.3 All parts of the drinking water system in contact with drinking water that are added, modified, replaced, extended shall be disinfected in accordance with a procedure approved by the Director or in accordance with the applicable provisions of the following documents:
 - a) Until October 31, 2021 the ministry's Watermain Disinfection Procedure, dated November 2015. As of November 1, 2021 the ministry's Watermain Disinfection Procedure, dated August 1, 2020;
 - b) Subject to condition 2.3.2, any updated version of the ministry's Watermain Disinfection Procedure;
 - c) AWWA C652 – Standard for Disinfection of Water-Storage Facilities;
 - d) AWWA C653 – Standard for Disinfection of Water Treatment Plants; and
 - e) AWWA C654 – Standard for Disinfection of Wells.
- 2.3.1 For greater clarity, where an activity has occurred that could introduce contamination, including but not limited to repair, maintenance, or physical / video inspection, all equipment that may come in contact with the drinking water system shall be disinfected in accordance with the requirements of condition 2.3. above.
- 2.3.2 Updated requirements described in condition 2.3 b) are effective six months from the date of publication of the updated Watermain Disinfection Procedure.

-
- 2.4 The owner shall notify the Director in writing within thirty (30) days of the placing into service or the completion of any addition, modification, replacement, removal or extension of the drinking water system which had been authorized through:
- 2.4.1 Schedule B to this drinking water works permit which would require an alteration of the description of a drinking water system component described in Schedule A of this drinking water works permit;
 - 2.4.2 Any document to be incorporated in Schedule C to this drinking water works permit respecting works other than watermain; or
 - 2.4.3 Any approval issued prior to the issue date of the first drinking water works permit respecting works other than watermain which were not in service at the time of the issuance of the first drinking water works permit.
- 2.5 The notification required in condition 2.4 shall be submitted using the "Director Notification Form" published by the Ministry.
- 2.6 For greater certainty, the notification requirements set out in condition 2.4 do not apply to any addition, modification, replacement, removal or extension in respect of the drinking water system which:
- 2.6.1 Is exempt from subsection 31(1) of the SDWA by subsection 9.(2) of O. Reg. 170/03;
 - 2.6.2 Constitutes maintenance or repair of the drinking water system; or
 - 2.6.3 Is a watermain authorized by condition 3.1 of Schedule B of this drinking water works permit.
- 2.7 The owner shall notify the legal owner of any part of the drinking water system that is prescribed as a municipal drinking water system by section 2 of O. Reg. 172/03 of the requirements of the licence and this drinking water works permit as applicable to the prescribed system.
- 2.8 For greater certainty, the owner may only carry out alterations to the drinking water system in accordance with this drinking water works permit after having satisfied other applicable legal obligations, including those arising from the *Environmental Assessment Act*, *Niagara Escarpment Planning and Development Act*, *Oak Ridges Moraine Conservation Act*, 2001 and *Greenbelt Act*, 2005.

3.0 Watermain Additions, Modifications, Replacements and Extensions

- 3.1 The owner may alter the drinking water system, or permit it to be altered by a person acting on the owner's behalf, by adding, modifying, replacing or extending a watermain within the distribution system subject to the following conditions:
- 3.1.1 The design of the watermain addition, modification, replacement or extension:
 - a) Has been prepared by a licensed engineering practitioner;
 - b) Has been designed only to transmit water and has not been designed to treat water;

- c) Satisfies the design criteria set out in the Ministry publication “Watermain Design Criteria for Future Alterations Authorized under a Drinking Water Works Permit – June 2012”, as amended from time to time; and
 - d) Is consistent with or otherwise addresses the design objectives contained within the Ministry publication “Design Guidelines for Drinking Water Systems, 2008”, as amended from time to time.
- 3.1.2 The maximum demand for water exerted by consumers who are serviced by the addition, modification, replacement or extension of the watermain will not result in an exceedance of the rated capacity of a treatment subsystem or the maximum flow rate for a treatment subsystem component as specified in the licence, or the creation of adverse conditions within the drinking water system.
- 3.1.3 The watermain addition, modification, replacement or extension will not adversely affect the distribution system’s ability to maintain a minimum pressure of 140 kPa at ground level at all points in the distribution system under maximum day demand plus fire flow conditions.
- 3.1.4 Secondary disinfection will be provided to water within the added, modified, replaced or extended watermain to meet the requirements of O. Reg. 170/03.
- 3.1.5 The watermain addition, modification, replacement or extension is wholly located within the municipal boundary over which the owner has jurisdiction.
- 3.1.6 The owner of the drinking water system consents in writing to the watermain addition, modification, replacement or extension.
- 3.1.7 A licensed engineering practitioner has verified in writing that the watermain addition, modification, replacement or extension meets the requirements of condition 3.1.1.
- 3.1.8 The owner of the drinking water system has verified in writing that the watermain addition, modification, replacement or extension meets the requirements of conditions 3.1.2 to 3.1.6.
- 3.2 The authorization for the addition, modification, replacement or extension of a watermain provided for in condition 3.1 does not include the addition, modification, replacement or extension of a watermain that:
 - 3.2.1 Passes under or through a body of surface water, unless trenchless construction methods are used;
 - 3.2.2 Has a nominal diameter greater than 750 mm;
 - 3.2.3 Results in the fragmentation of the drinking water system; or
 - 3.2.4 Connects to another drinking water system, unless:
 - a) Prior to construction, the owner of the drinking water system seeking the connection obtains written consent from the owner or owner’s delegate of the drinking water system being connected to; and

- b) The owner of the drinking water system seeking the connection retains a copy of the written consent from the owner or owner's delegate of the drinking water system being connected to as part of the record that is recorded and retained under condition 3.3.
- 3.3 The verifications required in conditions 3.1.7 and 3.1.8 shall be:
- 3.3.1 Recorded on "Form 1 – Record of Watermains Authorized as a Future Alteration", as published by the Ministry, prior to the watermain addition, modification, replacement or extension being placed into service; and
- 3.3.2 Retained for a period of ten (10) years by the owner.
- 3.4 For greater certainty, the verification requirements set out in condition 3.3 do not apply to any addition, modification, replacement or extension in respect of the drinking water system which:
- 3.4.1 Is exempt from subsection 31(1) of the SDWA by subsection 9.(2) of O. Reg. 170/03; or
- 3.4.2 Constitutes maintenance or repair of the drinking water system.
- 3.5 The document or file referenced in Column 1 of Table 1 of Schedule A of this drinking water works permit that sets out watermains shall be retained by the owner and shall be updated to include watermain additions, modifications, replacements and extensions within 12 months of the addition, modification, replacement or extension.
- 3.6 The updates required by condition 3.5 shall include watermain location relative to named streets or easements and watermain diameter.
- 3.7 Despite clause (a) of condition 3.1.1 and condition 3.1.7, with respect to the replacement of an existing watermain or section of watermain that is 6.1 meters in length or less, if a licensed engineering practitioner has:
- 3.7.1 inspected the replacement prior to it being put into service;
- 3.7.2 prepared a report confirming that the replacement satisfies clauses (b), (c) and (d) of condition 3.1.1 (i.e. "Form 1 – Record of Watermains Authorized by a Future Alteration" (Form 1), Part 3, items No. 2, 3 and 4); and
- 3.7.3 appended the report referred to in condition 3.7.2 to the completed Form 1,
- the replacement is exempt from the requirements that the design of the replacement be prepared by a licensed engineering practitioner and that a licensed engineering practitioner verify on Form 1, Part 3, item No. 1 that a licensed engineering practitioner prepared the design of the replacement.
- 3.8 For greater certainty, the exemption in condition 3.7 does not apply to the replacement of an existing watermain or section of watermain if two or more sections of pipe, each of which is 6.1 meters in length or less, are joined together, if the total length of replacement pipes joined together is greater than 6.1 meters.

4.0 Minor Modifications to the Drinking Water System

- 4.1 The drinking water system may be altered by adding, modifying or replacing the following components in the drinking water system:
 - 4.1.1 Coagulant feed systems in the treatment system, including the location and number of dosing points:
 - a) Prior to making any alteration to the drinking water system under condition 4.1.1, the owner shall undertake a review of the impacts that the alteration might have on corrosion control or other treatment processes; and
 - b) The owner shall notify the Director in writing within thirty (30) days of any alteration made under condition 4.1.1 and shall provide the Director with a copy of the review.
 - c) The notification required in condition 4.1.1 b) shall be submitted using the "Director Notification Form" published by the Ministry
 - 4.1.2 Instrumentation and controls, including new SCADA systems and upgrades to SCADA system hardware;
 - 4.1.3 SCADA system software or programming that:
 - a) Measures, monitors or reports on a regulated parameter;
 - b) Measures, monitor or reports on a parameter that is used to calculate CT; or,
 - c) Calculates CT for the system or is part of the process algorithm that calculates log removal, where the impacts of addition, modification or replacement have been reviewed by a licensed engineering practitioner;
 - 4.1.4 Filter media, backwashing equipment, filter troughs, and under-drains and associated equipment in the treatment system;
 - 4.1.5 Spill containment works; or,
 - 4.1.6 Coarse screens and fine screens
- 4.2 The drinking water system may be altered by adding, modifying, replacing or removing the following components in the drinking water system:
 - 4.2.1 Treated water pumps, pressure tanks, and associated equipment;
 - 4.2.2 Raw water pumps and process pumps in the treatment system;
 - 4.2.3 Inline booster pumping stations that are not associated with distribution system storage facilities and are on a watermain with a nominal diameter not exceeding 200 mm;
 - 4.2.4 Re-circulation devices within distribution system storage facilities;
 - 4.2.5 In-line mixing equipment;

