Municipality Of Huron East
2012 Operations Report
Vanastra Wastewater Facilities
Reporting Period Jan-Dec 2012

1. Introduction

The inlet works consists of a manually raked bar screen, channel grinder, bypass piping, including overflow weir installed in the inlet structure, consisting of 375 mm diameter overflow pipe to the Flow Equalization Storage Tanks; and a bypass flow monitoring station. From the bar screen, the flow is directed to the primary clarifier, from which it is pumped by raw sewage pumps to the four aeration tank cells. Following aeration, settling takes place in the two final clarifiers. Effluent from the settling tanks is disinfected using sodium hypochlorite prior to discharge into Grant Creek. Sludge from the clarifiers is either returned to the aeration tanks or to the primary clarifier. All primary sludge is periodically wasted to the sludge holding tank. Scum from the primary clarifier is discharged to a scum pit; contents of the sludge pit are pumped to digester. Flows exceeding approximately 1600m3/day are diverted to the flow equalization storage tank downstream of the mechanical bar screens, The storm equalization tank is rectangular, with wash troughs for flushing of settled materials, which are gravity fed via Rotork control valve and are discharged with collected storm water into the main process flow. During high flow events, excess flow is diverted to a equalization storage tank. If the EQ tank is full, flow is then bypassed to Grant Creek. During short duration storm events, flow is stored and then drained back to the head of the plant during low flow periods. Alum is continuously injected into flow split chamber for the aeration tanks.

The sewage works, are owned by the Corporation of the Municipality of Huron East and operated by CH2MHill. The waste water collection System is both owned and operated by the municipality of Huron East.

2. Regulatory Issues

CH2MHILL has made every effort during the reporting period to operate this wastewater system in accordance with applicable laws, certificates and regulations. To the best of our knowledge, the following report truthfully and accurately reflects any and all matters of non-compliance regarding the ownership and operation of the wastewater treatment plant during the reporting period.

During this period, the plant was operated in full compliance with applicable laws, regulations and the WWTP'S Certificate of Approval, save and except the following:

	None during this period

Or

Requirement	Duration of Failure	Measures to Correct the Failure
E-coli	July	Increased chlorine from .2 to .25 in final effluient
E-coli	Aug	Increased chlorine from .25 to .35 in final effluient

3. Compliance with Quality/Quantity Criteria

Vanastra WWTP

Month	Average Volume/Day m^3/d	Plant Utilization (based on Avg. Day)	Max Volume/Day m^3/d
Jan	966	68.7%	1434
Feb	711	50.6%	1381
Mar	766	54.5%	1527
April	385	27.4%	558
May	320	22.7%	499
June	336	23.9%	494
July	289	20.6%	634
Aug	225	16.0%	352
Sept	287	20.4%	658
Oct	459	32.6%	973
Nov	462	32.9%	1035
Dec	676	48.1%	1410
Plant Average Day Design Capacity is 1405 m^3/d			

4. Quality Assurance/Quality Control

- Maxxam Analytics Inc. conducts the required physical, chemical and biological testing of influent and effluent from each WWTP.

5. Maintenance Summary

Vanastra WPCP

- Replace Alum pump
- Repairs to scum box in primary clarifier
- Remove/rebuild/reinstall #1 blower motor
- Drain/clean/inspect north secondary clarifier (return plugged).
- Replace 3 way valves with knife gate valves (Wellington Construction).
- Install new 6" valve in inlet line leading to #1 sludge pump.
- Rebuild # 1 Sludge pump. Install low level float in wet well.
- Replace sprocket and chain in drive unit on primary clarifier.

General

- Maintained aeration blowers, return pumps and sewage pumps
- Yearly Inspected and ran all diesel generators monthly
- Maintained all chemical pumps and injection systems.

