Deep River Wastewater System

Waterworks # 120000612

Annual Report

Prepared For: Town of Deep River

Reporting Period of January 1st – December 31st, 2018

Issued: Mar 19th, 2019

Revision: 0

Operating Authority:

OCWA

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

This report has been prepared to meet the requirements set out in the facility ECA #1655-7P8SPE issued February, 26, 2009.

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Facility Overview / Process Description

The Deep River Sewage Treatment Plant (STP) accepts and treats the Town of Deep River's domestic sewage. The goal is to treat the sewage to produce an effluent that meets the guidelines as outlined in the Environmental Compliance Approval (ECA) # 1655-7P8SPE. The treated effluent is returned into the Ottawa River.

Inlet Works

The sewage from the collection system accumulates into a wet well. The wet well is equipped with two variable speed pumps that pump the influent into the plant. These pumps operate alternately as duty and stand-by.

The force main enters the plant in the basement. The flow is then split between two sewage grinders. These units are equipped with by-pass piping and isolation valves for maintenance purposes.

Grit Removal

The flow is piped from the sewage grinders to a pressurized vortex grit removal unit (Tea Cup). The grit is collected into the conical section of the vortex creating a slurry. This slurry is pumped upstairs to a dewatering unit. The dewatered grit is disposed into a covered dumpster and is then disposed to a local landfill site. The water from the unit is drained by gravity to a process sump pump located in the basement. There are isolation valves and valve by-pass for maintenance purposes.

The raw sewage flow continues on to the inlet header of the Sequencing Batch Reactors (SBR's).

Plant By-Pass

There is an elevated plant by-pass pipe connected upstream of the sewage grinder and re-connecting at the SBR inlet header. The by-pass pipe rises to an elevation greater than the maximum expected head loss across the sewage grinders, before returning the raw sewage to the SBR. This by-pass is designed to relieve high pressures in the force main.

The inlet header also has an elevated overflow into the SBR tank. Overflow ports above the maximum expected water level interconnect all tanks. The last tank is connected to the decant equalization/chlorine contact tanks by an overflow.

In the event that the sewage grinder becomes plugged, or any of the SBR inlet valves fail, plant flow is directed through the elevated overflow into the first SBR and proceeds in series to the decant tank/UV disinfection, and out of the plant. This provides the minimum of primary treatment plus disinfection, adequate in emergency situations. Emergency overflow from the pumping station would go directly to the bypass channel where sodium hypochlorite is added for disinfection and then to the sewer outfall.

Sequencing Batch Reactors (SBR)

There are three SBR basins. The aeration system is a jet aeration system with dry-pit mixing pumps located in the basement level of the main building. This system is positively aspirated by using positive displacement blowers. There are four blowers provided for SBR aeration, one for each of the three SBR tanks and one for stand-by use. The SBR's are set on a cycle that ensures that no more than two tanks are in the aeration mode at the same time.

The decant system incorporates a floating, solids-excluding decanter. When decanting, a decant butterfly valve is opened and supernatant off of the SBR is able to flow through the decanter. When the decanting process is completed, the valve closes prohibiting flow. The supernatant flows by gravity to the effluent equalization tank.

Disinfection

SBR by-pass disinfection is provided by UV, since the by-pass travels to the decant equalization tank the flow is constant enabling proper disinfection.

Hypochlorite is used when the raw sewage pumping station is forced to by-pass. The flows are directed into a contact chamber. The hypochlorite is injected directly into the by-pass channel. The chlorine pump is a simple, single-speed metering pump.

Effluent from the SBR decant, flows by gravity to the UV disinfection chamber. This facility uses a Trojan 3000+ system, which incorporates high intensity UV lamps. The lamps are placed in a specially designed chamber. The lamps are cleaned automatically using a proprietary wiper and acid injection system. The UV radiation from the bulbs, ensure the desired effluent criteria.

Coagulant Addition

Aluminum sulfate is added to the plant in the raw sewage line leaving the teacup and before the SBR's, to assist in the removal of phosphorus. The aluminum sulfate is pumped using positive displacement, diaphragm-type pumps. The chemical feed rates are based on flow.

Sludge

The Deep River Sewage Treatment Plant uses the aerobic sludge digestion process. There are two blowers (one duty/one stand-by) located in the basement of the main building to provide air to the digester. The sludge is pumped to a sludge holding tank where the sludge can be mixed, aerated, settled, decanted and then loaded for disposal.

