

Amherstburg Area Water Treatment Plant



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, 2020 to December 31, 2020

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

Does your Drinking-Water System serve more than 10,000 people?

Yes No

Is your annual report available to the public at no charge on a web site on the Internet?

Yes 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 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

A surface water treatment plant, rated capacity of 18,184 m³/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?

- Install required equipment
- Repair required equipment
- Replace required equipment

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

Installation Description	Cost
New VFD for LL 2 Due to Life Cycle	\$7,637.09
Barrel Lift Assist for Drum	\$2,025.02
Air Relief Valve HL Pump 3	\$2,219.39
Davit Base	\$1,431.08
Lifeguard Protection Panel	\$4,295.62
Total	\$17,608.20

Repaired Description	Cost
Upgrade Parking Lot & Chlorine Receiving Station	\$4,579.20
Windows Upgrade Due to Life Cycle	\$55,357.44
Lighting Upgrade In Filter Room	\$3,200.86
Filter 3 Jet Wash Arm Reworked	\$1,048.13
Total	\$64,185.63

Replacement Description	Cost
Filter # 3 Underdrain Replacement	\$184,063.49
Filter 3 Replaced Pressure Transmitter Due to Life Cycle	\$1,146.02
Pre Wash For Filter # 3 Underdrain Replacement Due to Life Cycle	\$1,303.56
Filter 1 Replaced Pressure Transmitter Due to Life Cycle	\$1,113.18
Filter 2 Replaced Pressure Transmitter Due to Life Cycle	\$1,113.18
Filter # 3 Underdrain Replacement	\$54,787.58
Replaced Broken Toilet & Urinal in Men's Washroom	\$1,282.16
Filter 4 Replaced Pressure Transmitter Due to Life Cycle	\$1,113.18
10" Isolation Valve for HL # 2 Due to Life Cycle	\$14,027.62
G7 Compressors for WTP Due to Life Cycle	\$9,325.29
16" Flow Control Valve for Main Wash Due to Life Cycle	\$10,308.28
Total	\$279,583.54

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	52	2	530	30	15000	0	N/A	N/A
Treated Water	52	0	0	0	0	52	10	10
Distribution Water	416	0	0	0	0	208	10	10

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	366	3.3	135.4
Turbidity, In-House (NTU) - TW	366	0.02	0.09
Turbidity, On-Line (NTU) - Filt1	8760	0.015	0.805
Turbidity, On-Line (NTU) - Filt2	8760	0.02	2.007
Turbidity, On-Line (NTU) - Filt3	8760	0.018	2.001
Turbidity, On-Line (NTU) - Filt4	8760	0.02	1.152
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0	12.4
Free Chlorine Residual, On-Line (mg/L) - PreD	8760	0	1.9
Free Chlorine Residual, TW Field (mg/L) Lab Upload - TW	22	0.99	1.23
Total Chlorine Residual, In-House (mg/L) - TW	366	1.22	1.49

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	12/08/2020	1660	mg/L
	Free Chlorine	12/08/2020	0.10	mg/L
	Filter Backwash			
	Suspended Solid	11/02/2020	800	mg/L
	Free Chlorine	11/02/2020	0.26	mg/L
	Filter Backwash			
	Suspended Solid	10/05/2020	1140	mg/L
	Free Chlorine	10/05/2020	0.02	mg/L
	Filter Backwash			
	Suspended Solid	09/07/2020	1460	mg/L
	Free Chlorine	09/07/2020	0.05	mg/L
	Filter Backwash			
	Suspended Solid	08/04/2020	770	mg/L
	Free Chlorine	08/04/2020	0.01	mg/L
	Filter Backwash			
	Suspended Solid	07/08/2020	309	mg/L
	Free Chlorine	07/08/2020	0.10	mg/L
Filter Backwash				
Suspended Solid	06/01/2020	1260	mg/L	
Free Chlorine	06/01/2020	0.01	mg/L	
Filter Backwash				
Suspended Solid	05/03/2020	2870	mg/L	
Free Chlorine	05/03/2020	0.01	mg/L	

	Filter Backwash			
	Suspended Solid	04/06/2020	1870	mg/L
	Free Chlorine	04/06/2020	0.03	mg/L
	Filter Backwash			
	Suspended Solid	03/03/2020	2900	mg/L
	Free Chlorine	03/03/2020	0.59	mg/L
	Filter Backwash			
	Suspended Solid	02/03/2020	1060	mg/L
	Free Chlorine	02/03/2020	0.17	mg/L
	Filter Backwash			
	Suspended Solid	01/05/2020	1350	mg/L
	Free Chlorine	01/05/2020	0.01	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	12/08/2020	2740	mg/L
	Free Chlorine	12/08/2020	0.02	mg/L
	Clarifier Solids Removal			
	Suspended Solid	11/02/2020	1630	mg/L
	Free Chlorine	11/02/2020	0.02	mg/L
	Clarifier Solids Removal			
	Suspended Solid	10/05/2020	2530	mg/L
	Free Chlorine	10/05/2020	0.04	mg/L
	Clarifier Solids Removal			
	Suspended Solid	09/07/2020	2470	mg/L
	Free Chlorine	09/07/2020	0.02	mg/L
	Clarifier Solids Removal			
	Suspended Solid	08/04/2020	2320	mg/L
	Free Chlorine	08/04/2020	0.00	mg/L
	Clarifier Solids Removal			
	Suspended Solid	07/08/2020	3920	mg/L
	Free Chlorine	07/08/2020	0.01	mg/L
	Clarifier Solids Removal			
	Suspended Solid	06/01/2020	989	mg/L
Free Chlorine	06/01/2020	0.04	mg/L	
Clarifier Solids Removal				
Suspended Solid	05/03/2020	3160	mg/L	
Free Chlorine	05/03/2020	0.00	mg/L	
Clarifier Solids Removal				
Suspended Solid	04/06/2020	7590	mg/L	
Free Chlorine	04/06/2020	0.00	mg/L	
Clarifier Solids Removal				
Suspended Solid	03/03/2020	152	mg/L	
Free Chlorine	03/03/2020	0.00	mg/L	