- 4.2.6 Chemical metering pumps and chemical handling pumps;
- 4.2.7 Chemical storage tanks (excluding fuel storage tanks) and associated equipment; or,
- 4.2.8 Measuring and monitoring devices that are not required by regulation, by a condition in the Drinking Water Works Permit, or by a condition otherwise imposed by the Ministry.
- 4.2.9 Chemical injection points;
- 4.2.10 Valves.
- 4.3 The drinking water system may be altered by replacing the following:
 - 4.3.1 Raw water piping, treatment process piping or treated water piping within the treatment subsystem;
 - 4.3.2 Measuring and monitoring devices that are required by regulation, by a condition in the Drinking Water Works Permit or by a condition otherwise imposed by the Ministry.
 - 4.3.3 Coagulants and pH adjustment chemicals, where the replacement chemicals perform the same function;
 - a) Prior to making any alteration to the drinking water system under condition 4.3.3, the owner shall undertake a review of the impacts that the alteration might have on corrosion control or other treatment processes; and
 - b) The owner shall notify the Director in writing within thirty (30) days of any alteration made under condition 4.3.3 and shall provide the Director with a copy of the review.
 - c) The notification required in condition 4.3.3 b) shall be submitted using the "Director Notification Form" published by the Ministry.
- 4.4 Any alteration of the drinking water system made under conditions 4.1, 4.2 or 4.3 shall not result in:
 - 4.4.1 An exceedance of a treatment subsystem rated capacity or a treatment subsystem component maximum flow rate as specified in the licence;
 - 4.4.2 The bypassing or removal of any unit process within a treatment subsystem;
 - 4.4.3 The addition of any new unit process other than coagulation within a treatment subsystem;
 - 4.4.4 A deterioration in the quality of drinking water provided to consumers;

- 4.4.5 A reduction in the reliability or redundancy of any component of the drinking water system;
- 4.4.6 A negative impact on the ability to undertake compliance and other monitoring necessary for the operation of the drinking water system; or
- 4.4.7 An adverse effect on the environment.
- 4.5 The owner shall verify in writing that any addition, modification, replacement or removal of drinking water system components in accordance with conditions 4.1, 4.2 or 4.3 has met the requirements of the conditions listed in condition 4.4.
- 4.6 The verifications and documentation required in condition 4.5 shall be:
 - 4.6.1 Recorded on "Form 2 – Record of Minor Modifications or Replacements to the Drinking Water System" published by the Ministry, prior to the modified or replaced components being placed into service; and
 - 4.6.2 Retained for a period of ten (10) years by the owner.
- 4.7 For greater certainty, the verification requirements set out in conditions 4.5 and 4.6 do not apply to any addition, modification, replacement or removal in respect of the drinking water system which:
 - 4.7.1 Is exempt from subsection 31(1) of the SDWA by subsection 9.(2) of O. Reg. 170/03; or
 - 4.7.2 Constitutes maintenance or repair of the drinking water system, including software changes to a SCADA system that are not listed in condition 4.1.3
- 4.8 The owner shall update any drawings maintained for the drinking water system to reflect the modification or replacement of the works, where applicable.

5.0 Equipment with Emissions to the Air

- 5.1 The drinking water system may be altered by adding, modifying or replacing any of the following drinking water system components that may discharge or alter the rate or manner of a discharge of a compound of concern to the air:
 - 5.1.1 Any equipment, apparatus, mechanism or thing that is used for the transfer of outdoor air into a building or structure that is not a cooling tower;
 - 5.1.2 Any equipment, apparatus, mechanism or thing that is used for the transfer of indoor air out of a space used for the production, processing, repair, maintenance or storage of goods or materials, including chemical storage;
 - 5.1.3 Laboratory fume hoods used for drinking water testing, quality control and quality assurance purposes;
 - 5.1.4 Low temperature handling of compounds with a vapor pressure of less than 1 kilopascal;

- 5.1.5 Maintenance welding stations;
 - 5.1.6 Minor painting operations used for maintenance purposes;
 - 5.1.7 Parts washers for maintenance shops;
 - 5.1.8 Emergency chlorine and ammonia gas scrubbers and absorbers;
 - 5.1.9 Venting for activated carbon units for drinking water taste and odour control;
 - 5.1.10 Venting for a stripping unit for methane removal from a groundwater supply;
 - 5.1.11 Venting for an ozone treatment unit;
 - 5.1.12 Natural gas or propane fired boilers, water heaters, space heaters and make-up air units with a total facility-wide heat input rating of less than 20 million kilojoules per hour, and with an individual fuel energy input of less than or equal to 10.5 gigajoules per hour; or
 - 5.1.13 Emergency generators that fire No. 2 fuel oil (diesel fuel) with a sulphur content of 0.5 per cent or less measured by weight, natural gas, propane, gasoline or biofuel, and that are used for emergency duty only with periodic testing.
- 5.2 The owner shall not make an addition, modification, or replacement described in condition 5.1 in relation to an activity that is not related to the treatment and/or distribution of drinking water.
- 5.3 The emergency generators identified in condition 5.1.13 shall not be used for non-emergency purposes including the generation of electricity for sale or for peak shaving purposes.
- 5.4 The owner shall prepare an emission summary table for nitrogen oxides emissions only, for each addition, modification or replacement of emergency generators identified in condition 5.1.13.

Performance Limits

- 5.5 The owner shall ensure that a drinking water system component identified in conditions 5.1.1 to 5.1.13 is operated at all times to comply with the following limits:
- 5.5.1 For equipment other than emergency generators, the maximum concentration of any compound of concern at a point of impingement shall not exceed the corresponding point of impingement limit;
 - 5.5.2 For emergency generators, the maximum concentration of nitrogen oxides at sensitive receptors shall not exceed the applicable point of impingement limit, and at non-sensitive receptors shall not exceed the Ministry half-hourly screening level of 1880 ug/m³ as amended; and
 - 5.5.3 The noise emissions comply at all times with the limits set out in publication NPC-300, as applicable.

- 5.6 The owner shall verify in writing that any addition, modification or replacement of works in accordance with condition 5.1 has met the requirements of the conditions listed in condition 5.5.
- 5.7 The owner shall document how compliance with the performance limits outlined in condition 5.5.3 is being achieved, through noise abatement equipment and/or operational procedures.
- 5.8 The verifications and documentation required in conditions 5.6 and 5.7 shall be:
- 5.8.1 Recorded on "Form 3 – Record of Addition, Modification or Replacement of Equipment Discharging a Contaminant of Concern to the Atmosphere", as published by the Ministry, prior to the additional, modified or replacement equipment being placed into service; and
- 5.8.2 Retained for a period of ten (10) years by the owner.
- 5.9 For greater certainty, the verification and documentation requirements set out in conditions 5.6 and 5.8 do not apply to any addition, modification or replacement in respect of the drinking water system which:
- 5.9.1 Is exempt from subsection 31(1) of the SDWA by subsection 9.(2) of O. Reg. 170/03; or
- 5.9.2 Constitutes maintenance or repair of the drinking water system.
- 5.10 The owner shall update any drawings maintained for the works to reflect the addition, modification or replacement of the works, where applicable.

6.0 Previously Approved Works

- 6.1 The owner may add, modify, replace or extend, and operate part of a municipal drinking water system if:
- 6.1.1 An approval was issued after January 1, 2004 under section 36 of the SDWA in respect of the addition, modification, replacement or extension and operation of that part of the municipal drinking water system;
- 6.1.2 The approval expired by virtue of subsection 36(4) of the SDWA; and
- 6.1.3 The addition, modification, replacement or extension commenced within five years of the date that activity was approved by the expired approval.

7.0 System-Specific Conditions

- 7.1 Not Applicable

8.0 Source Protection

- 8.1 Not Applicable

Schedule C: Authorization to Alter the Drinking Water System

System Owner	The Joint Board of Management of the St. Thomas Area Secondary Water Supply System
Permit Number	190-201
Drinking Water System Name	St. Thomas Area Secondary Water Supply System
Permit Effective Date	September 30, 2021

1.0 General

- 1.1** Table 2 provides a reference list of all documents to be incorporated into Schedule C that have been issued as of the date that this permit was issued.

- 1.1.1 Table 2 is not intended to be a comprehensive list of all documents that are part of Schedule C. For clarity, any document issued by the Director to be incorporated into Schedule C after this permit has been issued is considered part of this drinking water works permit.