6. Environmental/Operating Problems

- There were no unusual environmental/operating problems during 2012

7. Proposed Alterations, Extensions or Replacements

- None during this period

8. Calibration Procedures

- Flow meters were calibrated in 2012

9. Health & Safety Items

- Lifting equipment, Fire extinguishers, Gas monitors Monthly/Yearly inspections. Weekly Safety meeting along with Quarterly walk through completed for 2012

10. Status of Capital Projects

- None during this period

11. Other Items

- None

2012

MONTH: Jan

Vanastra STP
Operating Number 110003013 **YEAR 2012**
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East **ANALYST** Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Jan	5016	5137	45	47	10.0	0.9	2.0	15.0	0.39	0.05	53	7.15	9.8
2 9-Jan	4900	4921							0.27		10	6.94	9.1
3 16-Jan	4873	4835							0.33		16	7.03	10.1
4 23-Jan	4503	4250							0.34		26	7.22	9.4
5 30-Jan	4488	4487							0.28		28	8	10.4
6 /													
Number of tests			1	1	1	5	1	1	1	1	5	5	5
Monthly Average			45	47	10.0	0.9	2.0	15.0	0.32	0.05	23	7.19	9.76
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: Feb

Vanastra STP
Operating Number 110003013
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East

YEAR 2012

ANALYST Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 6-Feb	3971	4010	100	320	17.0	2.9	4.0	12.0	0.26	0.05	38	7.36	10.1
2 13-Feb	3996	3829							0.28		60	7.25	11.4
3 21-Feb	3890	3810							0.28		46	7.23	10.7
4 27-Feb	3720	3683							0.28		40	7.32	10.8
5 /													
6 /													
Number of tests			1	1	1	1	1	1	4	1	4	4	4
Monthly Average			100	320	17.0	2.9	4.0	12.0	0.28	0.05	45	7.29	10.75
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: March

Vanastra STP
Operating Number 110003013 **YEAR 2012**
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East **ANALYST** Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 5-Mar	4280	4140	53	82	14.0	2.00	2.0	9.0	0.24	0.05	39	7.07	10.9
2 12-Mar	4279	4306							0.25		33	7.14	10
3 19-Mar	3713	3946							0.22		24	7.08	9.4
4 26-Mar	3616	3694							0.22		46	7.31	10.4
5													
6													
Number of Tests			1	1	1	1	1	1	4	1	4	4	4
Monthly Average			53	82	14.0	2.0	2.0	9.0	0.23	0.05	35	7.15	10.18
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: **April**

Vanastra STP
Operating Number 110003013 **Year 2012**
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East **ANALYST** Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 2-Apr	4104	3448	170	80	22.0	3.0	2.0	1.0	0.02	0.05	99	7.21	10.2
2 10-Apr	3298	3287							0.16		52	7.41	9.3
3 18-Apr	3188	3169							0.13		39	7.31	9.5
4 23-Apr	3423	3281							0.61		510	7.14	9.5
5 30-Apr	3568	3594							0.16		42	7.26	9.2
6 /													
Number of tests			1	1	1	1	1	1	2	1	4	4	4
Monthly Average			170	80	22.0	3.0	2.0	1.0	0.22	0.05	84	7.27	9.54
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: May

Vanastra STP
Operating Number 110003013 **Year 2012**
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East **ANALYST** Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
7-May	3785	3837	160	170	32.0	3.2	2.0	7.0	0.14	0.05	65	7.26	8.3
14-May	3740	3740							0.20		80	7.30	8.3
22-May	4500	4170							0.18		880	7.11	7.6
28-May	3693	3650							0.17		200	7.17	8.0
/													
Number of tests			1	1	1	1	1	1	4	1	4	4	4
Monthly Average			160	170	32.0	3.2	2.0	7.0	0.17	0.05	174	7.21	8.05
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: Jun