Operating Issues / Proposed Alterations, Extensions, or Replacement to Works

There were no major operating issues at the Deep River sewage plant in 2018. OCWA and the Town of Deep River are presently upgrading the SCADA system, and hope to be replacing two SBR valves, along with other valve and pump replacements in 2019.

Operations and Compliance Reliability Indices

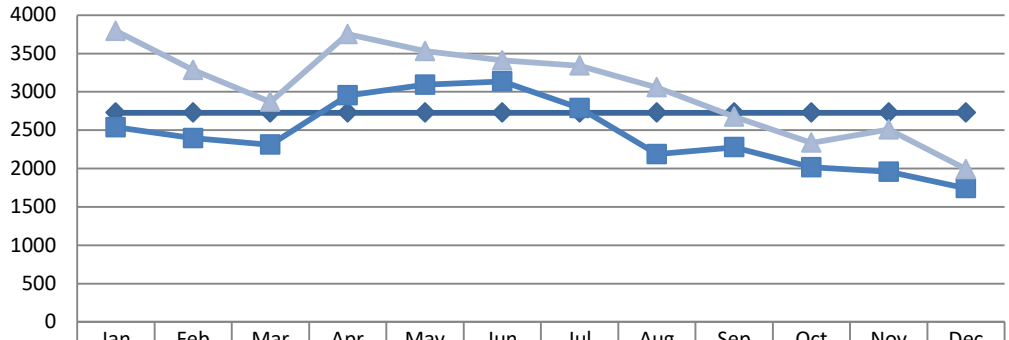
Compliance Event	# of Events
Ministry of Environment Inspections	None
Ministry of Labour Inspections	None
Non-Compliances to MECP	None
Community Complaints	None
Spills	One (1)
WSER Notifications for Non-Compliances	One (1)

Treatment Flows

In 2018, the average daily raw flow was approx. 90% of the current design plant capacity, and the maximum daily raw flow was approx. 139% over capacity of the plant design of 2727 m3/d.

Raw Flow (m3/d)

The rated capacity based on the annual average daily raw flow exceeds 80%. Recommendations to reduce this influx to the sewage plant are being addressed by the Town decreasing the Infiltration & Inflow problems throughout the collection system piping and the manhole levels. This will be a long-term strategy to deal with the infiltration issues, along with the sub drain to try and deal with the ongoing water table issues also contributing to the major causes of the infiltration issues.

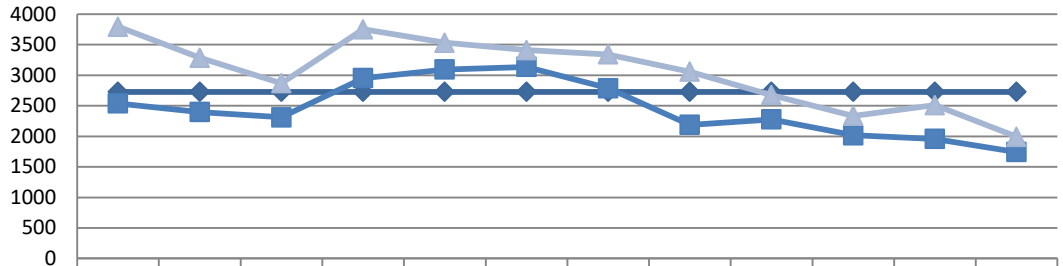


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Limit	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727
Average Daily Flow (m3/d)	2537.81	2396.53	2309.51	2952.66	3093.31	3135.51	2787.1	2186.82	2276.88	2016.88	1957.48	1743.51
Maximum Daily Flow (m3\d)	3792.63	3284.49	2868.24	3751	3529.82	3409.65	3340.29	3055.8	2675.86	2334.35	2508.97	1990.26