Table 2: Schedule C Documents				
Column 1 Issue #	Column 2 Issued Date	Column 3 Description	Column 4 Status	Column 5 DN#
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

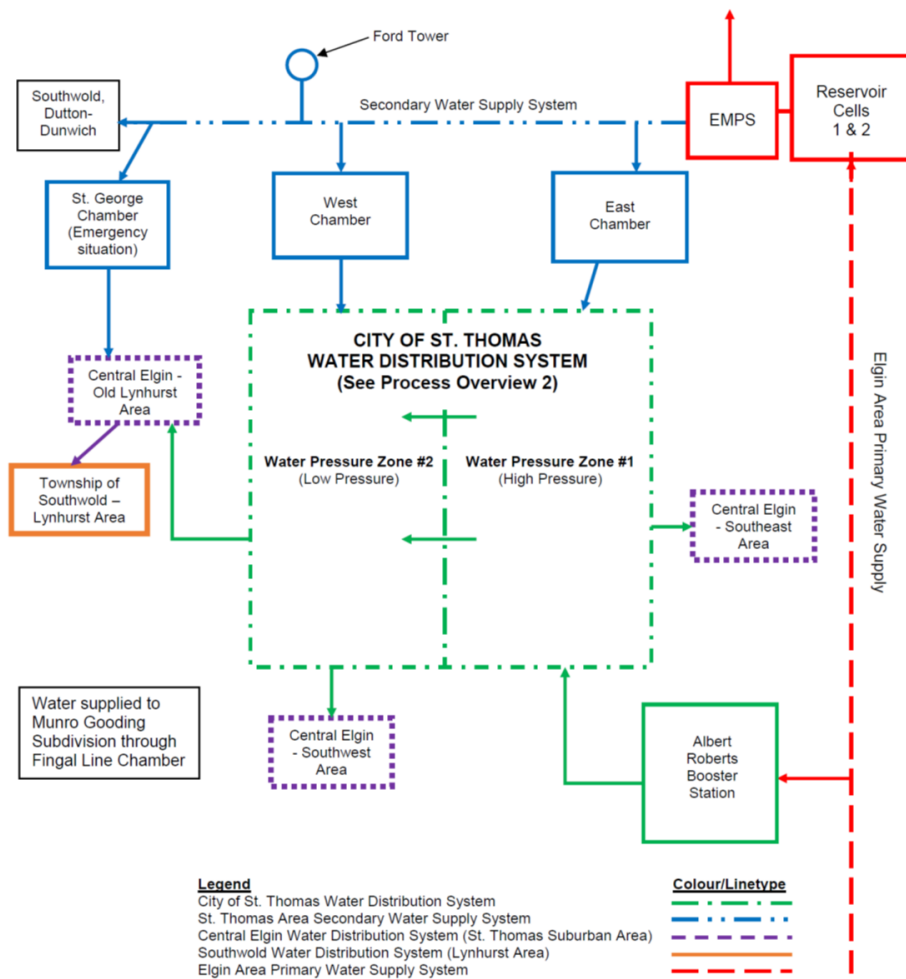
- 1.2** For each document described in columns 1, 2 and 3 of Table 2, the status of the document is indicated in column 4. Where this status is listed as 'Archived', the approved alterations have been completed and relevant portions of this permit have been updated to reflect the altered works. These 'Archived' Schedule C documents remain as a record of the alterations.

Schedule D: Process Flow Diagrams

System Owner	The Joint Board of Management of the St. Thomas Area Secondary Water Supply System
Permit Number	190-201
Drinking Water System Name	St. Thomas Area Secondary Water Supply System
Permit Effective Date	September 30, 2021

1.0 Process Flow Diagrams

St. Thomas Water Supply System



Note: this process flow diagram is for reference only and represents a high level overview of the system as of November 10, 2020.



Report No.
SWB 06-25

File No.

Directed to: St. Thomas Area Secondary Water Board

Meeting Date:
October 16, 2025

Department: Environmental Services

Attachment

Prepared By: Shayne Reitsma, P.Eng.
Manager of Development and Compliance

Subject: Elevated Water Storage Facility Options

Recommendation:

THAT: Report SWB 06-25 Elevated Water Storage Facility Options, be received for information, and further;

THAT: The Joint Board of Management endorse Elevated Water Storage Facility Option 3 (12hr Storage) as the preferred facility to replace the Ford Water Tower.

Background:

Through award Report SWB 02-25, J.L. Richards and Associates Limited (JLR) was retained to design the replacement of the Ford Water Tower based on the findings from the R.V. Anderson Associates Limited (RVA) study, which had determined that a smaller lower water surge facility could be used to mitigate transient waves in the secondary system.

Analysis:

Bulding upon the RVA study results, JLR initially proposed a 45m tall water surge facility that mitigated transient waves in the secondary system, however as part of the design assignment, JLR was also tasked to analyze the impact on connecting water systems. This further analysis found that the 45m tall water surage facility concept would result in a 20 psi pressure reduction in the secondary system at Clinton Line which would create lower water pressures in the Southwold distribution system and cause pressures to drop below Ministry standards for the small portion of distribution system in Middlesex County. The analysis further revealed that the 45m tall water surge facility could not maintain a 6 hour water storage supply per the Boards direction through Report SWB 07-24. While water supply agreements with the STAWSS do not prescribe a minimum water pressure, the results of this analysis help provide the Board with a comprehensive understanding to support the decision-making process.

In addition to transient wave mitigation and maintaining system pressures, an options analysis was completed to evaluate proposed facility maintenace (i.e. repainting every 10-15 years), the ability to provide extended water storage during a planned or unplanned event, and the potential of providing some level of future protection by modelling projected demand for the supplied areas in Central Elgin, St. Thomas, and Southwold to 2051. Results of this options analysis is provided in Table 1.

Table 1: Options Analysis Summary

Option	Facility Type	Transient Mitigation	Maintain Pressures	Extended Water Stroage	Future Protection	Low Maintenance	Volume (m³)	Estimated Cost
1	Surge Facility	✓	✗	✗	✗	✓	8.58	\$3,200,000
2	Same Size Storage (6 hr)	✓	✓	✓	✗	✓	776	\$7,600,000
3	12 Hr Storage	✓	✓	✓	✓	✓	1500	\$8,200,000
4	1 Day (24hr) Storage	✓	✓	✓	✓	✗	3500	\$9,300,000
5	2 Day (48hr) Storage	✓	✓	✓	✓	✗	6200	\$12,900,000

Although it is not the responsibility of the STAWSS to maintain connecting system pressures greater than Ministry standards or to provide water storage for these connecting systems, constructing a facility that offers a resonable level of future protection and water security for a 75+ year infrastrucutre asset is a reasonable and rational approach. Therefore, Administration is recommending **Option 3 (12 hr Storage)** as the preferred facility to replace the Ford Water Tower in consideration of the above and in consideration of the relatively narrow financial margin between providing 6 hr storage compared to 12 hr storage.

The recommended elevated water storage facility would consist of a glase-fused-to-steel tank set atop of a concrete pedestile, whereas the 1 or 2 day water storage facility would consist of a typical steel tank. An example of the recommended elevated water storage facility is illustrated to the right which was constructed in 2023 as a joint venture between Greatario and Landmark Structures.

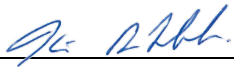
Financial Impact:

The estimated costs provided in **Table 1** includes pipeline connections, access road construction, perimeter security fencing, electrical servicing, and site restoration. The estimated cost of recommended **Option 3 (12hr Storage)** has been included in the 2026 Capital budget for Board consideration with \$6M in funding from Secondary Water Reserves and the remaining \$2.2M through debenture.



Respectfully,

Shayne Reitsma, P. Eng.
Manager of Development and Compliance

Reviewed By:		
	City Engineer	City Treasurer



Report No.
SWB 07-25

File No.

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

Meeting Date:
October 16, 2025

Department: Environmental and Infrastructure Services

Attachment

Prepared By: Karel Kamerman, B.Sc., C.Tech.
Environmental Compliance Coordinator

1. Licence of Occupation Agreement

Subject: Elevated Water Storage Facility Licencing Agreement

Recommendation:

- THAT: Report SWB 07-25 Elevated Water Storage Facility Licencing Agreement be received for information, and further;
- THAT: The Joint Board of Management authorize the Board Chair and City Engineer to execute the Licence of Occupation Agreement with the City of St. Thomas, and further;
- THAT: The Joint Board of Management authorize a connection to the STASWSS system for servicing of the Dalewood Water Reclamation Facility property in exchange for use of the lands.

Background:

Through Report SWB 04-25, the Board directed Administration to approach the City of St. Thomas as an opportunity exists to locate the new elevated water storage facility along the north side of Water Tower Line on the grounds of the proposed Dalewood Water Reclamation Facility (D-WRF).

Administration have completed negotiations with the City and are returning with a Licence of Occupation Agreement (**Attachment 1**) for the Boards consideration.

Analysis:

The City of St. Thomas recently entered into a Licencing Agreement with the Elgin Area Primary Water Supply System (EAPWSS) to allow the City to build, maintain, and operate the new South Edgeware Booster Station on lands owned by the EAPWSS. City Council was supportive of entering into a similar Licencing Agreement with the STASWSS to allow the STASWSS to build, maintain and operate a new elevated water storage facility on the grounds of the D-WRF site.

Coincidentally, the City requires water servicing for the D-WRF property and have requested that in exchange for use of the lands, that the STASWSS permit a water service connection as part of alterations being made to facilitate the new elevated water storage facility location.

The attached DRAFT Licence of Occupation Agreement sets out the roles and responsibilities of the City and STASWSS that will allow for the construction, operation, and maintenance of a STASWSS owned drinking water storage facility on City property.

