

OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	260002187
Drinking-Water System Name:	St Thomas Water Distribution System
Drinking-Water System Owner:	Corporation of the City of St Thomas
Drinking-Water System Category:	WD Large Municipal Residential
Period being reported:	January 01 2016 through December 31 2016

<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, Ontario N5P 3V7	<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 []
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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

Drinking Water System Name	Drinking Water System Number
St. Thomas Psychiatric Hospital Water Supply	260005255
Municipality of Central Elgin	260004761
Township of Southwold (Lynhurst Subdivision)	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 []



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

☒ Public access/notice via the web

City of St. Thomas Website – www.city.st-thomas.on.ca

☒ Public access/notice via Government Office

☐ Public access/notice via a newspaper

☒ Public access/notice via Public Request

☐ Public access/notice via a Public Library

☐ Public access/notice via other method _____

Describe your Drinking-Water System

The St. Thomas Water Distribution System services over 14,500 customers including 831 customers within the Municipality of Central Elgin and 53 customers within the Township of Southwold (Lynhurst Subdivision). The system purchases its water from the Elgin Area Primary Water Supply System, which extends from Lake Erie to the City of London. The St. Thomas Distribution System consists of approximately 226,000 metres of water main ranging in size from 50 mm to 450 mm in diameter with the oldest installation in 1909. Material types include Asbestos Cement, Cast Iron, Concrete Ductile, Iron Polyethylene, and PVC.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite 12% (Disinfection/repairs)

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

Capital Improvements

Edward and Burwell Watermain Replacement - \$350,000

Talbot Street Watermain Replacement - \$200,000

Alexandria Avenue Watermain Replacement - \$160,000

Caso Crossing New Watermain installation-\$110,000

Watermain Relining for Water Quality Concerns - \$375,000

Ada Street Service Replacement-10,000

System Operations Maintenance Highlights

27 Valve Box Replacements, 5 Valve Replacements, 13 Services Replaced, 47 Service Box Replacements, 34 Main Breaks

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
February 23 2016	Total Coliform	87	cfu/100mL	Flushed and re-sampled	February 26 2016
December 29 2016	Total Coliform	1	cfu/100ml	Flushed and re-sampled	January 05 2017

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

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw					
Treated					
Distribution	704	(0)-(0)	(0)-(87)	648	(<10)-(>2000)
St. Thomas	626	(0)-(0)	(0)-(87)	570	(<10)-(>2000)
Central Elgin	65	(0)-(0)	(0)-(0)	65	(<10)-(>2000)
Southwold	13	(0)-(0)	(0)-(0)	13	(<10)-(30)

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

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity		
Chlorine on-line	8760	(0.0)-(2.00)
Sample Collection	709	(0.18)-(1.87)
Grab Cl2	1729	(0.19)-(1.98)
Fluoride (If the DWS provides fluoridation)		

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

NOTE: Record the unit of measure if it is **not** milligrams per litre.
The value of 0.0 was recorded in the continuous chlorine sampler as a result of equipment abnormality/SCADA issue/maintenance work or calibration.

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

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

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	December 08 2016	0.25	ug/l	No
Arsenic	December 08 2016	0.2	ug/l	No
Barium	December 08 2016	22.6	ug/l	No
Boron	December 08 2016	16	ug/l	No
Cadmium	December 08 2016	0.005	ug/l	No
Chromium	December 08 2016	0.47	ug/l	No
*Lead	December 08 2016	0.43	ug/l	No
Mercury	December 08 2016	0.01 <MDL	ug/l	No
Selenium	December 08 2016	0.17	ug/l	No
Sodium	December 08 2016	16.1	mg/l	No
Uranium	December 08 2016	.028	ug/l	No
Fluoride				
Nitrite				
Nitrate				

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

Summary of lead testing under Schedule 15.1 during this reporting period

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

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing			
Distribution	1	0.43	0

