



OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	260024999
Drinking-Water System Name:	South Chatham-Kent Drinking Water System
Drinking-Water System Owner:	Municipality of Chatham-Kent
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January - December 2016

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [X] No []</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Chatham-Kent PUC Office 325 Grand Ave E Box 1191 Chatham, ON N7M 5L8</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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

Drinking Water System Name	Drinking Water System Number
None	

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

Surface water for the South Chatham-Kent Drinking Water System is obtained from Lake Erie via an intake pipe and a raw water pumping station. The Kent County Raw Water Pumping Station supplies both the South Chatham-Kent Water Treatment Plant and the Chatham Water Treatment Plant with raw water. Raw water from the pumping station is pumped to the South Chatham-Kent Water Treatment Plant and is passed through microstrainers for fine particulate removal. Filtration is then provided by a dual train membrane filtration system equipped with hollow fiber membrane modules for 0.2 micron removal. Filtered water from the membrane units is then passed through granular activated carbon filters for taste and odour control. Filtered water is then disinfected with chlorine gas. Hydrofluosilicic acid is also added as an aid in the prevention of tooth decay. Filtered water is then discharged to the contact chambers and subsequently to the high lift pump well. Treated water from the high lift pump well is discharged by the high lift pumps to the distribution system. The distribution system for the South Chatham-Kent Drinking Water System also includes a reservoir/booster station and an elevated tank, both located in Blenheim, for the storage and supply of water to the system.

List all water treatment chemicals used over this reporting period

1. Chlorine Gas
2. Hydrofluosilicic Acid



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

Air compressor controller	\$2,300
UV transmittance on-line analyzer	\$2,500
Air compressor rebuild	\$3,000
Chlorinator replacements	\$8,286

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
June 22, 2016	Total Coliforms in a distribution sample	6	cfu/100 ml	Resample/re-test	June 24, 2016
June 27, 2016	Total Coliforms in a distribution sample	2	cfu/100 ml	Resample/re-test	June 29, 2016
October 17, 2016	Total Coliforms in a distribution sample	15	cfu/100 ml	Resample/re-test	October 19, 2016

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

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	52	(0) – (60)	(0) – (1500)	NA	NA
Treated	52	(0) – (0)	(0) – (0)	52	(<10) – (50)
Distribution	494	(0) – (0)	(0) – (15)	232	(<10) – (>3000)

* NDOGN – No Data Overgrown With Non Target Organisms

** NDOGT – No Data Overgrown With Target Organisms

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	8760	(0.001) – (0.856) NTU
Chlorine	8760	(1.17) – (4.90) mg/L
Fluoride (If the DWS provides fluoridation)	8760	(0.30) – (0.89) mg/L

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

*NOTE: Record the unit of measure if it is **not** milligrams per litre.*

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 2015	Result	Unit of Measure
Municipal Drinking Water Licence # 027-102 Table 3 and Table 7 Limit: 25 mg/L	Residue Management Suspended Solids	Jan 25, 2016	3	mg/L
		Feb 29, 2016	1	
		Mar 29, 2016	9	
		Apr 25, 2016	8	
		May 30, 2016	8	
		Jun 27, 2016	6	
		Jul 25, 2016	13	
		Aug 29, 2016	6	
		Sep 26, 2016	17	
		Oct 31, 2016	29	
		Nov 28, 2016	22	
		Dec 29, 2016	11	
			12 Month Avg	

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	Jan.11, 2016	<0.50	ug/L	No
Arsenic	Jan.11, 2016	<0.50	ug/L	No
Barium	Jan.11, 2016	17	ug/L	No
Boron	Jan.11, 2016	22	ug/L	No
Cadmium	Jan.11, 2016	<0.10	ug/L	No
Chromium	Jan.11, 2016	<5.0	ug/L	No
*Lead	See Schedule 15.1 Summary			
Mercury	Jan.11, 2016	<0.10	ug/L	No
Selenium	Jan.11, 2016	<2.0	ug/L	No
Sodium	Jan 11, 2016	9.6	mg/L	No
Uranium	Jan.11, 2016	0.51	ug/L	No
Fluoride	Continuous Monitoring Required: See Operational Section			
Nitrite	October 11, 2016	0.01	mg/L	No
Nitrate	October 11, 2016	0.12	mg/L	No

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

Summary of lead testing under Schedule 15.1 during this reporting period

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

Location Type	Number of Samples	Range of Lead Results ug/L (min#) – (max #)	Number of Exceedances / Adverses
Residential	NA		
Non-Residential	NA		
Distribution	NA		