Under this Agreement, the STASWSS would be allowed to build, maintain and operate the new facility on the D-WRF property, and in exchange for use of the land, the STASWSS would be responsible to provide a water source for the D-WRF site, pay a portion of the sites annual property taxes, provide its own servicing, and repair any damage caused.

Financial Considerations:

Under this Agreement, the STASWSS will be responsible for our share of property taxes, and any costs for maintenance of any shared internal roadways, security, or any necessary alterations to the lands to facilitate the STASWSS elevated water storage facility construction.

Respectfully,


Karel Kamerman, B.Sc., C.Tech
Environmental Compliance Coordinator

Approved By: 
Manger Development
and Compliance


City Engineer

**“St. Thomas Area Secondary Water Supply System (STASWSS) Elevated Water
Storage Facility”**

LICENCE OF OCCUPATION

CITY OF ST. THOMAS

AND

**ST THOMAS AREA SECONDARY WATER
SUPPLY SYSTEM**

TABLE OF CONTENTS

Article 1 Definitions and Schedules	5
1.1 Definitions.....	5
Article 2 Licence	6
2.1 Licence.....	6
2.2 Terminable Without Cause.....	6
2.3 No Property Rights Granted.....	6
Article 3 Licence Fee	6
3.1 Licence Fee.....	6
Article 4 Property Taxes and Recoverable Expenses	7
4.1 Property Taxes	7
4.2 Annual Recoverable Expenses	7
4.3 Electricity and Other Services	7
Article 5 Licensee's Work.....	7
5.1 Plans	7
5.2 Compliance with Laws	8
5.3 Contractors to be Approved	8
5.4 The City of St. Thomas's Costs to be Reimbursed.....	8
5.5 Non-Compliance	8
5.6 No Construction Liens.....	8
5.7 Maintenance of the Elevated Water Storage Facility.....	8
5.8 STASWSS Board Responsible for Damage to Roadways and Infrastructure	9
Article 6 Further Covenants of Licensee.....	9
6.1 STASWSS Board's Insurance.....	9
6.3 Environmental.....	10
6.4 Compliance with Laws	11
6.5 City of St. Thomas's Insurance Not to be Affected.....	11
6.6 Removal of the Elevated Water Storage Facility.....	11
6.7 City of St. Thomas Not Liable.....	12
6.8 City of St. Thomas's Employees and Agents	12
6.9 Non-Liability of the City of St. Thomas.....	12
6.10 Rules and Regulations	13
6.11 Registration	13
Article 7 Repair	13
7.1 Repair by STASWSS Board.....	13
7.2 Notice by STASWSS Board	13
Article 8 Alterations	14
8.1 Alterations	14
Article 9 Default	14
9.1 Termination for Default.....	14
9.3 Legal Expenses	14
9.4 Waiver	14
Article 10 Assignment, Subletting.....	15
10.1 Assignment by STASWSS Board.....	15
10.2 Assignment by the City of St. Thomas.....	15
Article 11 Disputes.....	15
11.1 Dispute Resolution.....	15
Article 12 General Provisions	15

12.1	Notices	15
12.2	Governing Law	16
12.3	Captions	16
12.4	No Agency or Partnership	16
12.5	Time of Essence	16
12.6	Entire Licence	16
12.7	Partial Invalidity	17
12.8	Interpretation	17
12.9	Amendments in Writing	17
12.10	Successors	17
12.11	Monetary Amounts	17
12.12	Counterparts and Electronic Copies	17

Schedule A - Sketch Showing the Approximate Location and Area of the Elevated Water Storage Facility19

THIS LICENCE is dated _____, 2025 and is made

BETWEEN:

THE CORPORATION OF THE CITY OF ST. THOMAS

(hereinafter called "**The City of St. Thomas**")

OF THE FIRST PART

AND

ST THOMAS AREA SECONDARY WATER SUPPLY SYSTEM BOARD OF MANAGEMENT, a Board of Management established by the Transfer Order for the St. Thomas Area Secondary Water Supply System dated November 29, 2000 made pursuant to the *Municipal Water and Sewage Transfer Act, 1997*

(hereinafter called the "**STASWSS Board**")

OF THE SECOND PART

WHEREAS:

- A. The City of St. Thomas owns the property municipally known as 10533 Dalewood Road in the Municipality of Central Elgin (the "Lands") at which the City of St. Thomas has plans to construct a wastewater treatment facility and associated appurtenances.
- B. The STASWSS Board owns a municipal water distribution system for the benefit of the City of St. Thomas; Township of Southwold, Municipality of Central Elgin, and the Municipality of Dutton/Dunwich, and
- C. The STASWSS Board has requested it be permitted to install and operate an Elevated Water Storage Facility on the Lands and St. Thomas has agreed to permit STASWSS Board to do so subject to the terms and conditions contained in this Licence.

NOW THEREFORE THIS LICENCE WITNESSES that in consideration of the mutual covenants and agreements herein contained, and the sum of Ten Dollars (\$10) now paid by each of the parties to the other (the receipt and sufficiency of which is hereby acknowledged), the parties agree as follows:

ARTICLE 1 DEFINITIONS AND SCHEDULES

1.1 **Definitions**: In this Licence:

“Business Day” means a day other than any holiday as defined in the *Interpretation Act* (Ontario) and Boxing Day.

“STASWSS” means the St. Thomas Area Secondary Water Supply System including all related pumping station, appurtenances, pipelines, and storage facilities transferred by the Transfer Order for the St. Thomas Area Secondary Water Supply System dated November 29, 2000 made pursuant to the Municipal Water and Sewage Transfer Act, 1997, including the STASWSS Board and its designates.

“STASWSS Board” means the Joint Board of management established by the Transfer Order for the St. Thomas Area Secondary Water Supply System dated November 29, 2000 made pursuant to the *Municipal Water and Sewage Transfer Act, 1997*.

“Elevated Water Storage Facility” means The STASWSS elevated drinking water storage facility to be installed and owned and by the STASWSS Board and operated by the City of St. Thomas, and having a footprint of not more than 50 metres by 50 metres and associated water pipeline connecting it to the existing STASWSS transmission main, all of which shall be non-corrosive and non-leaching and otherwise environmentally friendly.

“City of St. Thomas” means The Corporation of The City of St. Thomas

“City” means The Corporation of the City of St. Thomas

“Dalewood Water Reclamation Facility” means the City of St. Thomas wastewater treatment facility planned to be constructed on the Lands.

“Lands” mean the lands municipally known as 10533 Dalewood Road in the Municipality of Central Elgin, which the City of St. Thomas owns and plans to construct and operate a wastewater treatment facility.

“Laws” means all laws (including the related principles of common law and equity), statutes, regulations and by-laws, orders, rules, requirements, guidelines, policies and directions of all governmental authorities having jurisdiction, over the Lands, the Elevated Water Storage Facility, the Water Reclamation Facility, the STASWSS, or the City of St. Thomas, now or hereafter in force including without limitation, the *Safe Drinking Water Act, 2002* S.O. 2002, c. 32.

“Licence” means this agreement and all schedules attached hereto.

“Licensed Area” means the area located on the southern portion of the Lands, as more particularly shown on Schedule 'A' to this Licence.

“Property Taxes” means the aggregate of all taxes, rates, duties, levies, fees, charges (including local improvement charges) and assessments whatsoever, imposed, assessed, levied, rated or charged against or in respect of the Lands or any improvements thereon, from

time to time by any lawful taxing or assessing authority, whether school, municipal, regional, provincial, federal, or otherwise, and any taxes or other amounts which are imposed in lieu of, or in addition to, any of the foregoing whether or not in existence on the commencement of the Term and whether of the foregoing character or not, but excluding taxes on the income or profits of the City of St. Thomas except to the extent that they are levied in lieu of the foregoing.

Term” means the period commencing December 1, 2025 and continuing until terminated pursuant to Section 2.2.

Work” means the original installation of the Elevated Water Storage Facility and all maintenance, repairs, alterations, replacements and removal thereof.

ARTICLE 2 LICENCE

2.1 Licence

The City of St. Thomas hereby grants to STASWSS Board, for the Term, a non-assignable, non-exclusive license to install, maintain and operate the Elevated Water Storage Facility on the Licensed Area for the purpose of providing water supply and surge protection to the STASWSS Transmission Main and for no other use or purpose whatsoever, together with access to and egress from the Licensed Area. STASWSS Board acknowledges and agrees that the scope of this Licence is limited to the occupancy and use of the Licensed Area and agrees to provide a connection point for water servicing to the Dalewood Water Reclamation Facility property, the particulars of which will be determined through detailed design.

2.2 Terminable Without Cause

This Licence is terminable by STASWSS, without cause or recourse, on twelve (12) months' prior written notice to the City of St. Thomas.

2.3 No Property Rights Granted

STASWSS Board acknowledges that the rights granted under this Licence confer no property right, leasehold interest, or easement on or to the STASWSS Board in connection with the Licensed Area or the Lands. The Licensee's rights under this Licence are subordinate to the rights of all lenders, mortgagees, and secured creditors of the City of St. Thomas, and of all persons claiming by or through them.

ARTICLE 3 LICENCE FEE

3.1 Licence Fee

Intentionally Deleted.