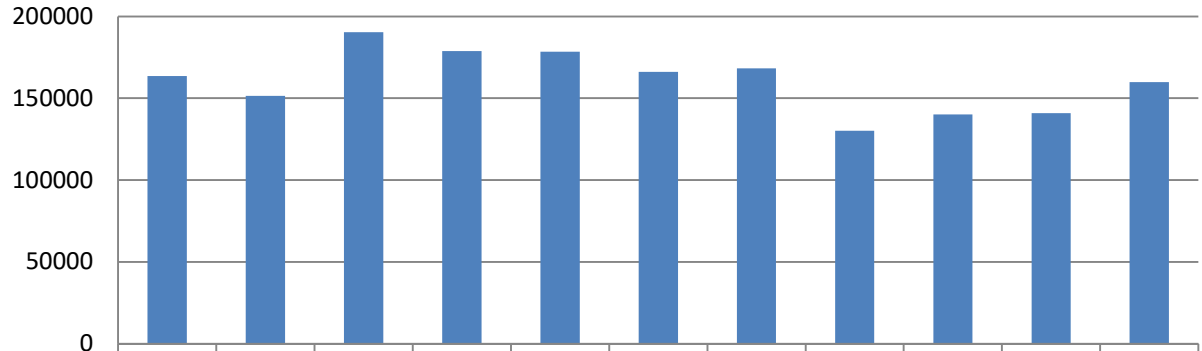
In 2018, the average daily effluent flow was approx. 90% of the current design plant capacity, and the maximum daily effluent flow was approx. 139% over capacity of the plant design of 2727 m3/d.

Effluent Flow (m3/d)

Annual Comparison (m3)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Limit	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727
Average Daily Flow (m3/d)	2537.81	2396.53	2309.51	2952.66	3093.31	3135.51	2787.1	2186.82	2276.88	2016.88	1957.48	1743.51
Maximum Daily Flow (m3\d)	3792.63	3284.49	2868.24	3751	3529.82	3409.65	3340.29	3055.8	2675.86	2334.35	2508.97	1990.26

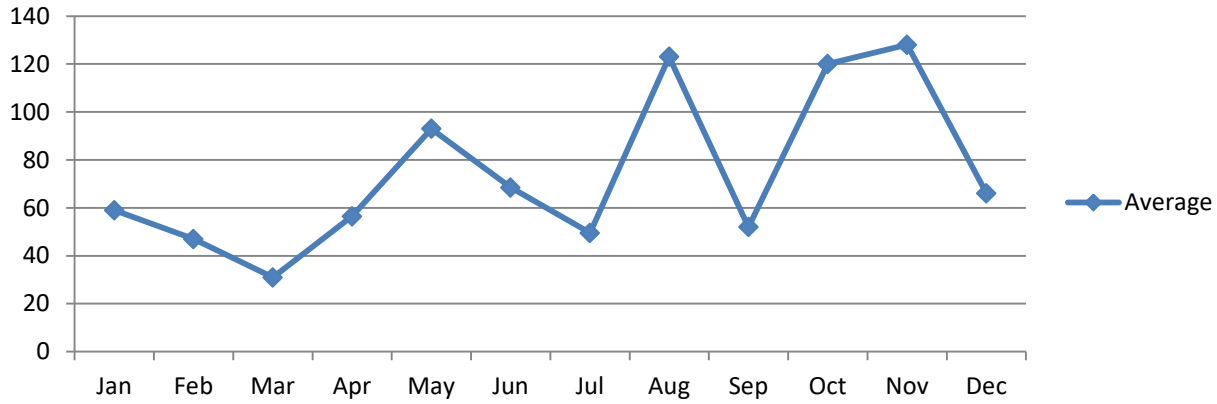


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Annual Flow	163594	151373	190258	178790	178326	166031	168325	130193	140144	140799	159739