Vanastra STP
Operating Number 110003013 **YEAR 2012**
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East **ANALYST** Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 4-Jun	4088	3971	100	110	27.0	2.9	2.0	12.0	0.17	0.05	200	6.98	8.4
2 11-Jun	4011	4016							0.05		76	7.19	8.55
3 18-Jun	4040	3899							0.07		52	6.85	8.4
4 25-Jun	4004	3931							0.06		1400	6.99	8.9
Number of tests			1	1	1	1	1	1	4	1	4	4	4
Monthly Average			100	110	27.0	2.9	2.0	12.0	0.09	0.05	182	7.00	8.56
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: **Jul**

Vanastra STP
Operating Number 110003013 **YEAR 2012**
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East **ANALYST** Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Jul	3668	3796	160	210	50.0	6.4	4.0	7.0	0.07	0.50	4200	6.87	6.8
2 9-Jul	3650	3500							0.16		4500	7.17	6.68
3 16-Jul	2607	2573							0.08		1200	7.19	5.86
4 23-Jul	1796	2440							0.84		82	6.75	4.05
5 30-Jul	1520	2861							0.74		16	7	4.94
6													
Number of tests			1	1	1	1	1	1	4	1	4	4	4
Monthly Average			160	210	50.0	6.4	4.0	7.0	0.38	0.50	495	7.01	5.67
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: Aug

Vanastra STP
Operating Number 110003013 **Year 2012**
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East **ANALYST** Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 7-Aug	0	2974	150	170	36.0	3.0	5.0	5.0	0.09	0.16	32	7.01	6.2
2 13-Aug	0	3815							0.10		2000	7.06	5.64
3 20-Aug	2615	2592							0.09		62	7.11	4.78
4 27-Aug	2955	2905							0.06		8600	7.1	7.18
5													
6 /													
Number of tests			1	1	1	1	1	1	4	1	4	4	4
Monthly Average			150	170	36.0	3.0	5.0	5.0	0.09	0.16	430	7.07	5.96
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: **Sep**

Vanastra STP
Operating Number 110003013 **Year 2012**
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East **ANALYST** Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 4-Sep	3126	3119	300	130	71.0	7.6	4.0	3.0	0.10	0.11	5	7.48	6.0
2 10-Sep	2715	2422							0.07		2	7.87	6.86
3 17-Sep	3438	3403							0.09		1	7.40	6.9
4 24-Sep	1347	1364							0.32		100	7.65	7.94
5													
6 /													
Number of tests			1	1	1	1	1	1	4	1	4	4	4
Monthly Average			300	130	71.0	7.6	4.0	3.0	0.14	0.11	6	7.60	6.93
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: **Oct**

Vanastra STP
Operating Number 110003013 **YEAR 2012**
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East **ANALYST** Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 1-Oct	3016	3007	150	170	72.0	8.2	3.0	7.0	0.19	0.05	22	7.58	7.2
2 9-Oct	3441	3375							0.20		4	7.62	7.58
3 15-Oct	3412	3505							0.27		45	7.54	6.08
4 22-Oct	3620	3714							0.19		28	7.25	8.83
5 29-Oct	3490	3531							0.17		95	7.56	7.63
6													
Number of tests			1	1	1	1	1	1	5	1	5	5	5
Monthly Average			150	170	72.0	8.2	3.0	7.0	0.20	0.05	25	7.51	7.47
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: **Nov**

Vanastra STP
Operating Number 110003013 **Year 2012**
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East **ANALYST** Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 5-Nov	3868	3871	66	100	30.0	1.9	2.0	6.0	0.31	0.05	75	7.75	9.8
2 13-Nov	3349	3322							0.27		70	7.55	7.61
3 19-Nov	3853	4036							0.26		400	7.67	7.72
4 26-Nov	2322	1926							0.16		53	7.62	8.38
5 29-Nov													
6 /													
Number of tests													
Monthly Average			66	100	30.0	1.9	2.0	6.0	0.25	0.05	103	7.65	8.38
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

MONTH: Dec

Vanastra STP
Operating Number 110003013
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East