ARTICLE 4
PROPERTY TAXES AND RECOVERABLE EXPENSES

4.1 Property Taxes

STASWSS Board shall pay any Property Taxes, or payments in lieu of taxes, assessed on either or both the Elevated Water Storage Facility and any associated water distribution pipeline and appurtenances connecting the Elevated Water Storage Facility to the existing transmission main, or against the City of St. Thomas or the Lands in connection therewith. If the City of St. Thomas for any reason whatsoever is required to pay all or part of any such taxes that is attributable to the Elevated Water Storage Facility, in whole or in part, STASWSS Board shall reimburse the City of St. Thomas for such amount paid by the City of St. Thomas forthwith on demand.

4.2 Annual Recoverable Expenses

STASWSS Board shall pay to the City, on demand, all invoices submitted by the City to STASWSS Board in respect of STASWSS Board's share (as allocated by the City of St. Thomas, acting reasonably) of those costs of operation incurred by the City of St. Thomas associated with STASWSS Board's installation, operation and use of the Elevated Water Storage Facility, including without limitation, repair and maintenance of the roadways, security, snow removal or any necessary alterations to the Lands in connection with STASWSS Board occupation of the Lands.

4.3 Electricity and Other Services

STASWSS Board shall be solely responsible to secure from Hydro One or other utility supplier, at STASWSS Board's sole cost and expense, all electricity and other utilities and communication services necessary to operate the Elevated Water Storage Facility; it being understood and agreed that the City of St. Thomas is under no obligation whatsoever to provide the same.

An electrical connection from the Dalewood Water Reclamation Facility transformer may be considered and approved by the City and shall be dependent on available capacity and accessibility; however the planning, design, construction, potential upsizing, alteration and operation of these hydro enhancements shall be at the sole expense of STASWSS Board including any sub-metering or reasonable hydro cost allocation from the City.

ARTICLE 5
LICENSEE'S WORK

5.1 Plans

STASWSS Board shall submit to the City details of the proposed Work including plans and specifications prepared by qualified architects or engineers, and such Work shall be completed by STASWSS Board in strict accordance with the plans and specifications approved in writing by the City. STASWSS Board shall promptly prepare and deliver to the City, at no cost to the City, one complete set of "as-constructed" drawings for the Work.

5.2 Compliance with Laws

All Work shall be planned and completed by STASWSS Board in strict compliance with all Laws. Prior to commencing any Work, STASWSS Board shall obtain at its sole expense all necessary permits, licenses and approvals.

5.3 Contractors to be Approved

All Work shall be performed promptly and in a good and workmanlike manner by fully qualified labourers who have all necessary skills, training and qualifications to perform the Work in question in accordance with the provisions of this Licence and all Laws, and in compliance with both the City' rules and regulations and its security and safety requirements.

5.4 The City of St. Thomas's Costs to be Reimbursed

STASWSS Board shall pay to the City forthwith upon request all of the City's reasonable costs including, without limitation, fees of architects, engineers and other consultants, incurred in dealing with STASWSS Board's request for the City's consent to any Work, whether or not such consent is granted. For all Work, STASWSS Board shall pay to the City forthwith upon request all out-of-pocket expenses paid or payable by the City to third parties in connection with the review and approval of STASWSS Board's plans and specifications and inspection and supervision of the Work.

5.5 Non-Compliance

If STASWSS Board performs any such Work without complying with all of the foregoing provisions of this Article 5, the City shall have the right to require STASWSS Board to remove such Work forthwith and restore and reinstate the Lands to their original condition.

5.6 No Construction Liens

STASWSS Board shall make all payments and take all steps as may be necessary to ensure that no lien is registered against the Lands or any portion thereof as a result of any work, services or materials supplied to STASWSS Board. STASWSS Board shall cause any such registrations to be discharged or vacated immediately after notice from the City, or within ten (10) days after registration, whichever is earlier. STASWSS Board shall indemnify and save harmless the City of St. Thomas and its agents from and against any liabilities, claims, liens, damages, costs and expenses, including legal expenses, arising in connection with any work, services or materials supplied to STASWSS Board. If STASWSS Board fails to cause any such registration to be discharged or vacated as aforesaid then, in addition to any other rights of the City of St. Thomas, the City may, but shall not be obliged to, discharge the same by paying the amount claimed into court, and the amounts so paid and all costs incurred by the City, including one hundred percent (100%) of all legal fees and disbursements incurred by the City in this regard, shall be paid by STASWSS Board to the City forthwith upon demand.

5.7 Maintenance of the Elevated Water Storage Facility

At all times throughout the Term, STASWSS Board, at its sole cost and expense, shall perform such maintenance, repairs and replacements as required to keep the Elevated Water Storage Facility, all contents thereof and all services and equipment located in or primarily

serving the Elevated Water Storage Facility (including without limitation, the associated water distribution pipeline on the Lands connecting the Elevated Water Storage Facility to existing transmission main, in first-class appearance and condition, and in accordance with all Laws and the City's reasonable requirements.

5.8 STASWSS Board Responsible for Damage to Roadways and Infrastructure

STASWSS Board agrees to carry out the Work in such a manner as to avoid causing any damage to any roadway, walkway, parking area, infrastructure or other improvements on the Lands. If any roadway, walkway, parking area, infrastructure or other such improvement on the Lands is damaged as a result of or arising from, in whole or in part, the Work, STASWSS Board shall forthwith on demand reimburse the City all of the City's reasonable costs including without limitation, fees for architects, engineers and other consultants, incurred in connection with the remedying of such damage. STASWSS Board further acknowledges and agrees that it shall install the Elevated Water Storage Facility so as to avoid any such damage, including without limitation, damage caused by or connected to the compression of the soils or substrata in the course of installing the Elevated Water Storage Facility. In furtherance of the foregoing, STASWSS Board agrees to jointly, in the presence of a representative of the City, inspect those parts of the Lands where the Elevated Water Storage Facility has been placed beneath any roadway, walkway, parking area, infrastructure or other such surface, on the City's request, not less than one time per year during each of the first three (3) years of the Term. The City of St. Thomas shall consult with STASWSS Board with respect to the remediation of any such damage, and the City of St. Thomas may at its sole option, require STASWSS Board to remediate any such damage, in which case such shall be deemed to be "**Work**" as defined herein.

ARTICLE 6 FURTHER COVENANTS OF LICENSEE

6.1 STASWSS Board's Insurance

STASWSS Board, or its contractor(s) or agent(s), as appropriate, shall provide and maintain throughout the Term of this Licence, Commercial General Liability insurance subject to limits of not less than FIVE MILLION DOLLARS (\$5,000,000) inclusive per occurrence for bodily injury, death and damage to property, including loss of use thereof. Such insurance policy shall be in the name of STASWSS Board, or its contractor(s) or agent(s) as appropriate, and shall include the City of St. Thomas and its agents as an additional insured thereunder. Prior to the commencement of any Work, STASWSS Board shall provide the City with proof that the required insurance is in place and in good standing and to promptly provide the City, on request, a certificate of insurance confirming the same. If STASWSS Board fails to provide or maintain the insurance required by this Section, the City shall have the right (but not the obligation) to provide and maintain such insurance, in which case the cost thereof shall be payable by the STASWSS Board to the City forthwith on demand. In the case of an insured loss, any deductible amount payable under STASWSS Board's insurance paid or absorbed by the City, shall be reimbursed by the STASWSS Board forthwith on demand.

STASWSS Board agrees to provide the City with thirty (30) days' prior written notice of any termination, cancellation or of any material change that would diminish the coverage of STASWSS Board's required insurance.

6.3 **Environmental**

In this Section:

“Contaminants” means any substance the storage, manufacture, disposal, treatment, generation, use, transport, remediation or Release into the Environment of which is now or hereafter prohibited, controlled, or regulated under applicable Laws and “substance” includes any sound, vibration, heat, radiation or other form of energy.

“Environment” means the components of the earth and includes:

- (a) air, land and water;
- (b) all layers of the atmosphere;
- (c) all organic and inorganic matter and living organisms; and
- (d) the interacting natural systems that include components referred to in this definition of Environment.

“Release” means, when used as a verb, to release, spill, leak, spray, inoculate, abandon, deposit, seep, throw, place, exhaust, pump, pour, emit, empty, discharge, inject, escape, leach, migrate, dispose of or dump, and when used as a noun, has a corresponding meaning.

STASWSS Board shall at all times during the Term observe and comply with and ensure that its Mayor and Council Members, servants, agents, employees, contractors and persons for whom the City of St. Thomas is in law responsible, observe STASWSS Board shall be solely responsible for any Contaminants at any time resulting from or arising in connection with the Elevated Water Storage Facility, or the installation, maintenance, operation or removal of the same, and shall be responsible for the remediation, clean-up and removal of the same and any damages caused by the occurrence, remediation, clean-up or removal of any of the same, and STASWSS Board shall indemnify the City in respect thereof.

