Drinking-Water System Number:	210000149
Drinking-Water System Name:	Amherstburg Water Treatment Plant
Drinking-Water System Owner:	Corporation of the Town of Amherstburg
Drinking-Water System Category:	Large municipal residential system
Period being reported:	January 1, 2019 to December 31, 2019

Complete if your Category is Large Municipal Residential or Small Municipal Residential

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.

Amherstburg Area Water Treatment Plant
Town of Amherstburg

Complete for all other Categories

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve?

N/A

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?

N/A

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
N/A	N/A

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.

[x] 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

A surface water treatment plant, rated capacity of 18,184 m^3/day, consisting of:
An intake crib 155 meters into the Detroit River and connected through a 900mm pipe to the Low Lift Pumping Station.
A low lift pumping station equipped with wet well, three vertical turbine pumps, a coarse bar screen, an automatic traveling screen and two 50mm chlorine solution feed lines and a chlorine diffuser.
A solids-contact upflow clarifier with overflow chamber, chemical feed line, sludge blow off line, sludge scraper and recirculation system.
Four rapid sand filters with dual media of anthracite and silica sand including a backwash system.
A filter effluent clearwell with transfer conduit to the reservoir.
A 14900m3 underground storage reservoir.
A high lift pumping station equipped with three vertical turbine pumps, a chlorine solution feed line/diffuser and a filter backwash pump.

List all water treatment chemicals used over this reporting period

Aluminum Sulphate	Polymer (Nalco 8103)
Powdered Activated Carbon	Polymer (Nalco 7763)
Chlorine Gas	Sodium Bisulphite

Were any significant expenses incurred to?

[x] Install required equipment
[x] Repair required equipment
[x] Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Installation Description	Cost
New Sample Line	$4,055.62
Ventilation System Installed for Sodium Bisulphite System	$4,781.70
Purchased New Chlorinators For Water Treatment Plant	$13,424.20
Fall Arrest System Fabrication	$1,180.42
Fabricated And Installed New Plates Around Travelling Screen	$4,263.74
Fabricated And Installed New Access Doors On Clarifier Dome	$8,201.86
Total	**$35,907.54**

Repaired Description	Cost
Carbon Feeder Repair	$2,681.67
Raised Floor In Chlorine Room To Repair Sinking Floor	$7,632.00
DWQMI Audit	$1,068.48
Repaired Drain Piping On 2nd Floor And In Receiving Garage	$1,321.86
Filter Gallery Light Upgrade	$1,183.76
Filter Gallery Light Upgrade	$1,420.52
Upgrade AWTP Parking Lot and Chlorine Receiving Station	$13,737.60
Total	**$29,045.89**

Replacement Description	Cost
Metal Cap Replacement Over East Roof Area	$4,579.20
Replace VFD Low Lift # 2 Cooling System	$3,475.47
Chlorine Kit B Vicon Washer Replacement	$1,142.95
Window Replacement	$107,967.36
Supplied and Installed New LED Lights in Main Stairwell	$1,383.94
Chemical Feed Pump	$4,897.85
Roof Thermal Scan	$1,911.05
Total	**$125,357.82**

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
N/A					

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

	No. of Samples Collected for period being reported	Range of E.Coli Or Fecal Results		Range of Total Coliform Results		Number of HPC Samples	Range of HPC Results	
		Minimum #	Maximum #	Minimum #	Maximum #		Minimum #	Maximum #
Raw Water	53	2	220	2	2000	0	N/A	N/A
Treated Water	53	0	0	0	0	53	10	20
Distribution Water	422	0	0	0	0	212	10	30

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

Parameter & Location	No. of Samples Collected for period being reported	Range of Results	
		Minimum	Maximum
Turbidity, In-House (NTU) - RW	365	2.6	84.9
Turbidity, In-House (NTU) - TW	365	0.02	0.07
Turbidity, On-Line (NTU) - Filt1	8760	0.018	1.201
Turbidity, On-Line (NTU) - Filt2	8760	0.021	2.007
Turbidity, On-Line (NTU) - Filt3	8760	0.02	2.002
Turbidity, On-Line (NTU) - Filt4	8760	0.02	2.001
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.098	1.85
Free Chlorine Residual, On-Line (mg/L) - PreD	8760	0.094	2.99
Free Chlorine Residual, TW Field (mg/L) Lab Upload - TW	25	1.07	1.26
Total Chlorine Residual, In-House (mg/L) - TW	365	1.1	1.48

