



February 25, 2019

The Corporation of the Municipality of Huron East  
72 Main St. S  
P.O. Box 610  
Seaforth, ON  
N0K 1W0

**Attention: Brad Knight, Administrator, Clerk-Treasurer**

**RE: Vanastra Supply System  
2018 Annual Report**

Dear Brad,

Please find attached the 2018 Annual Operations Report for the Vanastra Water System, in accordance with Section 11(1) of O. Reg. 170/03. This report covers the period from January 1 to December 31 and meets the requirement of being prepared by February 28 of this year.

Please ensure that a copy of this report is given, without charge, to every person who requests a copy. In addition, please make certain that effective steps are taken to advise residents that copies of the report are available, and of how a copy can be obtained.

As per Schedule 22 of O. Reg. 170/03, please ensure that at least a copy of the Summary Report is given to the members of municipal council no later than March 31, 2019.

Finally, please ensure that a letter is sent to Jacobs verifying that this report has been received and accepted by Council.

If you have any questions regarding the report, we would be pleased to address them and you should contact the undersigned accordingly.

Sincerely,

Jacobs (OMI Canada Inc.)

A handwritten signature in black ink, appearing to read "Lucas Egli", written over a horizontal line.

Lucas Egli

Project Manager  
Huron East Project  
519 955 2746

cc. B. Mills, Municipality of Huron East;

## 2018 ANNUAL REPORT FOR WATER SYSTEMS

### Part 1 – ANNUAL REPORT (as required by O. Reg. 170/03, Section 11)

<b>Drinking-Water System Number:</b>	210001585
<b>Drinking-Water System Name:</b>	Vanastra Water Works
<b>Drinking-Water System Owner:</b>	The Corporation of the Municipality of Huron East
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1-December 31, 2018

Complete if your Category is Large Municipal Residential or Small Municipal Residential	Complete for all other Categories
Does your Drinking-Water System serve more than 10,000 people? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number of Designated Facilities served:
Is your annual report available to the public at no charge on a web site on the Internet? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Did you provide a copy of your annual report to all Designated Facilities you serve? <input type="checkbox"/> Yes <input type="checkbox"/> No
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. <b>Town Office 72 Main St. S. Seaforth, ON</b>	Number of Designated Facilities served: Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? <input type="checkbox"/> Yes <input type="checkbox"/> No

#### 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	

**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?**

#### Indicate how you notified system users that your annual report is available, and is free of charge.

<input checked="" type="checkbox"/> Public access/notice via the web	<input checked="" type="checkbox"/> Public access/notice via Government Office	<input type="checkbox"/> Public access/notice via a newspaper
<input type="checkbox"/> Public access/notice via Public Request	<input type="checkbox"/> Public access/notice via a Public Library	<input type="checkbox"/> Public access/notice via a Public Library

#### Describe your Drinking Water System

**Water Distribution System Class 2 Including 1 Underground Reservoir and Booster Station**  
 The underground single cell reservoir is located at #12,5<sup>th</sup> Ave, Vanastra. It has a capacity of 1135 m<sup>3</sup>. 3 electric distribution high lift pumps are located on this site. Pump #1 is rated at 6.6 L/s at 48.8 m TDH, #2 is rated at 44.2 L/s at 40.2 m TDH, and pump #3 is rated at 105L/s at 25 m TDH.

List all water treatment chemicals used over this reporting period
12% Sodium hypochlorite solution

Please provide a brief description and a breakdown of monetary expenses incurred
A new Sensus OMNI-Meter 6 inch turbine flowmeter was installed. A new Grundfos DDA-7.5 chlorine pump was installed.

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	Units	Corrective Action	Corrective Action Date
None					

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 Results (min #) - (max #)	Range of Total Coliform Results (min #) - (max #)	Number of HPC Samples	Range of HPC Results (min #) - (max #)
Raw	n/a	n/a	n/a	n/a	n/a
Treated	52	0	0	52	<10-10
Distribution	104	0	0	52	<10-160

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 #)	Units
Turbidity	n/a	n/a	NTU
Chlorine	8760	0.44-3.11	mg/L
Fluoride (If the DWS provides fluoridation)	n/a		