****The City is on the reduced sampling program.***

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Dec. 08 2016	<0.02 MDL	ug/l	No
Atrazine + N-dealkylated metabolites	Dec. 08 2016	0.05	ug/l	No
Azinphos-methyl	Dec. 08 2016	<0.05 MDL	ug/l	No
Benzene	Dec. 08 2016	<0.32 MDL	ug/l	No
Benzo(a)pyrene	Dec. 08 2016	<0.004 MDL	ug/l	No
Bromoxynil	Dec. 08 2016	<0.33 MDL	ug/l	No
Carbaryl	Dec. 08 2016	<0.05 MDL	ug/l	No
Carbofuran	Dec. 08 2016	<0.01 MDL	ug/l	No
Carbon Tetrachloride	Dec. 08 2016	<0.16 MDL	ug/l	No
Chlorpyrifos	Dec. 08 2016	<0.02 MDL	ug/l	No
Diazinon	Dec. 08 2016	<0.02 MDL	ug/l	No
Dicamba	Dec. 08 2016	<0.20 MDL	ug/l	No
1,2-Dichlorobenzene	Dec. 08 2016	<0.41 MDL	ug/l	No
1,4-Dichlorobenzene	Dec. 08 2016	<0.36 MDL	ug/l	No
1,2-Dichloroethane	Dec. 08 2016	<0.35 MDL	ug/l	No
1,1-Dichloroethylene (vinylidene chloride)	Dec. 08 2016	<0.33 MDL	ug/l	No
Dichloromethane	Dec. 08 2016	<0.35 MDL	ug/l	No
2-4 Dichlorophenol	Dec. 08 2016	<0.15 MDL	ug/l	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Dec. 08 2016	<0.19 MDL	ug/l	No
Diclofop-methyl	Dec. 08 2016	<0.40 MDL	ug/l	No
Dimethoate	Dec. 08 2016	<0.03 MDL	ug/l	No
Diquat	Dec. 08 2016	<1 MDL	ug/l	No

Diuron	Dec. 08 2016	<0.03 MDL	ug/l	No
Glyphosate	Dec. 08 2016	<1 MDL	ug/l	No
Malathion	Dec. 08 2016	<0.02 MDL	ug/l	No
MCPA	Dec. 08 2016	<0.00012 MDL	Mg/l	No
Metolachlor	Dec. 08 2016	<0.01 MDL	ug/l	No
Metribuzin	Dec. 08 2016	<0.02 MDL	ug/l	No
Monochlorobenzene	Dec. 08 2016	<0.30 MDL	ug/l	No
Paraquat	Dec. 08 2016	<1 MDL	ug/l	No
Pentachlorophenol	Dec. 08 2016	<0.15 MDL	ug/l	No
Phorate	Dec. 08 2016	<0.01 MDL	ug/l	No
Picloram	Dec. 08 2016	<1 MDL	ug/l	No
Polychlorinated Biphenyls(PCB)	Dec. 08 2016	<0.04 MDL	ug/l	No
Prometryne	Dec. 08 2016	<0.03 MDL	ug/l	No
Simazine	Dec. 08 2016	<0.01 MDL	ug/l	No
THM (NOTE: show latest annual average)	2016	17.5	ug/l	No
Terbufos	Dec. 08 2016	<0.01 MDL	ug/l	No
Tetrachloroethylene	Dec. 08 2016	<0.35 MDL	ug/l	No
2,3,4,6-Tetrachlorophenol	Dec. 08 2016	<0.20 MDL	ug/l	No
Triallate	Dec. 08 2016	<0.01 MDL	ug/l	No
Trichloroethylene	Dec. 08 2016	<0.44 MDL	ug/l	No
2,4,6-Trichlorophenol	Dec. 08 2016	<0.25 MDL	ug/l	No
Trifluralin	Dec. 08 2016	<0.02 MDL	ug/l	No
Vinyl Chloride	Dec. 08 2016	<0.17 MDL	ug/l	No

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

Parameter	Result Value	Unit of Measure	Date of Sample