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
License Number 026-101 Issued on 2015/03/02 Environmental Discharge	Filter Backwash			
	Suspended Solid	12/04/2019	965	mg/L
	Free Chlorine	12/04/2019	0.03	mg/L
	Filter Backwash			
	Suspended Solid	11/22/2019	2000	mg/L
	Free Chlorine	11/22/2019	0.02	mg/L
	Filter Backwash			
	Suspended Solid	10/07/2019	1540	mg/L
	Free Chlorine	10/07/2019	0.12	mg/L
	Filter Backwash			
	Suspended Solid	09/03/2019	1210	mg/L
	Free Chlorine	09/03/2019	0.02	mg/L
	Filter Backwash			
	Suspended Solid	08/12/2019	251	mg/L
	Free Chlorine	08/12/2019	0.12	mg/L
	Filter Backwash			
	Suspended Solid	07/09/2019	1770	mg/L
	Free Chlorine	07/09/2019	0.04	mg/L
	Filter Backwash			
	Suspended Solid	06/02/2019	78	mg/L
	Free Chlorine	06/02/2019	0.02	mg/L
	Filter Backwash			
	Suspended Solid	05/05/2019	457	mg/L
	Free Chlorine	05/05/2019	0.02	mg/L

	Filter Backwash			
	Suspended Solid	04/08/2019	632	mg/L
	Free Chlorine	04/08/2019	0.10	mg/L
	Filter Backwash			
	Suspended Solid	03/03/2019	197	mg/L
	Free Chlorine	03/03/2019	0.18	mg/L
	Filter Backwash			
	Suspended Solid	02/04/2019	131	mg/L
	Free Chlorine	02/04/2019	0.00	mg/L
	Filter Backwash			
	Suspended Solid	01/04/2019	115	mg/L
	Free Chlorine	01/04/2019	0.08	mg/L

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
License Number 026-101 Issued on 2015/03/02 **Environmental Discharge**	**Clarifier Solids Removal**			
	Suspended Solid	12/04/2019	3190	mg/L
	Free Chlorine	12/04/2019	0.04	mg/L
	Clarifier Solids Removal			
	Suspended Solid	11/22/2019	1830	mg/L
	Free Chlorine	11/22/2019	0.09	mg/L
	Clarifier Solids Removal			
	Suspended Solid	10/07/2019	3200	mg/L
	Free Chlorine	10/07/2019	0.00	mg/L
	Clarifier Solids Removal			
	Suspended Solid	09/03/2019	3240	mg/L
	Free Chlorine	09/03/2019	0.00	mg/L
	Clarifier Solids Removal			
	Suspended Solid	08/13/2019	2120	mg/L
	Free Chlorine	08/13/2019	0.42	mg/L
	Clarifier Solids Removal			
	Suspended Solid	07/09/2019	2680	mg/L
	Free Chlorine	07/09/2019	0.00	mg/L
	Clarifier Solids Removal			
	Suspended Solid	06/02/2019	1260	mg/L
	Free Chlorine	06/02/2019	0.03	mg/L
	Clarifier Solids Removal			
	Suspended Solid	05/06/2019	52	mg/L
	Free Chlorine	05/06/2019	0.04	mg/L
	Clarifier Solids Removal			
	Suspended Solid	04/08/2019	1520	mg/L
	Free Chlorine	04/08/2019	0.06	mg/L
	Clarifier Solids Removal			
	Suspended Solid	03/03/2019	1620	mg/L
	Free Chlorine	03/03/2019	0.03	mg/L

	Clarifier Solids Removal			
	Suspended Solid	02/04/2019	820	mg/L
	Free Chlorine	02/04/2019	0.05	mg/L
	Clarifier Solids Removal			
	Suspended Solid	01/04/2019	3340	mg/L
	Free Chlorine	01/04/2019	0.02	mg/L

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

Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2019/12/05	0.15	6.0	No	No
Arsenic: As (ug/L) - TW	2019/12/05	0.3	10.0	No	No
Barium: Ba (ug/L) - TW	2019/12/05	38.2	1000.0	No	No
Boron: B (ug/L) - TW	2019/12/05	17.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2019/12/05	0.013	5.0	No	No
Chromium: Cr (ug/L) - TW	2019/12/05	1.18	50.0	No	No
Mercury: Hg (ug/L) - TW	2019/07/02	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2019/12/05	0.12	50.0	No	No
Uranium: U (ug/L) - TW	2019/12/05	0.045	20.0	No	No