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Jan.11, 2016	<0.50	ug/L	No
Atrazine + N-dealkylated metabolites	Jan.11, 2016	<1.0	ug/L	No
Azinphos-methyl	Jan.11, 2016	<2.0	ug/L	No
Benzene	Jan.11, 2016	<0.10	ug/L	No
Benzo(a)pyrene	Jan.11, 2016	<0.0090	ug/L	No
Bromoxynil	Jan.11, 2016	<0.50	ug/L	No
Carbaryl	Jan.11, 2016	<5.0	ug/L	No
Carbofuran	Jan.11, 2016	<5.0	ug/L	No
Carbon Tetrachloride	Jan.11, 2016	<0.10	ug/L	No
Chlorpyrifos	Jan.11, 2016	<1.0	ug/L	No
Diazinon	Jan.11, 2016	<1.0	ug/L	No
Dicamba	Jan.11, 2016	<1.0	ug/L	No
1,2-Dichlorobenzene	Jan.11, 2016	<0.20	ug/L	No
1,4-Dichlorobenzene	Jan.11, 2016	<0.20	ug/L	No
1,2-Dichloroethane	Jan.11, 2016	<0.20	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan.11, 2016	<0.10	ug/L	No
Dichloromethane	Jan.11, 2016	<0.50	ug/L	No
2-4 Dichlorophenol	Jan.11, 2016	<0.50	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan.11, 2016	<1.0	ug/L	No
Diclofop-methyl	Jan.11, 2016	<0.90	ug/L	No
Dimethoate	Jan.11, 2016	<2.5	ug/L	No
Diquat	Jan.11, 2016	<7.0	ug/L	No
Diuron	Jan.11, 2016	<10	ug/L	No
Glyphosate	Jan.11, 2016	<10	ug/L	No
Malathion	Jan.11, 2016	<5.0	ug/L	No
2 Methal-4-chlorophenoxyacetic acid (MCPA)	Jan.11, 2016	<0.00012	mg/L	No
Metolachlor	Jan.11, 2016	<0.50	ug/L	No
Metribuzin	Jan.11, 2016	<5.0	ug/L	No
Monochlorobenzene	Jan.11, 2016	<0.10	ug/L	No

Paraquat	Jan.11, 2016	<1	ug/L	No
Pentachlorophenol	Jan.11, 2016	<0.50	ug/L	No
Phorate	Jan.11, 2016	<0.50	ug/L	No
Picloram	Jan.11, 2016	<5.0	ug/L	No
Polychlorinated Biphenyls(PCB)	Jan.11, 2016	<0.05	ug/L	No
Prometryne	Jan.11, 2016	<0.25	ug/L	No
Simazine	Jan.11, 2016	<1.0	ug/L	No
THM (NOTE: show latest annual average) 2016 POE: Jan 11, 2016 – 12.8 ug/L	Jan 11, 2016 Apr 11, 2016 Jul 18, 2016 Oct 11, 2016 2016 Avg	24.5 23.7 41.4 37.6 31.8	ug/L	No
Terbufos	Jan.11, 2016	<0.50	ug/L	No
Tetrachloroethylene	Jan.11, 2016	<0.10	ug/L	No
2,3,4,6-Tetrachlorophenol	Jan.11, 2016	<0.50	ug/L	No
Triallate	Jan.11, 2016	<1.0	ug/L	No
Trichloroethylene	Jan.11, 2016	<0.10	ug/L	No
2,4,6-Trichlorophenol	Jan.11, 2016	<0.50	ug/L	No
Trifluralin	Jan.11, 2016	<1.0	ug/L	No
Vinyl Chloride	Jan.11, 2016	<0.20	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
None			

Summary of additional voluntary sampling and testing during this reporting period.

Parameter	Result Value	Unit of Measure	Date of Sample
Microcystin - Raw	<0.15	ug/L	Jun 6, 2016
Microcystin – Point of Entry	<0.15	ug/L	Jun 6, 2016
Microcystin – Distribution	<0.15	ug/L	Jun 6, 2016
Microcystin - Raw	0.28	ug/L	Jun 13, 2016
Microcystin – Point of Entry	0.22	ug/L	Jun 13, 2016
Microcystin – Distribution	0.26	ug/L	Jun 13, 2016
Microcystin - Raw	<0.15	ug/L	Jun 20, 2016
Microcystin – Point of Entry	<0.15	ug/L	Jun 20, 2016
Microcystin – Distribution	<0.15	ug/L	Jun 20, 2016
Microcystin - Raw	<0.15	ug/L	Jun 27, 2016
Microcystin – Point of Entry	<0.15	ug/L	Jun 27, 2016
Microcystin – Distribution	<0.15	ug/L	Jun 27, 2016
Microcystin - Raw	<0.15	ug/L	Jul 4, 2016
Microcystin – Point of Entry	Bottle Broken	ug/L	Jul 4, 2016
Microcystin – Distribution	<0.15	ug/L	Jul 4, 2016
Microcystin - Raw	<0.15	ug/L	Jul 11, 2016
Microcystin – Point of Entry	<0.15	ug/L	Jul 11, 2016
Microcystin – Distribution	<0.15	ug/L	Jul 11, 2016
Microcystin - Raw	<0.15	ug/L	Jul 18, 2016
Microcystin – Point of Entry	<0.15	ug/L	Jul 18, 2016
Microcystin – Distribution	<0.15	ug/L	Jul 18, 2016
Microcystin - Raw	<0.15	ug/L	Jul 25, 2016
Microcystin – Point of Entry	<0.15	ug/L	Jul 25, 2016