	Clarifier Solids Removal			
	Suspended Solid	02/03/2020	6880	mg/L
	Free Chlorine	02/03/2020	0.00	mg/L
	Clarifier Solids Removal			
	Suspended Solid	01/05/2020	2630	mg/L
	Free Chlorine	01/05/2020	0.00	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	2020/07/07	0.13	6.0	No	No
Arsenic: As (ug/L) - TW	2020/07/07	0.3	10.0	No	No
Barium: Ba (ug/L) - TW	2020/07/07	14.0	1000.0	No	No
Boron: B (ug/L) - TW	2020/07/07	15.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2020/07/07	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2020/07/07	0.19	50.0	No	No
Mercury: Hg (ug/L) - TW	2020/07/07	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2020/07/07	0.14	50.0	No	No
Uranium: U (ug/L) - TW	2020/07/07	0.017	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	2020/07/07	<MDL 0.06	1.5	No	No
Nitrite (mg/L) - TW	2020/01/14	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/04/14	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/07/13	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/10/13	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2020/01/14	0.732	10.0	No	No
Nitrate (mg/L) - TW	2020/04/14	0.506	10.0	No	No
Nitrate (mg/L) - TW	2020/07/13	0.244	10.0	No	No
Nitrate (mg/L) - TW	2020/10/13	0.239	10.0	No	No
Sodium: Na (mg/L) - TW	2020/07/07	5.84	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 (ug/L)	No. Exceeded
		Minimum	Maximum		
Distribution Water - Lead Results (ug/L)	1	0.88	0.88	10	0
Distribution Water - Alkalinity (mg/L)	8	64	74	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	2020/07/07	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2020/07/07	0.05	5.0	No	No
Azinphos-methyl (ug/L) - TW	2020/07/07	<MDL 0.05	20.0	No	No
Benzene (ug/L) - TW	2020/07/07	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L) - TW	2020/07/07	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2020/07/07	<MDL 0.33	5.0	No	No
Carbaryl (ug/L) - TW	2020/07/07	<MDL 0.05	90.0	No	No
Carbofuran (ug/L) - TW	2020/07/07	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L) - TW	2020/07/07	<MDL 0.17	2.0	No	No
Chlorpyrifos (ug/L) - TW	2020/07/07	<MDL 0.02	90.0	No	No
Diazinon (ug/L) - TW	2020/07/07	<MDL 0.02	20.0	No	No
Dicamba (ug/L) - TW	2020/07/07	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW	2020/07/07	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW	2020/07/07	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L) - TW	2020/07/07	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW	2020/07/07	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2020/07/07	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW	2020/07/07	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2020/07/07	<MDL 0.19	100.0	No	No
Diclofop-methyl (ug/L) - TW	2020/07/07	<MDL 0.4	9.0	No	No
Dimethoate (ug/L) - TW	2020/07/07	<MDL 0.06	20.0	No	No
Diquat (ug/L) - TW	2020/07/07	<MDL 1.0	70.0	No	No
Diuron (ug/L) - TW	2020/07/07	<MDL 0.03	150.0	No	No
Glyphosate (ug/L) - TW	2020/07/07	<MDL 1.0	280.0	No	No
Malathion (ug/L) - TW	2020/07/07	<MDL 0.02	190.0	No	No
Metolachlor (ug/L) - TW	2020/07/07	0.03	50.0	No	No
Metribuzin (ug/L) - TW	2020/07/07	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2020/07/07	<MDL 0.3	80.0	No	No
Paraquat (ug/L) - TW	2020/07/07	<MDL 1.0	10.0	No	No
PCB (ug/L) - TW	2020/07/07	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L) - TW	2020/07/07	<MDL 0.15	60.0	No	No
Phorate (ug/L) - TW	2020/07/07	<MDL 0.01	2.0	No	No
Picloram (ug/L) - TW	2020/07/07	<MDL 1.0	190.0	No	No
Prometryne (ug/L) - TW	2020/07/07	<MDL 0.03	1.0	No	No
Simazine (ug/L) - TW	2020/07/07	<MDL 0.01	10.0	No	No

Terbufos (ug/L) - TW	2020/07/07	<MDL 0.01	1.0	No	No
Tetrachloroethylene (ug/L) - TW	2020/07/07	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2020/07/07	<MDL 0.2	100.0	No	No
Triallate (ug/L) - TW	2020/07/07	<MDL 0.01	230.0	No	No
Trichloroethylene (ug/L) - TW	2020/07/07	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2020/07/07	<MDL 0.25	5.0	No	No
Trifluralin (ug/L) - TW	2020/07/07	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L) - TW	2020/07/07	<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	2020/01/01	24.25	100.0	No	No
HAA Total (ug/L) Annual Average - DW	2020/01/01	12.075	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			