Year 2012

ANALYST Maxxam

	MLSS		RAW INFLUENT				FINAL EFFLUENT						
Test # Date	North Aeration S.S.	South Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Dec	3381	3476	28	21	11.0	1.0	2.0	9.0	0.32	0.07	80	7.44	6.4
2 10-Dec	3597	3760							0.36		300	7.64	7.08
3 17-Dec	3915	4006							0.37		32	7.57	7.26
4 27-Dec	4918								0.41		64	7.66	8.19
5 /													
6 /													
Number of tests													
Monthly Average			28	21	11.0	1.0	2.0	9.0	0.37	0.07	84	7.58	7.24
Monthly Objectives							15.0	15.0	1.0		0		
Monthly/Yearly Limits							25.0	25.0	1.0		200		

Comments: pH of the effluent maintained between 6.0 to 8.5, inclusive,at all times

2012

BYPASS EVENTS **Bypass Events**

Vanastra S.T.P.
Operating Number 110003013
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East

YEAR 2012

ANALYST Maxxam

Date	Time/Volume of Event				Notification		Sampled		Results of Analyst						
Day Month	Start	Finish	Duration Hrs	Volume M3	Yes	No	Yes	No	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH
1															
2															
3															
4															
5															
6															
7															
8															

Comments: No by pass in 2012

O.M.I. Canada Cl2 Total Residuals Vanastra STP 2012

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		0.44	0.32		0.23	0.24		0.17		0.35	0.44	
2	0.58	0.48	0.43	0.16	0.21			0.27		0.40	0.31	
3	0.49	0.33		0.22	0.22		0.17	0.31		0.28		0.4
4	0.55			0.26	0.16	0.14	0.24		0.24	0.24		0.29
5	0.48		0.25	0.27		0.21	0.25		0.24	0.23	0.31	0.42
6	0.49	0.35	0.37			0.21	0.24		0.29		0.32	0.41
7		0.34	0.39	0.18	0.15	0.29		0.27	0.22		0.37	0.45
8		0.35	0.33		0.16	0.16		0.25			0.31	
9	0.44	0.33	0.21		0.16		0.23	0.35		0.40	0.33	
10	0.54	0.28		0.22	0.17		0.23	0.34	0.35	0.20		0.36
11	0.58			0.13	0.2	0.16	0.18		0.36	0.30		0.35
12	0.54		0.33	0.17		0.13	0.26	0.28	0.36	0.23		0.44
13	0.51	0.60	0.31	0.25		0.15	0.15	0.19	0.35		0.32	0.46
14		0.23	0.36		0.11	0.20	0.30		0.28		0.35	0.38
15		0.40	0.32		0.21	0.18	0.19			0.38	0.12	
16	0.61	0.34	0.32	0.22	0.2		0.23			0.33	0.40	
17	0.57	0.35		0.13	0.18		0.34		0.35	0.39		0.43
18	0.54			0.19	0.2	0.17	0.30		0.36	0.15		0.36
19	0.52		0.19	0.24		0.14	0.22		0.39	0.43	0.28	0.25
20	0.54		0.22	0.25		0.21	0.15	0.21	0.39		0.20	0.29
21		0.32	0.16			0.25		0.29	0.17		0.24	0.41
22		0.33	0.15		0.16	0.18		0.21		0.33	0.33	
23	0.45	0.24	0.16	0.19	0.2		0.31	0.23		0.41	0.21	
24	0.50	0.28		0.24	0.11		0.23	0.23	0.27	0.44		0.45
25	0.60			0.26	0.12	0.23	0.39		0.31	0.41		
26	0.43		0.16	0.20		0.10	0.40		0.28	0.35	0.24	
27	0.50	0.28	0.15	0.12		0.18	0.19	0.11	0.32		0.24	0.32
28		0.39	0.13		0.1	0.23		0.26	0.21		0.26	0.34
29		0.36	0.20		0.22	0.16		0.33		0.33	0.33	
30	0.27		0.27	0.25	0.22		0.35	0.38		0.31	0.32	
31	0.56				0.3		0.25	0.13		0.40		0.28
Total	11.29	7.02	5.73	4.15	3.99	3.92	5.8	4.81	5.74	7.29	6.23	7.09
Min.	0.27	0.23	0.13	0.12	0.1	0.1	0.15	0.11	0.17	0.15	0.12	0.25
Max	0.61	0.60	0.43	0.27	0.3	0.29	0.4	0.38	0.39	0.44	0.44	0.46
Avg.	0.51	0.35	0.26	0.21	0.18	0.19	0.25	0.25	0.30	0.33	0.30	0.37

