



ANNUAL REPORT

Drinking-Water System Number:	220003369
Drinking-Water System Name:	Ridgetown Drinking Water System
Drinking-Water System Owner:	Municipality of Chatham-Kent
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January - December 2020

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.**

Chatham-Kent PUC Office
325 Grand Ave E
Box 1191 Chatham, ON
N7M 5L8

**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

Ground water for the Ridgetown Drinking Water System is obtained through seven deep wells. The drinking water system is comprised of two treatment facilities, one located on Erie Street South and the other located on Scane Road.

The three wells, Well #1- Colby, Well #2 - Hitch, and Well #3A- Harris, supply raw water from submersible well pumps through a common pipe to the treatment system at the Erie Street site. Water from these wells is disinfected with sodium hypochlorite and then passed through a cascade aerator for methane gas reduction before being discharged into reservoirs on site. Treated water from the North and South reservoirs is subsequently discharged to the distribution system by high lift pumps.

The four Scane Wells, S1, S4, S5, and S7, supply raw water from submersible well pumps through a common pipe to the treatment system at the Scane Road site. Water from these wells is disinfected with sodium hypochlorite and then passed through a cascade aerator for methane gas reduction before being discharged into the reservoir on site. Treated water from the reservoir is subsequently discharged to the distribution system by high lift pumps.

Ridgetown Drinking Water System serves the community of Ridgetown, with the Ridgetown Elevated Tank providing storage, and also serves the community of Highgate, with the Highgate Reservoir and Booster Pumping Station providing storage.

Fluoride is naturally occurring in the source water in concentrations greater than the 1.5 mg/L Ontario Drinking Water Quality Standard. Sodium is also naturally occurring in the source water in concentrations greater than the 20 mg/L aesthetic objective.

List all water treatment chemicals used over this reporting period

1. Sodium Hypochlorite

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

Backup Genset (4 Tecumseh)	\$ 8,000
Scane Well 4 Camera Inspection	7,600
Turbidity Analyzer Replacement (Erie St. PS)	7,000
Scane Well 7 Camera Inspection	6,700
Turbidity Analyzer Replacement	6,100
Backflow Prevention Verification	4,300
Elevated Tank ROV Camera Inspection	2,500
Scane Reservoir ROV Camera Inspection	2,500
Gas Line Upgrade	2,500
Annual Genset Service	2,400
New Chlorine Analyzer Probe	3,000
Lab Supplies	1,900
Scane Well 5 Inspection	1,900
Analyzer Verifications	1,300

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
August 25	Total Coliform	1	cfu/100mL	Flush, resample & test.	August 27
September 15	Total Coliforms	3	cfu/100mL	Flush, resample & test.	September 18
September 22	Total Coliform	1	cfu/100mL	Flush, resample & test.	September 24

Microbiological testing done under the Schedule 10 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 Each Well	334	0 – 0	0 – 81	0	
Treated POE (Scane & Erie)	104	0 – 0	0 – 0	104	<10 - 10
Distribution	297	0 – 0	0 – 3	291	<10 - 80

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

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity Raw (Each Well)	287	0.150 – 0.840 NTU
Chlorine POE (Scane & Erie)	8760	0.57 – 2.50 mg/L
Fluoride	Fluoride Naturally Occurring	

***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 2020	Result Erie	Result Scane	Unit of Measure
June 26, 2003 letter from C-K Health Unit	Point of Entry - Fluoride H.U. Frequency: Annually	January 13	1.7	1.7	mg/L

Summary of Inorganic parameters tested during this reporting period or the most recent sample results. Sampled every 3 years under Schedule 13-2(1)(b).