Microcystin – Distribution	<0.15	ug/L	Jul 25, 2016
Microcystin - Raw	<0.15	ug/L	August 2, 2016
Microcystin – Point of Entry	<0.15	ug/L	August 2, 2016
Microcystin – Distribution	<0.15	ug/L	August 2, 2016
Microcystin - Raw	<0.15	ug/L	August 8, 2016
Microcystin – Point of Entry	<0.15	ug/L	August 8, 2016
Microcystin – Distribution	<0.15	ug/L	August 8, 2016
Microcystin - Raw	<0.15	ug/L	August 15, 2016
Microcystin – Point of Entry	<0.15	ug/L	August 15, 2016
Microcystin – Distribution	<0.15	ug/L	August 15, 2016
Microcystin - Raw	<0.15	ug/L	August 22, 2016
Microcystin – Point of Entry	<0.15	ug/L	August 22, 2016
Microcystin – Distribution	<0.15	ug/L	August 22, 2016
Microcystin - Raw	<0.15	ug/L	August 29, 2016
Microcystin – Point of Entry	<0.15	ug/L	August 29, 2016
Microcystin – Distribution	<0.15	ug/L	August 29, 2016
Microcystin - Raw	<0.15	ug/L	September 6, 2016
Microcystin – Point of Entry	<0.15	ug/L	September 6, 2016
Microcystin – Distribution	<0.15	ug/L	September 6, 2016
Microcystin - Raw	<0.15	ug/L	September 12, 2016
Microcystin – Point of Entry	<0.15	ug/L	September 12, 2016
Microcystin – Distribution	<0.15	ug/L	September 12, 2016
Microcystin - Raw	<0.15	ug/L	September 19, 2016
Microcystin – Point of Entry	<0.15	ug/L	September 19, 2016
Microcystin – Distribution	<0.15	ug/L	September 19, 2016
Microcystin - Raw	<0.15	ug/L	September 26, 2016
Microcystin – Point of Entry	<0.15	ug/L	September 26, 2016
Microcystin – Distribution	<0.15	ug/L	September 26, 2016
Microcystin - Raw	<0.15	ug/L	October 3, 2016
Microcystin – Point of Entry	<0.15	ug/L	October 3, 2016
Microcystin – Distribution	<0.15	ug/L	October 3, 2016
Microcystin - Raw	<0.15	ug/L	October 11, 2016
Microcystin – Point of Entry	<0.15	ug/L	October 11, 2016
Microcystin – Distribution	<0.15	ug/L	October 11, 2016
Microcystin - Raw	<0.15	ug/L	October 17, 2016
Microcystin – Point of Entry	<0.15	ug/L	October 17, 2016
Microcystin – Distribution	<0.15	ug/L	October 17, 2016
Microcystin - Raw	<0.15	ug/L	October 24, 2016
Microcystin – Point of Entry	<0.15	ug/L	October 24, 2016
Microcystin – Distribution	<0.15	ug/L	October 24, 2016
Microcystin - Raw	<0.15	ug/L	October 31, 2016
Microcystin – Point of Entry	<0.15	ug/L	October 31, 2016
Microcystin – Distribution	<0.15	ug/L	October 31, 2016
Microcystin - Raw	<0.15	ug/L	November 7, 2016
Microcystin – Point of Entry	<0.15	ug/L	November 7, 2016
Microcystin – Distribution	<0.15	ug/L	November 7, 2016
Microcystin - Raw	<0.15	ug/L	November 14, 2016
Microcystin – Point of Entry	<0.15	ug/L	November 14, 2016
Microcystin – Distribution	<0.15	ug/L	November 14, 2016
Microcystin - Raw	<0.15	ug/L	November 21, 2016
Microcystin – Point of Entry	<0.15	ug/L	November 21, 2016
Microcystin – Distribution	<0.15	ug/L	November 21, 2016
Microcystin - Raw	<0.15	ug/L	November 28, 2016

Microcystin – Point of Entry	<0.15	ug/L	November 28, 2016
Microcystin – Distribution	<0.15	ug/L	November 28, 2016