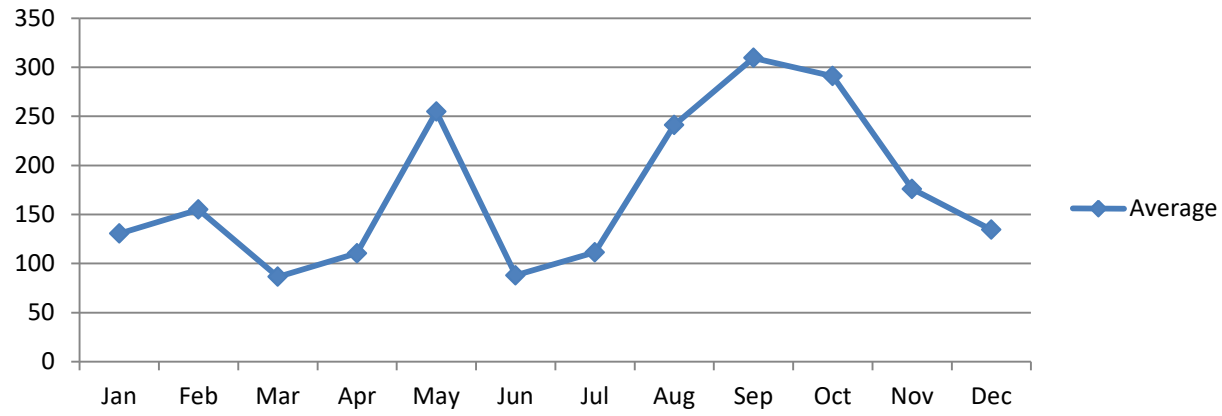
Raw Sewage Quality

5 Parameter Trends for Annual Raw Sewage Quality – 2018

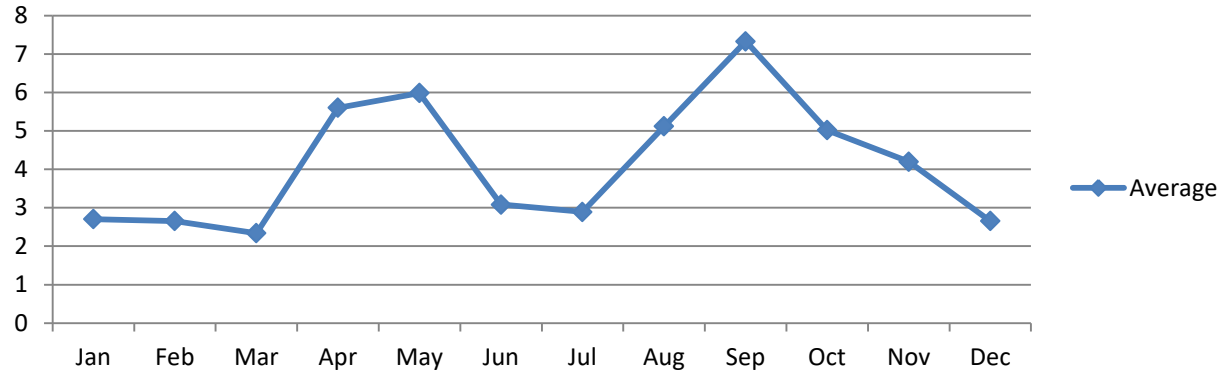
CBOD5 (mg/L)



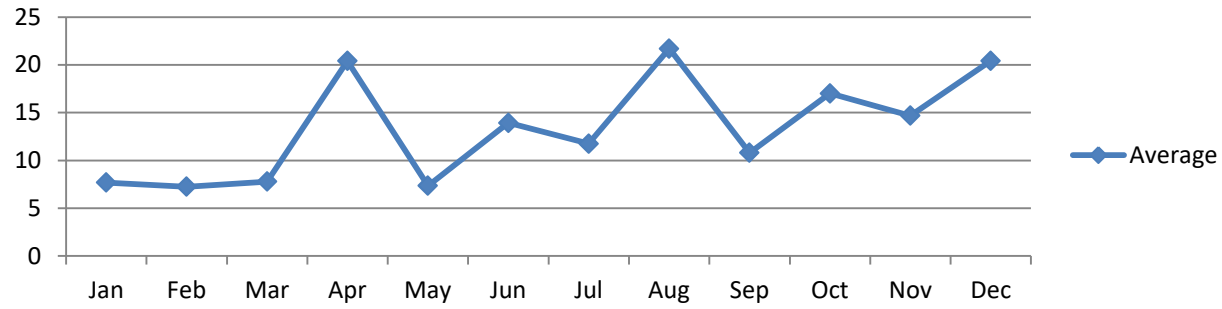
Total Suspended Solids (mg/L)