Parameter	Sample Date	Result Value Erie	Result Value Scane	MAC Limit	Unit of Measure	Exceedance
Antimony	Jan 13, 2020	<0.50	<0.50	6	ug/L	No
Arsenic	Jan 13, 2020	<1.0	<1.0	10	ug/L	No
Barium	Jan 13, 2020	110	170	1000	ug/L	No
Boron	Jan 13, 2020	890	840	5000	ug/L	No
Cadmium	Jan 13, 2020	<0.10	<0.10	5	ug/L	No
Chromium	Jan 13, 2020	<5.0	<5.0	50	ug/L	No
*Lead	See Schedule 15.1 Summary					
Mercury	Jan 13, 2020	<0.1	<0.1	1.0	ug/L	No
Selenium	Jan 13, 2020	<2.0	<2.0	50	ug/L	No
Sodium	Jan 13, 2020	67	67	20	mg/L	Yes - Reported Dec 19, 2019 AWQI # 149305, 149306, 149307, and 149308
Uranium	Jan 13, 2020	<0.10	<0.10	20	ug/L	No
Fluoride	Jan 13, 2020	1.7	1.7	1.5	mg/L	Yes - Reported Jan 18, 2019 AWQI # 144561 & 144562
Nitrite	Oct 19, 2020	<0.010		1	mg/L	No
Nitrate	Oct 19, 2020	<0.10		10	mg/L	No
Nitrite	Oct 21, 2020		<0.010	1	mg/L	No
Nitrate	Oct 21, 2020		<0.10	10	mg/L	No

Summary of lead testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Lead Results ug/L (min#) – (max #)	MAC Limit ug/L	Number of Exceedances / Adverses
Residential	0			
Non-Residential	0			
Distribution	8	<0.50 – 0.55	10	0

Summary of Organic parameters sampled during this reporting period or the most recent sample results. Sampled every 3 years under Schedule 13-4(1)(b).

Parameter	Sample Date	Result Value Erie	Result Value Scane	MAC Limits	Unit of Measure	Exceedance
Alachlor	Jan 13&16, 2020	<0.5	<0.5	5	ug/L	No
Atrazine + N-dealkylated metabolites	Jan 13&16, 2020	<1.0	<1.0	5	ug/L	No
Azinphos-methyl	Jan 13, 2020	<2.0	<2.0	20	ug/L	No
Benzene	Jan 13, 2020	<0.10	<0.10	1	ug/L	No
Benzo(a)pyrene	Jan 13&16, 2020	<0.0050	<0.0050	0.01	ug/L	No
Bromoxynil	Jan 13&16, 2020	<0.5	<0.5	5	ug/L	No
Carbaryl	Jan 13&16, 2020	<5.0	<5.0	90	ug/L	No
Carbofuran	Jan 13&16, 2020	<5.0	<5.0	90	ug/L	No
Carbon Tetrachloride	Jan 13, 2020	<0.10	<0.10	2	ug/L	No
Chlorpyrifos (Dursban)	Jan 13&16, 2020	<1.0	<1.0	90	ug/L	No
Diazinon	Jan 13&16, 2020	<1.0	<1.0	20	ug/L	No
Dicamba	Jan 13&16, 2020	<1.0	<1.0	120	ug/L	No
1,2-Dichlorobenzene	Jan 13, 2020	<0.20	<0.20	200	ug/L	No
1,4-Dichlorobenzene	Jan 13, 2020	<0.20	<0.20	5	ug/L	No
1,2-Dichloroethane	Jan 13, 2020	<0.20	<0.20	5	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan 13, 2020	<0.10	<0.10	14	ug/L	No
Dichloromethane	Jan 13, 2020	<0.50	<0.50	50	ug/L	No
2-4 Dichlorophenol	Jan 13&16, 2020	<0.25	<0.25	900	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan 13&16, 2020	<1.0	<1.0	100	ug/L	No
Diclofop-methyl	Jan 13&16, 2020	<0.90	<0.90	9	ug/L	No
Dimethoate	Jan 13&16, 2020	<2.5	<2.5	20	ug/L	No