Without limiting the generality of the foregoing, STASWSS Board shall:

- (a) promptly provide to the City a copy of any environmental site assessment, audit, Environmental report, or test results relating to the Environmental condition of the Licensed Area conducted by or for STASWSS Board at any time before, during, or after the Term or any renewal or extension thereof;
- (b) at the City’s request from time to time, provide The City with a certificate of a senior officer of STASWSS Board certifying that STASWSS Board is in compliance with all applicable Laws in connection with or related to the use or occupation of the Licensed Area and that there has been no Release of Contaminants at, on or under the Licensed Area in non-compliance with Laws, other than as disclosed in writing to the City;
- (c) remove, remediate and clean-up any Contaminants at, on or under the Licensed Area after the commencement of the Term to the extent necessary to ensure that none of such Contaminants exceed the applicable Site Condition Standards

set out in O. Reg. 153/04 levels as amended or replaced from time to time (collectively, the “**Remediation Work**”); and

- (d) upon the completion of the Remediation Work, STASWSS Board shall promptly deliver to the City a certificate from STASWSS Board’s qualified person confirming that concentrations of contaminants in soil and groundwater on and under the Licensed Area are less than the applicable Site Condition Standards of the Ontario Ministry of the Environment, Conservation and Parks.

6.4 Compliance with Laws

STASWSS Board shall be solely responsible for obtaining all necessary permits, licenses and approvals as may be necessary to permit STASWSS Board to install and operate the Elevated Water Storage Facility, as required by all applicable Laws.

STASWSS Board shall comply at its own expense with all applicable Laws respecting the use, condition and operation of the Elevated Water Storage Facility, and all equipment related thereto and contents thereof.

6.5 City of St. Thomas’s Insurance Not to be Affected

STASWSS Board shall not do or permit anywhere on the Lands anything which might: (i) result in any increase in the cost of any insurance policy of the City on the Lands or any improvements thereon; (ii) result in an actual or threatened cancellation of or adverse change to any insurance policy of the City on the Lands or improvements thereon; or (iii) be prohibited by any insurance policy of the City.

If the cost of any insurance policies of the City on the Lands or improvements is increased as a result of the Work or the Elevated Water Storage Facility, STASWSS Board shall pay the full amount of such increase to the City forthwith upon demand. STASWSS Board's responsibility for any increased cost of insurance as aforesaid shall be conclusively determined by a statement issued by the organization, company or insurer establishing the insurance rates for the relevant policy.

If there is an actual or threatened cancellation of or adverse change in any policy of insurance of the City on the Lands or improvements thereon by reason of anything done or permitted by STASWSS Board with respect to the Work or the Elevated Water Storage Facility, and if STASWSS Board fails to remedy the situation giving rise to such actual or threatened cancellation or change within twenty-four (24) hours after notice from the City, then the City may, at its option, either: (i) terminate this Licence forthwith by written notice; or, (ii) remedy the situation giving rise to such actual or threatened cancellation or change; all at the cost of STASWSS Board to be paid to the City forthwith upon demand.

6.6 Removal of the Elevated Water Storage Facility

The Elevated Water Storage Facility shall remain the property of the STASWSS Board throughout the Term notwithstanding the degree of affixation of the Elevated Water Storage Facility to the Lands.

On or before the expiry of the Term or forthwith following the earlier termination, repudiation or disclaimer of this Licence, STASWSS Board shall remove all or such part of the Work (including without limitation, the Elevated Water Storage Facility), as required by the City, and in so doing shall repair all damage resulting therefrom, and shall restore the Lands to their original condition prior to the installation and removal thereof, failing which the City may (but shall not be obligated to) do so, at the sole risk of the STASWSS Board and in which case, STASWSS Board shall forthwith on demand reimburse the City all its costs to do so.

6.7 City of St. Thomas Not Liable

The Elevated Water Storage Facility and all property kept, stored, or located therein or thereon shall be kept, stored, and located at the sole and absolute risk of STASWSS Board and STASWSS Board shall hold the City of St. Thomas harmless from all claims arising out of damage to it, including without limitation, any subrogated claim by STASWSS Board's insurers. STASWSS Board agrees that the City of St. Thomas shall not be liable or responsible in any way for any injury, loss or damage to the Work, the Elevated Water Storage Facility, or to any property contained therein or related thereto or used in connection therewith, no matter how caused and whether or not resulting from the negligence or gross negligence of the City of St. Thomas, its council members, servants, agents, employees, contractors or persons for whom the City of St. Thomas is in law responsible. Further, the City assumes no risk to any property or any person, and for greater certainty "person" includes STASWSS Board, its Council members, servants, agents, employees, contractors and persons for whom STASWSS Board is in law responsible. In each such case, STASWSS Board shall indemnify the City of St. Thomas and all of its Council members, servants, agents, employees, contractors and persons for whom the City of St. Thomas is in law responsible and hold such indemnities jointly and severally from and against any and all damages, losses, expenses, fines and penalties and all liabilities, claims, suits, actions or other proceedings by whomever made including one hundred percent (100%) of all legal fees and disbursements, arising therefrom. Without limiting or affecting the generality or interpretation of the foregoing, and notwithstanding the foregoing, it is agreed that the City of St. Thomas shall in no event be liable for any indirect or consequential damages suffered by STASWSS Board howsoever caused.

6.8 City of St. Thomas's Employees and Agents

Every indemnity, exclusion, release of liability and waiver of subrogation contained in this Licence for the benefit of the City of St. Thomas shall extend to and benefit all of the City of St. Thomas's council members, servants, agents, employees, and all others for whom the City of St. Thomas is in law responsible. Solely for such purpose, and to the extent that the City of St. Thomas expressly chooses to enforce the benefits of this Section for the foregoing persons, it is agreed that the City of St. Thomas is the agent or trustee for such persons.

6.9 Non-Liability of the City of St. Thomas

Without limiting the generality of Section 6.7, the City of St. Thomas shall not be liable for any damages, direct or indirect, resulting from or contributed to by any suspension, interruption or cessation in supply of any utilities to the Elevated Water Storage Facility. Without limiting the generality of the foregoing, the City of St. Thomas shall not be liable for, and STASWSS Board shall indemnify the City of St. Thomas against any and all direct, indirect or

consequential damages suffered by reason of the suspension, interruption or cessation in supply of any utilities to the Elevated Water Storage Facility. Further, STASWSS Board acknowledges and hereby expressly agrees that neither the City of St. Thomas, nor those for whom the City of St. Thomas is in law responsible, shall be in any way responsible or liable for the provision of water to be furnished by STASWSS Board to its end-users and customers by means of STASWSS Board's Elevated Water Storage Facility.

6.10 Rules and Regulations

The City of St. Thomas may from time to time make and amend reasonable rules and regulations with respect to access to the Lands, security and safety measures, and STASWSS Board and all persons under its control shall comply with all of such rules and regulations of which written notice is given to STASWSS Board, all of which shall be deemed to be incorporated into and form part of this Licence. The City of St. Thomas shall not make any rules or regulations which conflict with any express provision of this Licence, unless and only to the extent required by any applicable Laws. The City of St. Thomas shall act reasonably in enforcing such rules and regulations but shall not be liable for their non-enforcement.

6.11 Registration

STASWSS Board shall not register this Licence or any short form or notice hereof on title to the Lands.

ARTICLE 7 REPAIR

7.1 Repair by STASWSS Board

If any part of the Lands or any improvements thereon are damaged or destroyed through the act or omission of the STASWSS Board, its agents, or those for whom the STASWSS Board is responsible at law, STASWSS Board shall reimburse the City the cost of repairs or replacements promptly upon demand.

STASWSS Board expressly acknowledges and agrees that the City has no obligations with respect to the Elevated Water Storage Facility, all obligations being the sole responsibility of STASWSS Board.

7.2 Notice by STASWSS Board

STASWSS Board shall give immediate written notice to the City of any accident, defect or damage to any part of the Elevated Water Storage Facility, or any equipment or utility systems serving the Elevated Water Storage Facility, which comes to the attention of STASWSS Board or any of its council members, employees, agents or contractors, notwithstanding the fact that the City of St. Thomas may have no obligation in respect of the same.

ARTICLE 8 ALTERATIONS

8.1 Alterations

STASWSS Board shall not make any alteration, addition or improvement (each of the foregoing of which shall be considered to be "Work" for the purposes of this Licence) to the Elevated Water Storage Facility without the prior written approval of the City. The Work shall be done in accordance with Article 5 of this Licence.

ARTICLE 9 DEFAULT

9.1 Termination for Default.

If after five (5) Business Days written notice, STASWSS Board:

- (a) fails to comply with any of its obligations pursuant to this Licence, including without limitation, a failure to comply with the City's rules and regulations or the City's security and safety requirements; or
- (b) permits any conduct or act on the Licensed Area or the Lands which in the opinion of Licensor is improper;

then, in addition to its other remedies, the City may forthwith terminate this Licence, by notice in writing delivered to STASWSS Board, and may take possession of the Licensed Area without prejudice to Licensor's right of recovery for monies due and owing, and at the cost STASWSS Board remove all persons, property and improvements from the Licensed Area, by force if necessary, and the City shall not, nor shall any of its council members, servants, agents, employees, contractors or persons for whom the City is in law responsible, be liable in damages or otherwise by reason of such termination or removal.

9.3 Legal Expenses

If the City brings an action against STASWSS Board arising from an alleged breach of term, a covenant or condition in this Licence to be complied with by STASWSS Board, and the Court establishes that STASWSS Board is in breach of the term, covenant or condition, STASWSS Board shall pay to the City, on demand, all expenses incurred by the City in the action including one hundred percent (100%) of the legal fees and disbursements incurred by the City in this regard.