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
None				

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	NA			
Arsenic	NA			
Barium	NA			
Boron	NA			
Cadmium	NA			
Chromium	NA			
Lead-sampling conducted by the Municipality of Huron East; see summary below				
Mercury	NA			
Selenium	NA			
Sodium	NA			
Uranium	NA			
Fluoride	NA			
Nitrite	NA			
Nitrate	NA			
Nitrite	NA			
Nitrate	NA			
Nitrite	NA			
Nitrate	NA			
Nitrite	NA			
Nitrate	NA			

Summary of Lead Results*				
Sampling Period	Range of Results (µg/L)	Non-residential	Distribution	Adverse Incidents?
Dec-15-17-Apr-15-18	0.09-0.16	N/A	2	No
Jun-15-18-Oct-15-18	0.05-0.08	N/A	2	No

Summary of Organic parameters tested during this reporting period or the most recent sample results				
Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	NA			
Aldicarb *	NA			
Aldrin + Dieldrin *	NA			
Atrazine + N-dealkylated metabolites	NA			
Azinphos-methyl	NA			
Bendiocarb *	NA			
Benzene	NA			
Benzo(a)pyrene	NA			
Bromoxynil	NA			
Carbaryl	NA			
Carbofuran	NA			
Carbon Tetrachloride	NA			
Chlordane (Total) *	NA			
Chlorpyrifos	NA			
Cyanazine *	NA			

Summary of Organic parameters tested during this reporting period or the most recent sample results				
Diazinon	NA			
Dicamba	NA			
1,2-Dichlorobenzene	NA			
1,4-Dichlorobenzene	NA			
Dichlorodiphenyltrichloroethane (DDT) + metabolites *	NA			
1,2-Dichloroethane	NA			
1,1-Dichloroethylene (vinylidene chloride)	NA			
Dichloromethane	NA			
2,4 Dichlorophenol	NA			
2,4-Dichlorophenoxy acetic acid (2,4-D)	NA			
Diclofop-methyl	NA			
Dimethoate	NA			
Dinoseb *	NA			
Diquat	NA			
Diuron	NA			
Glyphosate	NA			
Heptachlor + Heptachlor Epoxide *	NA			
Lindane (Total) *	NA			
Malathion	NA			
Methoxychlor *	NA			
Metolachlor	NA			
Metribuzin	NA			
Monochlorobenzene	NA			
Paraquat	NA			
Parathion *	NA			
Pentachlorophenol	NA			
Phorate	NA			
Picloram	NA			
Polychlorinated Biphenyls(PCB)	NA			
Prometryne	NA			
Simazine	NA			
THM (NOTE: show latest annual average)	Q1-Q4 2018	13.5	µg/L	No
Temephos *	NA			
Terbufos	NA			
Tetrachloroethylene	NA			
2,3,4,6-Tetrachlorophenol	NA			
Triallate	NA			
Trichloroethylene	NA			
2,4,6-Trichlorophenol	NA			
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T) *	NA			

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.				
Parameter	Sample Date	Result Value	Unit of Measure	ODWS Criteria
None				

## Part 2 – SUMMARY REPORT (as required by O. Reg. 170/03, Schedule 22)

### Non – Compliance with Legislations, Regulations, Approvals & Orders

During this period, the Facility was operated in full compliance with the Act, the regulations and the Facility's approval, save and except for the following:

Requirement	Duration of Failure	Measures to Correct the Failure
O. Reg 170 states that a distribution on-line chlorine analyzer must record a residual at least once every hour.	Eight gaps in data during the inspection Period from July 2016 to July 2017.	A written response was sent to the Ministry indicating SCADA recording changes made to correctly record the distribution residual.

System Capability Assessment		
Monthly Raw Water Taking (m <sup>3</sup> /d):		
Month	Average Flow	Maximum Flow
January	190	245
February	181	433
March	167	184
April	178	197
May	241	706
June	209	250
July	266	360
August	262	421
September	313	373
October	273	781
November	175	249
December	162	198
<b>AVERAGE</b>	<b>218</b>	<b>366</b>
<b>MAXIMUM</b>	<b>313</b>	<b>781</b>
<b>SYSTEM CAPACITY</b>	<b>1210</b>	<b>1210</b>
<b>% CAPACITY</b>	<b>18.0</b>	<b>64.5</b>
<b>Total Annual Flow: 79 690 m<sup>3</sup></b>		