Diquat	Jan 13, 2020	<7.0	<7.0	70	ug/L	No
Diuron	Jan 13, 2020	<10	<10	150	ug/L	No
Ethylbenzene	Jan 13, 2020	<0.10	<0.10	140	ug/L	No
Glyphosate	Jan 13, 2020	<10	<10	280	ug/L	No
Haloacetic Acids (HAA) (Distribution)	Jan 13 Apr 6 Jul 13 Oct 19	<5.0 <5.0 <5.0 <5.0		80	ug/L	No
Running Annual Average:		<5.0				
Malathion	Jan 13&16, 2020	<5.0	<5.0	190	ug/L	No
2 Methal-4-chlorophenoxyacetic acid (MCPA)	Jan 13&16, 2020	<10	<10	100	ug/L	No
Metolachlor	Jan 13&16, 2020	<0.05	<0.05	190	ug/L	No
Metribuzin (Sencor)	Jan 13&16, 2020	<5.0	<5.0	80	ug/L	No
Monochlorobenzene	Jan 13, 2020	<0.10	<0.10	80	ug/L	No
Paraquat	Jan 13, 2020	<1.0	<1.0	10	ug/L	No
Pentachlorophenol	Jan 13&16, 2020	<0.50	<0.50	60	ug/L	No
Phorate	Jan 13&16, 2020	<0.50	<0.50	2	ug/L	No
Picloram	Jan 13&16, 2020	<5.0	<5.0	190	ug/L	No
Polychlorinated Biphenyls (PCB)	Jan 13, 2020	<0.05	<0.05	3	ug/L	No
Prometryne	Jan 13&16, 2020	<0.25	<0.25	1	ug/L	No
Simazine	Jan 13&16, 2020	<1.0	<1.0	10	ug/L	No
Terbufos	Jan 13&16, 2020	<0.50	<0.50	1	ug/L	No
Tetrachloroethylene	Jan 13, 2020	<0.10	<0.10	10	ug/L	No
2,3,4,6-Tetrachlorophenol	Jan 13&16, 2020	<0.50	<0.50	100	ug/L	No
Trihalomethanes (THM) (Distribution)	Jan 13 Highgate Jan 13 Ridgetown Apr 6 Highgate Apr 6 Ridgetown Jul 13 Highgate Jul 13 Ridgetown Oct 19	56.8 34.8 50.6 31.3 68.9 30.4 79.5		100	ug/L	No
Running Annual Average:		54.0				
Toluene	Jan 13, 2020	<0.20	<0.20	60	ug/L	No
Triallate	Jan 13&16, 2020	<1.0	<1.0	230	ug/L	No
Trichloroethylene	Jan 13, 2020	<0.10	<0.10	5	ug/L	No
2,4,6-Trichlorophenol	Jan 13&16, 2020	<0.50	<0.50	5	ug/L	No
Trifluralin	Jan 13&16, 2020	<1.0	<1.0	45	ug/L	No



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

Vinyl Chloride	Jan 13, 2020	<0.20	<0.20	1	ug/L	No
Xylenes	Jan 13, 2020	<0.10	<0.10	90	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 Erie	Result Value Scane	Unit of Measure	Date of Sample
Fluoride (naturally occurring)	1.7	1.7	mg/L	Jan 13, 2020
Trihalomethanes (THM)	54.0 (Running Annual Average)		µg/L	Jan 13, Apr 06, Jul 13 & Oct 19 of 2020

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

Date of Sample	Parameter	Result Value							Unit of Measure
		Colby Well # 1	Hitch Well # 2	Harris Well # 3A	Scane Well # 4	Scane Well #5	Scane Well # 7	Scane Well #1	
Jan 13, 2020	Nitrite - Raw Nitrate - Raw	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	mg/L
Apr 6, 2020	Nitrite - Raw Nitrate - Raw	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	
Jul 13, 2020	Nitrite - Raw Nitrate - Raw	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10			<0.010 <0.10	
Aug 4, 2020	Nitrite - Raw Nitrate - Raw					<0.010 <0.10			
Oct. 19, 2020	Nitrite - Raw Nitrate - Raw	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10	<0.010 <0.10			
Oct. 21, 2020	Nitrite - Raw Nitrate - Raw							<0.010 <0.10	