O.M.I. Canada Influent Flows Vanastra STP 2012

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1262	1245	1107	640	572	585	469	481	459	484	1138	650
2	1116	1020	1143	604	549	557	470	668	454	483	1006	1459
3	947	894	1373	587	609	564	461	487	465	482	849	1188
4	885	837	1056	585	637	533	704	492	462	479	755	1276
5	822	796	904	572	589	521	524	477	458	487	642	1127
6	822	1033	945	577	581	517	500	478	456	505	603	901
7	874	714	879	574	554	512	498	562	456	533	579	786
8	885	690	944	580	583	507	507	481	583	532	553	832
9	875	672	833	578	582	589	492	668	523	487	550	800
10	780	649	797	565	553	534	488	487	477	545	548	786
11	763	710	743	576	542	522	483	492	468	524	556	1063
12	850	975	796	554	547	611	480	477	472	543	751	961
13	883	635	1329	552	556	547	469	478	466	550	673	676
14	796	599	1015	563	535	521	455	562	598	1020	623	654
15	772	594	999	589	527	508	468	486	505	923	592	647
16	767	693	1006	564	524	506	472	528	592	705	563	760
17	1292	674	886	544	553	582	463	537	477	645	562	736
18	1307	680	827	546	510	555	463	523	484	593	555	705
19	1029	669	754	545	514	615	721	899	695	557	551	683
20	868	653	715	569	501	601	460	1684	659	695	539	753
21	793	658	689	585	515	505	454	1535	585	656	523	998
22	762	703	669	575	521	488	467	1475	529	589	676	873
23	1161	712	655	590	507	483	485	514	642	1194	604	795
24	1268	797	666	549	496	504	471	486	740	743	582	724
25	965	805	664	535	500	493	470	489	563	649	597	665
26	875	782	632	534	499	480		556	522	592	617	657
27	1084	761	622	530	510	470		536	503	575	616	685
28	999	744	632	538	501	468		471	493	555	625	607
29	886	808	602	552	530	473		469	493	661	638	608
30	800		594	567	505	461		462	500	822	663	595
31	873		603		493			463		819		581
Total	29061	22202	26079	17019	16695	15812	12394	19403	15779	19627	19329	25231
Min.	762	594	594	530	493	461	454	462	454	479	523	581
Max	1307	1245	1373	640	637	615	721	1684	740	1194	1138	1459
Avg.	937	766	841	567	539	527	496	626	526	633	644	814