Additional Inorganics	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Fluoride (mg/L) - TW	2019/07/02	0.07	1.5	No	No
Nitrite (mg/L) - TW	2019/01/28	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2019/04/01	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2019/07/02	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2019/11/04	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2019/01/28	0.79	10.0	No	No
Nitrate (mg/L) - TW	2019/04/01	1.05	10.0	No	No
Nitrate (mg/L) - TW	2019/07/02	0.34	10.0	No	No
Nitrate (mg/L) - TW	2019/11/04	0.44	10.0	No	No
Sodium: Na (mg/L) - TW	2019/12/05	6.75	20*	No	No

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 Results		MAC	No. Exceeded
		Minimum	Maximum	(ug/L)	
Distribution Water - Lead Results (ug/L)	5	0.13	0.65	10	0
Distribution Water - Alkalinity (mg/L)	8	64	83	n/a	n/a

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

Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Alachlor (ug/L) - TW	2019/07/02	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2019/07/02	0.01	5.0	No	No
Azinphos-methyl (ug/L) - TW	2019/07/02	<MDL 0.05	20.0	No	No
Benzene (ug/L) - TW	2019/07/02	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L) - TW	2019/07/02	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2019/07/02	<MDL 0.33	5.0	No	No
Carbaryl (ug/L) - TW	2019/07/02	<MDL 0.05	90.0	No	No
Carbofuran (ug/L) - TW	2019/07/02	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L) - TW	2019/07/02	<MDL 0.17	2.0	No	No
Chlorpyrifos (ug/L) - TW	2019/07/02	<MDL 0.02	90.0	No	No
Diazinon (ug/L) - TW	2019/07/02	<MDL 0.02	20.0	No	No
Dicamba (ug/L) - TW	2019/07/02	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW	2019/07/02	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW	2019/07/02	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L) - TW	2019/07/02	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW	2019/07/02	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2019/07/02	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW	2019/07/02	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2019/07/02	<MDL 0.19	100.0	No	No
Diclofop-methyl (ug/L) - TW	2019/07/02	<MDL 0.4	9.0	No	No
Dimethoate (ug/L) - TW	2019/07/02	<MDL 0.06	20.0	No	No
Diquat (ug/L) - TW	2019/07/02	<MDL 1.0	70.0	No	No
Diuron (ug/L) - TW	2019/07/02	<MDL 0.03	150.0	No	No
Glyphosate (ug/L) - TW	2019/07/02	<MDL 1.0	280.0	No	No
Malathion (ug/L) - TW	2019/07/02	<MDL 0.02	190.0	No	No
Metolachlor (ug/L) - TW	2019/07/02	0.01	50.0	No	No
Metribuzin (ug/L) - TW	2019/07/02	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2019/07/02	<MDL 0.3	80.0	No	No
Paraquat (ug/L) - TW	2019/07/02	<MDL 1.0	10.0	No	No
PCB (ug/L) - TW	2019/07/02	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L) - TW	2019/07/02	<MDL 0.15	60.0	No	No
Phorate (ug/L) - TW	2019/07/02	<MDL 0.01	2.0	No	No
Picloram (ug/L) - TW	2019/07/02	<MDL 1.0	190.0	No	No
Prometryne (ug/L) - TW	2019/07/02	<MDL 0.03	1.0	No	No
Simazine (ug/L) - TW	2019/07/02	<MDL 0.01	10.0	No	No

Terbufos (ug/L) - TW	2019/07/02	<MDL 0.01	1.0	No	No
Tetrachloroethylene (ug/L) - TW	2019/07/02	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2019/07/02	<MDL 0.2	100.0	No	No
Triallate (ug/L) - TW	2019/07/02	<MDL 0.01	230.0	No	No
Trichloroethylene (ug/L) - TW	2019/07/02	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2019/07/02	<MDL 0.25	5.0	No	No
Trifluralin (ug/L) - TW	2019/07/02	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L) - TW	2019/07/02	<MDL 0.17	1.0	No	No

Distribution Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Trihalomethane: Total (ug/L) Annual Average - DW	2019/01/01	25.25	100.0	No	No
HAA Total (ug/L) Annual Average - DW	2019/01/01	9.775	80.0*	No	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
N/A			