9.4 Waiver

The waiver by the City of a breach of any term, covenant or condition of this Licence shall not be considered to be a waiver of a subsequent breach of the term, covenant or condition or another term, covenant or condition. The subsequent acceptance of fees by the City shall not be considered to be a waiver of a preceding breach by STASWSS Board of a term, covenant or condition of this Licence, regardless of the City's knowledge of the preceding breach at the time of acceptance of the fee. No covenant, term or condition of this Licence shall be considered to have been waived by the City unless the waiver is in writing signed by the City.

**ARTICLE 10
ASSIGNMENT, SUBLETTING**

10.1 Assignment by STASWSS Board

STASWSS Board shall not assign, sublicense or part with this Licence, in whole or in part, or share the use of the Elevated Water Storage Facility with any other party, save and except emergency services telecommunications.

10.2 Assignment by the City of St. Thomas

If the City of St. Thomas sells, leases, mortgages or otherwise disposes of the Lands or any part thereof or assigns its interest in this Licence to the extent that the purchaser or assignee, as the case may be, agrees with the City to assume the covenants and obligations of the City hereunder, the City shall thereupon be released of all liability pursuant to the terms of this Licence.

**ARTICLE 11
DISPUTES**

11.1 Dispute Resolution

In the event of a controversy or dispute between the City and STASWSS Board arising out of or in connection with this Licence or regarding the interpretation of the provisions hereof, the Parties will attempt to resolve any dispute promptly through discussions at the operation level. In the event a resolution is not achieved, the disputing Party shall provide the other Party with written notice of the same and the Parties shall attempt to resolve such dispute between senior officers who have the authority to settle such dispute. All negotiations conducted by such officers shall be confidential and shall be treated as compromise and settlement negotiations. If the Parties fail to resolve such dispute within thirty (30) calendar days of the non-disputing Party's receipt of written notice, either Party may refer the matter of dispute to a single arbitrator, if the Parties agree upon one, otherwise to three arbitrators (one to be appointed by each Party and the third to be chosen by the first two appointed arbitrators). The determination of the arbitrator, or any two of the three arbitrators shall be binding upon the Parties and their respective successors and assigns.

**ARTICLE 12
GENERAL PROVISIONS**

12.1 Notices

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

- (a) in the case of the City of St. Thomas, to: City of St. Thomas
ATTN: City Clerk
545 Talbot Street

P.O. Box 520
City Hall
St. Thomas, Ontario N5P 3V7

- (b) in the case of the City of St. Thomas
STASWSS Board, to : ATTN: STASWSS Board of Management
C/O: City Engineer
545 Talbot Street
P.O. Box 520
City Hall
St. Thomas, Ontario N5P 3V7

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

12.2 Governing Law

This Licence shall be construed under the laws of the Province of Ontario.

12.3 Captions

The captions and headings of this Licence are for convenience and reference only and shall not affect the interpretation of this Licence.

12.4 No Agency or Partnership

Nothing in this Licence creates or shall be construed by the parties or by any third party as creating the relationship of principal and agent or of partnership or of joint venture, it being understood and agreed that neither the method of computation of fees nor any other provision, nor any acts of the parties create any relationship between the parties other than that of licensor and licensee.

12.5 Time of Essence

Time shall be of the essence of this Licence.

12.6 Entire Licence

The parties acknowledge that this Licence constitutes the entire agreement between the parties with respect to the Elevated Water Storage Facility and that there are no representations or warranties, oral or otherwise, except as are contained herein.

12.7 Partial Invalidity

If any term, covenant or condition of this Licence is held invalid or unenforceable, the remainder of this Licence or the application of the term, covenant or condition to persons or circumstances other than those to which it is held valid or unenforceable shall not be affected.

12.8 Interpretation

In this Licence, unless the context requires otherwise, words importing the singular include the plural; any reference to "STASWSS Board" includes the contractors, subcontractors, members of the Board, servants, employees, agents and invitees of the STASWSS Board and all others over whom the STASWSS Board might reasonably be expected to exercise control; "person" includes any individual, firm or corporation; "hereof", "herein", "hereunder" and similar expressions used in any section relate to the whole of this Licence and not to that section only.

12.9 Amendments in Writing

No amendment to this Licence shall bind the City of St. Thomas or STASWSS Board unless in writing and signed by both parties.

12.10 Successors

This Licence shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, executors, administrators, successors, assigns and other legal representatives except only that this Licence shall not inure to the benefit of any of such parties unless and only to the extent expressly permitted pursuant to the provisions of this Licence.

12.11 Monetary Amounts

Except as may be otherwise expressly provided herein, all monetary amounts set out in this Licence are in Canadian currency and are exclusive of Canadian Goods and Services Tax, Harmonized Sales Tax, and any other applicable sales taxes.

12.12 Counterparts and Electronic Copies

This Licence may be executed in any number of counterparts. Each executed counterpart shall be deemed to be an original and all executed counterparts taken together shall constitute one agreement. Each of the parties hereto may execute this Licence by signing any such counterpart. Each party hereto agrees that a copy of any signature page of this Licence with an electronic transmission of the signature of the person or persons signing this Licence on behalf of such party shall constitute all required evidence of the execution and delivery of this Licence by such party, it being agreed by the parties that execution of this Licence by electronic transmission is binding.

[Signature Page Follows]

IN WITNESS WHEREOF the parties have caused this Licence to be executed by the affixing of their proper seals attested by the signature of the proper persons duly authorized in that behalf, as of the date first written above.

SIGNED, SEALED AND
DELIVERED

In the presence of

THE CITY OF ST THOMAS

Per: _____

Name: Joe Preston

Title: Mayor

Per: _____

Name: Maria Konefal

Title: City Clerk

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

Per: _____

Name: Steve Peters

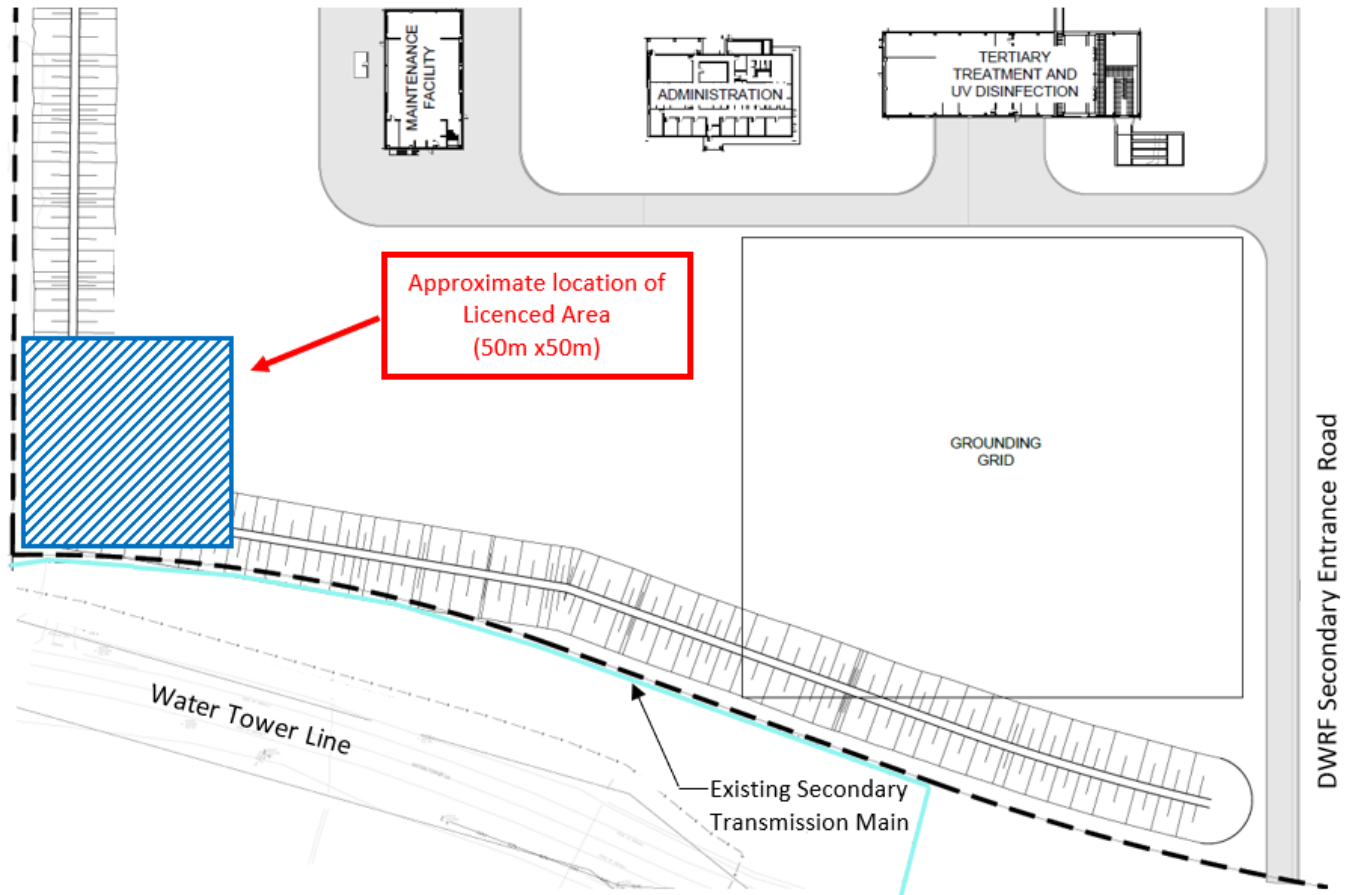
Title: Board Chair

Per: _____

Name: Kevin De Leebeeck

Title: City Engineer

**SCHEDULE A -
SKETCH SHOWING THE APPROXIMATE LOCATION AND AREA OF THE ELEVATED
WATER STORAGE FACILITY**





Report No.
SWB 08-25

File No.

