



**OPTIONAL ANNUAL REPORT TEMPLATE**

<b>Drinking-Water System Number:</b>	260024999
<b>Drinking-Water System Name:</b>	South Chatham-Kent Drinking Water System
<b>Drinking-Water System Owner:</b>	Municipality of Chatham-Kent
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January - December 2018

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></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><b><u>Complete for all other Categories.</u></b></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>
--	---

**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 Service	\$ 4,357
Pressure Relief Valve	41,572
Traveling Screen	124,563
Reservoir Hydro Upgrade	10,270
Inspection: Tower, Standpipe, Reservoirs, Clearwells	8,983
Air Compressor Maintenance and New Oil Cooler	7,009
Chlorine Probe Replacement	2,671

**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
May 15	Total Coliform in a Distribution sample	1	cfu/100mL	Flush, Resample	May 15
May 29	Total Coliform in a Distribution sample	1	cfu/100mL	Flush, Resample	May 29
Nov 5	Total Coliform in a Distribution sample	1	cfu/100mL	Flush, Resample	Nov 6&7

**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 #)
<b>Raw</b>	52	0 – >2000	0 – NDOGT	0	N/A
<b>Treated</b>	52	0 – 0	0 – 0	52	<10 – 100
<b>Distribution</b>	468	0 – 0	0 – 1	468	<10 – 270

\*\* 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 #)
<b>Turbidity</b>	8760	0.0001 – 0.904 NTU
<b>Chlorine</b>	8760	0.58 – 2.89 mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8760	0.50 – 0.85 mg/L

*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 2018	Result	Unit of Measure
Municipal Drinking Water License # 027-102 Table 3 and Table 7 Limit: 25 mg/L	Residue Management Suspended Solids	Jan 22	25	mg/L
		Feb 26	20	
		Mar 28	6	
		Apr 23	8	
		May 28	14	
		Jun 25	6	
		Jul 31	6	
		Aug 27	3	
		Sep 24	16	
		Oct 22	9	
		Nov 26	18	
		Dec 27	24	

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	Jan 29	<0.50	ug/L	No
<b>Arsenic</b>	Jan 29	<1.0	ug/L	No
<b>Barium</b>	Jan 29	18	ug/L	No
<b>Boron</b>	Jan 29	17	ug/L	No
<b>Cadmium</b>	Jan 29	<0.10	ug/L	No
<b>Chromium</b>	Jan 29	<5.0	ug/L	No
<b>*Lead</b>	See Schedule 15.1 Summary			
<b>Mercury</b>	Jan 29	<0.1	ug/L	No
<b>Selenium</b>	Jan 29	<2.0	ug/L	No
<b>Sodium</b>	Jan 29	7.8	mg/L	No
<b>Uranium</b>	Jan 29	0.28	ug/L	No
<b>Fluoride</b>	Continuous Monitoring Required: See Operational Section			
<b>Nitrite</b>	Jan 29	<0.010	mg/L	No
	Apr 16	<0.010		
	Apr 16	<0.010		
	Jul 16	<0.010		
	Oct 15	<0.010		
<b>Average: &lt;0.010</b>				
<b>Nitrate</b>	Jan 29	0.30	mg/L	No
	Apr 16	0.23		
	Jul 16	0.17		
	Oct 15	0.17		
	<b>Average: 0.22</b>			
<b>Nitrite + Nitrate</b>	Jan 29	0.30	mg/L	No
	Apr 16	0.23		
	Jul 16	0.17		
	Oct 15	0.17		
	<b>Average: 0.22</b>			

\*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	0		
Non-Residential	0		
Distribution	8	<0.50 – 1.40	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Jan 29	<0.50	ug/L	No
Atrazine	Jan 29	<0.50	ug/L	No
Des-ethyl-atrazine	Jan 29	<0.50	ug/L	No
Atrazine + N-dealkylated metabolites	Jan 29	<1.0	ug/L	No
Azinphos-methyl	Jan 29	<2.0	ug/L	No
Benzene	Jan 29	<0.10	ug/L	No
Benzo(a)pyrene	Jan 29	<0.0090	ug/L	No
Bromoxynil	Jan 29	<0.50	ug/L	No
Carbaryl	Jan 29	<5.0	ug/L	No
Carbofuran	Jan 29	<5.0	ug/L	No
Carbon Tetrachloride	Jan 29	<0.10	ug/L	No
Chlorpyrifos (Dursban)	Jan 29	<1.0	ug/L	No
Diazinon	Jan 29	<1.0	ug/L	No
Dicamba	Jan 29	<1.0	ug/L	No
1,2-Dichlorobenzene	Jan 29	<0.20	ug/L	No
1,4-Dichlorobenzene	Jan 29	<0.20	ug/L	No
1,2-Dichloroethane	Jan 29	<0.20	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan 29	<0.10	ug/L	No
Dichloromethane	Jan 29	<0.50	ug/L	No
2-4-D	Jan 29	<1.0	ug/L	No
2-4 Dichlorophenol	Jan 29	<0.25	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan 29	<1.0	ug/L	No
Diclofop-methyl	Jan 29	<0.90	ug/L	No
Dimethoate	Jan 29	<2.5	ug/L	No
Diquat	Jan 29	<7.0	ug/L	No
Diuron	Jan 29	<10	ug/L	No
Glyphosate	Jan 29	<10	ug/L	No