O.M.I. Canada Effluent Flows Vanastra STP 2012

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1375	1381	1221	558	411	494	251	222	169	218	1035	462
2	1183	1078	1239	416	341	432	230	294	144	236	981	1410
3	965	905	1527	401	389	416	266	229	173	267	777	1150
4	917	835	1090	409	499	362	634	266	229	246	638	1270
5	835	779	866	388	385	321	342	195	177	255	486	1089
6	829	1069	867	389	368	298	295	232	191	286	429	807
7	892	702	856	358	384	280	317	317	209	313	385	667
8	899	634	980	399	395	294	326	222	412	226	344	719
9	899	613	825	394	413	414	258	294	286	234	362	670
10	763	582	773	416	375	279	257	229	207	322	366	650
11	742	570	629	420	312	332	229	266	191	299	394	985
12	846	569	776	335	361	487	214	195	241	310	621	906
13	902	521	1404	320	333	366	194	232	193	341	520	545
14	698	485	937	376	289	293	207	317	416	973	455	511
15	700	461	965	405	267	277	240	339	281	868	404	499
16	760	664	906	349	327	288	218	315	231	581	362	669
17	1434	622	768	352	329	475	223	352	221	515	369	615
18	1415	642	667	343	249	403	322	319	272	460	375	556
19	1100	596	571	332	222	348	297	144	396	384	352	517
20	853	549	512	388	202	230	196	0	325	578	310	608
21	736	606	418	460	277	314	197	0	313	504	277	933
22	771	628	395	402	319	303	242	0	332	409	495	719
23	1250	647	483	465	255	290	345	82	432	945	373	652
24	1429	783	584	397	267	360	226	244	658	678	320	560
25	1019	780	562	310	248	333	226	215	632	519	352	486
26	884	754	516	364	252	302	343	321	310	453	385	451
27	1201	711	500	337	335	386	492	335	239	416	403	421
28	1065	645	511	330	236	244	441	201	236	377	404	367
29	895	806	487	329	334	234	440	242	239	515	436	370
30	817		460	418	271	224	232	174	243	759	461	353
31	879		451		284		252	175		743		337
Total	29953	20617	23746	11560	9929	10079	8952	6968	8598	14230	13871	20954
Min.	698	461	395	310	202	224	194	0	144	218	277	337
Max	1434	1381	1527	558	499	494	634	352	658	973	1035	1410
Avg.	966	711	766	385	320	336	289	225	287	459	462	676

Municipality of Huron East Vanastra STP Monthly/Yearly Average Lab Results

RAW SEWAGE					FINAL EFFLUIENT							MONTHLY FLOWS			
Test Date	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	DO	Total	Min	Max	Avg
Jan	45	47	10.0	0.9	2.0	15.0	0.32	0.05	23	7.19	9.8	29953	698	1434	966
Feb	100	320	17.0	2.9	4.0	12.0	0.28	0.05	45	7.29	10.8	20617	461	1381	711
Mar	53	82	14.0	2.0	2.0	9.0	0.23	0.05	35	7.15	10.2	23746	395	1527	766
Apr	170	80	22.0	3.0	2.0	1.0	0.22	0.05	84	7.27	9.5	11560	310	558	385
May	160	170	32.0	3.2	2.0	7.0	0.17	0.05	174	7.21	8.1	9929	202	499	320
Jun	100	110	27.0	2.9	2.0	12.0	0.09	0.05	182	7.00	8.6	10079	224	494	336
Jul	160	210	50.0	6.4	4.0	7.0	0.38	0.50	495	7.01	5.7	8952	194	634	289
Aug	150	170	36.0	3.0	5.0	5.0	0.09	0.16	430	7.07	6.0	6968	0	352	225
Sep	300	130	71.0	7.6	4.0	3.0	0.14	0.11	6	7.60	6.9	8598	144	658	287
Oct	150	170	72.0	8.2	3.0	7.0	0.20	0.05	25	7.51	7.5	14230	218	973	459
Nov	66	100	30.0	1.9	2.0	6.0	0.25	0.05	103	7.65	8.4	13871	277	1035	462
Dec	28	21	11.0	1.0	2.0	9.0	0.37	0.07	84	7.58	7.2	20954	337	1410	676
Yearly															
Total												179457			
Average	124	134	32.7	3.6	2.8	7.8	0.23	0.10	74	7.29	8.2	14955	288	913	490
Minimum	28	21	10.0	0.9	2.0	1.0	0.09	0.05	6	7.00	5.7	6968	0	352	225
Maximum	300	320	72.0	8.2	5.0	15.0	0.38	0.50	495	7.65	10.8	29953	698	1527	966