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

Meeting Date:
October 16, 2025

Department: Environmental and Infrastructure Services

Attachment

Prepared By: Karel Kamerman, B.Sc., C.Tech.
Environmental Compliance Coordinator

2026 Draft STASWSS
Operations and Capital Budgets

Subject: 2026 STASWSS Operating Budget, Capital Forecast, and Water Rates

Recommendation:

- THAT: Report SWB 08-25 2026 STASWSS Operating Budget, Capital Forecast, and Water Rates be received for information, and;
- THAT: The St. Thomas Area Secondary Water Supply System 2026 Draft Operating Budget, as attached to this report be approved, and further;
- THAT: The St. Thomas Area Secondary Water Supply System 2026 Draft Capital Forecast, as attached to this report, be approved and further;
- THAT: The Secondary Rate for the St. Thomas Area Secondary Water Supply System of \$0.6824/m³, effective January 1, 2026, be approved.

Background:

The St. Thomas Area Secondary Water Supply System (STASWSS) obtains water from the Elgin Area Primary Water Supply System (EAPWSS) and provides wholesale drinking water directly to the City of St. Thomas, the Municipality of Central Elgin, the Township of Southwold and indirectly to the Municipality of Dutton-Dunwich.

The water rate charged to the STASWSS benefiting municipalities for each cubic meter of wholesale drinking water includes charges for direct cost recovery of the EAPWSS water supply expense and the Secondary Water Rate, which aims to recover the costs of maintenance and operations activities as well as build an adequate reserve balance to help fund future rehabilitation and renewal projects to ensure the ongoing reliability of the STASWSS.

Each of the benefitting municipalities then charges each of their users a consumption rate that is set such that each municipality may recover the expenses arising from the use of the EAPWSS, STASWSS and the operation, maintenance, rehabilitation, and renewal of their own local water distribution systems.

Analysis:

2026 Operating Budget

Water supply and demand projections have been reviewed as part of the 2026 operating budget development process to further refine revenue and water purchase expenses, based on recent system performance metrics. The 2026 budgeted volumes have been established by incorporating the principles and recommendations from the approved 2021 - 2031 Rate Study along with some adjustments to reflect the current volume projections, corresponding revenues, and water supply expenses. The long-term volume projections will be reviewed during revisions of the Water Rate Study, to be finalized in 2026, and compared to the long-term growth projections for each municipality.

2026 Capital Forecast

Staff have prepared a 5-year Capital forecast which has one project in 2026, the construction of an Elevated Water Storage Facility. This project includes the costs to construct a new elevated water storage facility, access road, electrical servicing, security fencing, and site restoration.

2026 Water Rate

It is recommended that the Secondary Water Rate for the St. Thomas Area Secondary Water Supply System be set at \$0.6824 per cubic meter (68.24¢ per cubic meter). This proposed 2026 rate represents a 3.25% increase from the current rate and is a 1.25% increase from the rate identified in the 2021 – 2031 STASWSS Water Rate Study. The increase above that recommended in the Rate Study is necessary to maintain sustainable funding as a result of evolving flow patterns, upcoming system renewal needs, new debt servicing, and higher inflationary pressures than were anticipated in the water rate study.

Future Rate Adjustments

As identified in the approved 2021 - 2031 Rate Study and Financial Plan, an annual increase of 2.0% is projected in the STASWSS Water Rate beyond 2026. This water rate projection is subject to revision as the update to the Water Rate Study will be finalized in 2026.

Reserve Funds

The Secondary Water Reserve Fund is required to provide a stable funding source for capital programs designed to maintain, renew and/or replace existing secondary system assets. Accordingly, annual contributions to the Secondary Water Reserve Fund should be relatively consistent and align with the projected lifecycle needs of the system. The 2021-2031 Rate Study estimates that the 2026 Reserve Fund contribution should be in the order of \$820,000. The 2024 year ending Secondary Water Reserve Fund balance is \$6,033,877.

Financial Considerations:

In order to meet the requirements of provincial water legislation and build an adequate reserve balance to help fund future rehabilitation and renewal projects, the Secondary Water Rate is recommended to increase from \$0.6609/m³ to \$0.6824/m³, a 3.25% increase.

The proposed rate increase would result in an annual water bill increase for the average customer (167 m³/year) of 0.18% (\$1.07), 0.55% (\$3.59) and 0.35% (\$3.59) for customers located in St. Thomas, Southwold, and Central Elgin, respectively.

Respectfully,



Karel Kamerman, B.Sc., C.Tech
Environmental Compliance Coordinator

Approved By:		
	Manager Development and Compliance	City Engineer

2026 STASWSS Operating Budget

Program	Rev/Exp	Account	Description	2024 Actuals	YTD Actuals	2024 Budget	2025 Budget	2026	2026	% Change
								Rate Study Forecast	Proposed Budget	
412 Secondary Water Operations	Revenue		Water Billing Recovery	(3,701,147)	(2,812,426)	(3,720,000)	(3,550,000)	(3,662,568)	(3,660,000)	3.10%
		4-40-41-412-2650	Interest Earned	(276,575)						0.00%
	Revenue Total			(3,977,721)	(2,812,426)	(3,720,000)	(3,550,000)	(3,662,568)	(3,660,000)	3.10%
	Expense	4-40-41-412-3029	Distributed Wages	36,968	36,017	58,700	60,600	52,108	152,800	152.15%
		4-40-41-412-3999	Job Costing Labour	72,244	76,336	60,000	70,000	54,056		-100.00%
		4-40-41-412-4042	Audit Fees	4,020	4,361	4,000	5,000		6,000	20.00%
		4-40-41-412-4075	Secondary Water System - Contractor	71,727	63,975	110,000	115,000	113,742	115,000	0.00%
		4-40-41-412-4141	Misc. Contracted Services	1,505	12,316	30,000	30,000	39,416	30,000	0.00%
		4-40-41-412-4152	SCADA Maintenance	28,892	22,955	15,000	20,000	11,374	25,000	25.00%
		4-40-41-412-4169	Job Costing Subcontractors	50,415	20,585	20,000	25,000	22,523	35,000	40.00%
		4-40-41-412-4172	Occupancy Fee	58,756	58,756	60,000	60,000	66,245	60,000	0.00%
		4-40-41-412-4179	Job Costing Equipment	9,730	10,272	8,500	9,400	9,572	9,500	1.06%
		4-40-41-412-4190	City Own Property Taxes	5,146	0	5,100	5,300	5,518	0	-100.00%
		4-40-41-412-4212	Insurance	32,600	27,900	32,600	37,200	19,618	36,200	-2.69%
		4-40-41-412-4251	CMMS Support Fee	1,977	3,429	3,300	3,400	3,322	2,500	-26.47%
		4-40-41-412-4252	Communications SCADA	26,991	18,899	23,300	25,000	22,523	27,000	8.00%
		4-40-41-412-5280	Purchase of Water	2,336,834	1,570,589	2,360,000	2,300,000	2,230,176	2,335,000	1.52%
		4-40-41-412-5410	Electricity (Hydro)	94,018	79,255	100,000	110,000	180,913	115,000	4.55%
		4-40-41-412-5438	Chemicals	16,908	7,383	10,000	10,000	5,631	10,000	0.00%
		4-40-41-412-5999	Job Costing Materials	4,768	11,023	2,000	3,000	1,137	3,500	16.67%
		4-40-41-412-7111	Transfer to Secondary Water Reserve Fund	1,115,769	0	817,500	661,100	819,062	697,500	5.51%
	Expense Total			3,977,721	2,024,052	3,720,000	3,550,000	3,662,568	3,660,000	3.10%

STASWSS - 5 year Capital Forecast

Division	Item	Capital Program	Project Type	2026	2027	2028	2029	2030
Development & Compliance	Ford Water Tower Design & Contract Administration/Inspection	Secondary	Design					
Development & Compliance	Secondary Transmission Main MTO Crossings	Secondary	Construction					
Development & Compliance	Ford Water Tower Replacement	Secondary	Replacement	\$ 8,200,000				
Development & Compliance	South Edgeware Road Upgrades - (Waterworks Park to Burwell Rd.)	Secondary	Replacement		\$ 24,600,000			
Development & Compliance	South Edgeware Road Upgrades - (Burwell Rd. to Highbury Ave.)	Secondary	Replacement			\$ 22,600,000		
		Secondary Reserve		\$ 6,000,000	\$ -	\$ -	\$ -	\$ -
		Secondary Debenture		\$ 2,200,000	\$ 4,100,000	\$ 4,600,000	\$ -	\$ -