<b>Haloacetic Acids</b> (NOTE: show latest annual average)	Jan 15, 2018 Apr 16, 2018 Jul 16, 2018 Oct 15, 2018 <b>2018 Avg</b>	<5.0 <5.0 19.0 <5.0 <b>8.5</b>	ug/L	No
<b>Malathion</b>	Jan 29	<5.0	ug/L	No
<b>2 Methal-4-chlorophenoxyacetic acid (MCPA)</b>	Jan 29	<10	mg/L	No
<b>Metolachlor</b>	Jan 29	<0.50	ug/L	No
<b>Metribuzin (Sencor)</b>	Jan 29	<5.0	ug/L	No
<b>Monochlorobenzene</b>	Jan 29	<0.10	ug/L	No
<b>Paraquat</b>	Jan 29	<1.0	ug/L	No
<b>Pentachlorophenol</b>	Jan 29	<0.50	ug/L	No
<b>Phorate</b>	Jan 29	<0.50	ug/L	No
<b>Picloram</b>	Jan 29	<5.0	ug/L	No
<b>Polychlorinated Biphenyls(PCB)</b>	Jan 29	<0.05	ug/L	No
<b>Prometryne</b>	Jan 29	<0.25	ug/L	No
<b>Simazine</b>	Jan 29	<1.0	ug/L	No
<b>Terbufos</b>	Jan 29	<0.50	ug/L	No
<b>Tetrachloroethylene</b>	Jan 29	<0.10	ug/L	No
<b>2,3,4,6-Tetrachlorophenol</b>	Jan 29	<0.50	ug/L	No
<b>THM</b> (NOTE: show latest annual average)	Jan 29, 2018 Apr 16, 2018 Jul 16, 2018 Oct 15, 2018 <b>2018 Avg.</b>	16.8 19.0 52.8 27.6 <u>29.0</u>	ug/L	No
<b>Toluene</b>	Jan 29	<0.20	ug/L	No
<b>Triallate</b>	Jan 29	<1.0	ug/L	No
<b>Trichloroethylene</b>	Jan 29	<0.10	ug/L	No
<b>2,4,6-Trichlorophenol</b>	Jan 29	<0.50	ug/L	No
<b>Trifluralin</b>	Jan 29	<1.0	ug/L	No
<b>Vinyl Chloride</b>	Jan 29	<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.**

<b>Parameter</b>	<b>Sample Date</b>	<b>Result: Raw – Before Treatment</b>	<b>Result: Point of Entry</b>	<b>Result: Distribution</b>	<b>Unit of Measure</b>
Microcystin	May 28	<0.150	<0.150	<0.150	ug/L
Microcystin	Jun 4	<0.150	<0.150	<0.150	ug/L
Microcystin	Jun 11	<0.150	<0.150	<0.150	ug/L
Microcystin	Jun 18	<0.150	<0.150	<0.150	ug/L
Microcystin	Jun 25	<0.150	<0.150	<0.150	ug/L
Microcystin	Jul 3	<0.150	<0.150	<0.150	ug/L
Microcystin	Jul 9	<0.150	<0.150	<0.150	ug/L
Microcystin	Jul 16	<0.150	<0.150	<0.150	ug/L
Microcystin	Jul 23	<0.150	<0.150	<0.150	ug/L
Microcystin	Jul 30	<0.150	<0.150	<0.150	ug/L
Microcystin	Aug 7	<0.150	<0.150	<0.150	ug/L
Microcystin	Aug 13	<0.150	<0.150	<0.150	ug/L
Microcystin	Aug 20	<0.150	<0.150	<0.150	ug/L
Microcystin	Aug 27	<0.150	<0.150	<0.150	ug/L
Microcystin	Sept 4	<0.150	<0.150	<0.150	ug/L
Microcystin	Sept 10	<0.150	<0.150	<0.150	ug/L
Microcystin	Sept 17	<0.150	<0.150	<0.150	ug/L
Microcystin	Sept 24	<0.150	<0.150	<0.150	ug/L
Microcystin	Oct 1	<0.150	<0.150	<0.150	ug/L
Microcystin	Oct 9	<0.150	<0.150	<0.150	ug/L
Microcystin	Oct 15	<0.150	<0.150	<0.150	ug/L
Microcystin	Oct 23	<0.150	<0.150	<0.150	ug/L
Microcystin	Oct 29	<0.150	<0.150	<0.150	ug/L
Microcystin	Nov 5	<0.150	<0.150	<0.150	ug/L
Microcystin	Nov 13	<0.150	<0.150	<0.150	ug/L
Microcystin	Nov 19	<0.150	<0.150	<0.150	ug/L
Microcystin	Nov 26	<0.150	<0.150	<0.150	ug/L