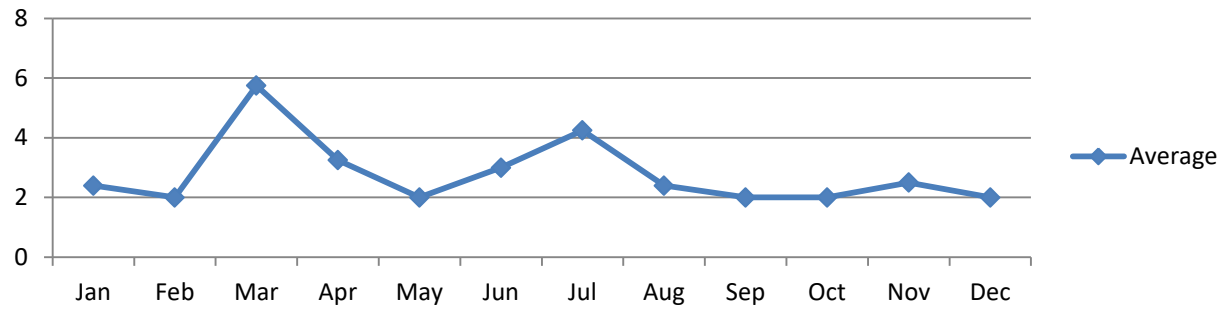
Total Phosphorus (mg/L)



Total Ammonia Nitrogen (mg/L)



pH (mg/L)



Effluent Quality Assurance and Control Measures Taken

Effluent control measures include in-house sampling and testing for operational parameters such as suspended solids, phosphorus, and dissolved oxygen. In-house testing provides real time results which are then used to enhance process and operational performance. All in-house sampling and analysis are performed by certified operations staff utilizing approved methods and protocols for sampling, analysis and recording as specified in the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works", the Ministry's publication, "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" and the publication, "Standard Methods for the Examination of Water and Wastewater".

All final effluent samples collected during the reporting period to meet ECA sampling requirements were submitted to Eurofins laboratory in Ottawa for analysis. Eurofins has been deemed accredited by the Canadian Association for Laboratory Accreditation (CALA), meeting strict provincial guidelines including an extensive quality assurance/quality control program. By choosing this laboratory, the Ontario Clean Water Agency is ensuring appropriate control measures are undertaken during sample analysis. The pH and temperature parameters were analyzed in the field at the time of sample collection by certified operators, to ensure accuracy and precision of the results obtained. The unionized ammonia was calculated using the total ammonia nitrogen concentration, pH and temperature as required by the facility ECA. The Deep River STP uses AquaTox Testing & Consulting Inc. for the testing of Acute Lethality. It's laboratory in Puslinch, ON is also accreditated under CALA.

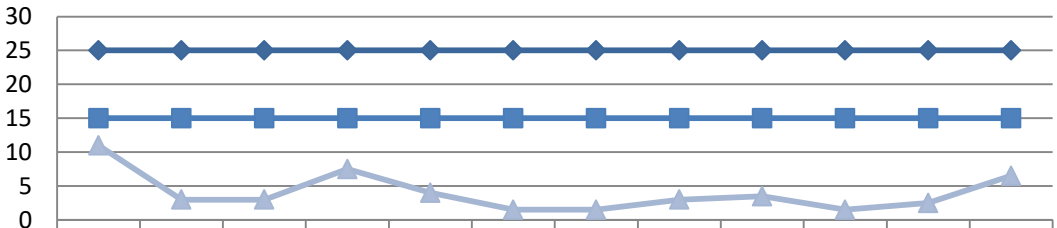
Effluent Quality

CBOD5

Compliance

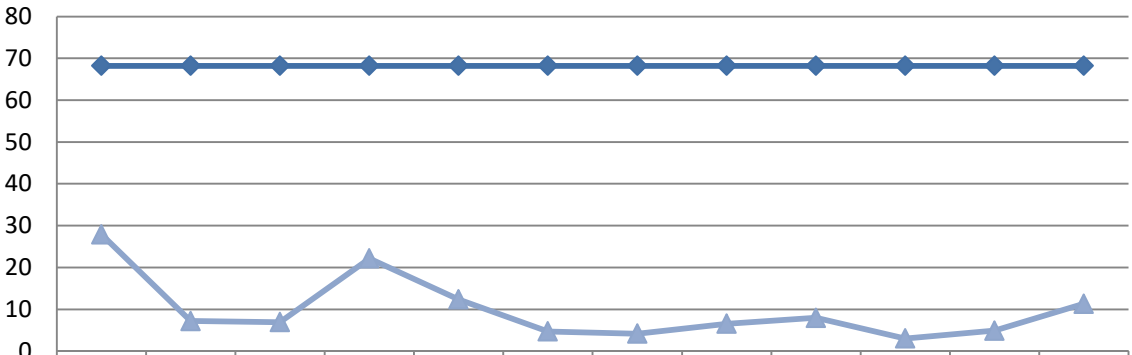
Date	Exceedance of	Limit	Value	Corrective Action
DD-MMM-YYYY	ECA Limit	25.0 mg/L (annual av.)	4.042	N/A

Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	25	25	25	25	25	25	25	25	25	25	25	25
ECA Objective	15	15	15	15	15	15	15	15	15	15	15	15
Average	11	3	3	7.5	4	1.5	1.5	3	3.5	1.5	2.5	6.5

Loading (kg/d)



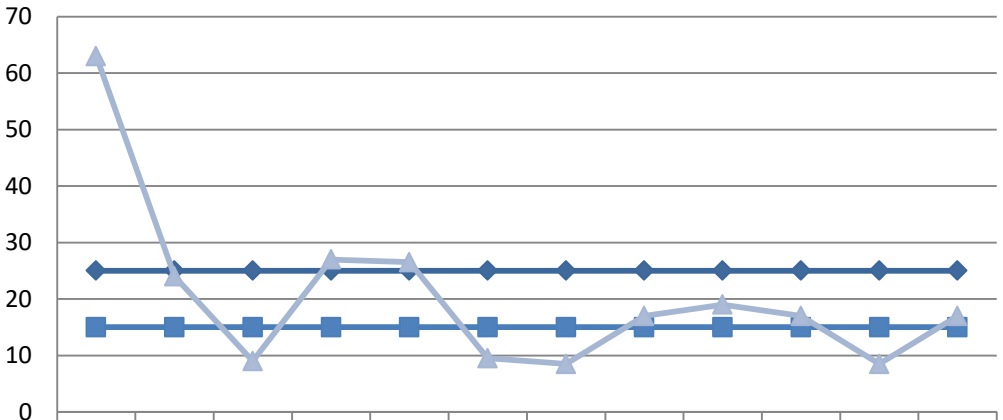
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2
Average	27.916	7.19	6.929	22.145	12.373	4.703	4.181	6.56	7.969	3.025	4.894	11.333

Total Suspended Solids

Compliance

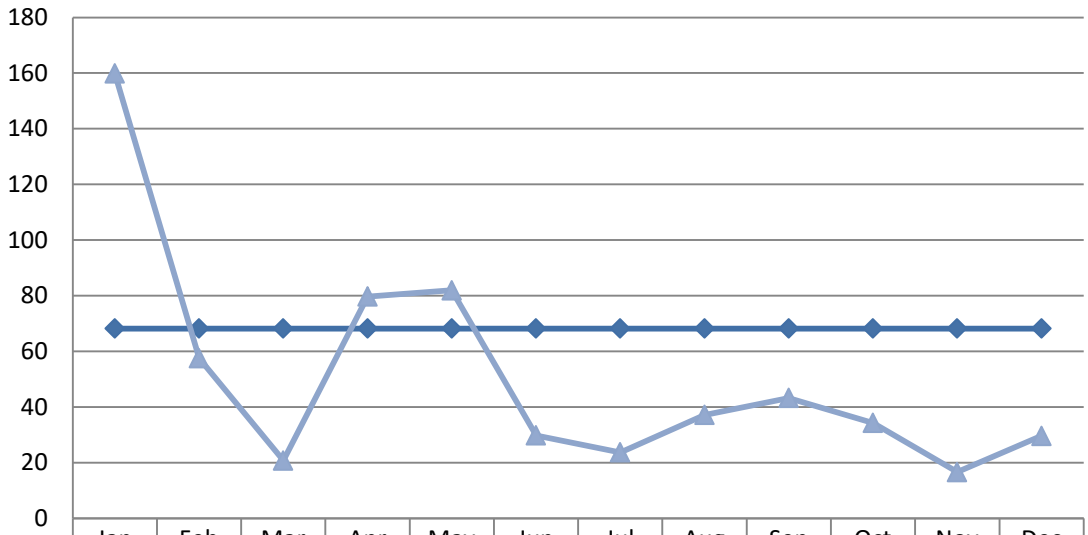
Date	Exceedance of	Limit	Value	Corrective Action
DD-MMM-YYYY	ECA Limit	25 mg/L (annual av.)	20.5	N/A

Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	25	25	25	25	25	25	25	25	25	25	25	25
ECA Objective	15	15	15	15	15	15	15	15	15	15	15	15
Average	63	24	9	27	26.5	9.5	8.5	17	19	17	8.5	17

Loading (kg/d)



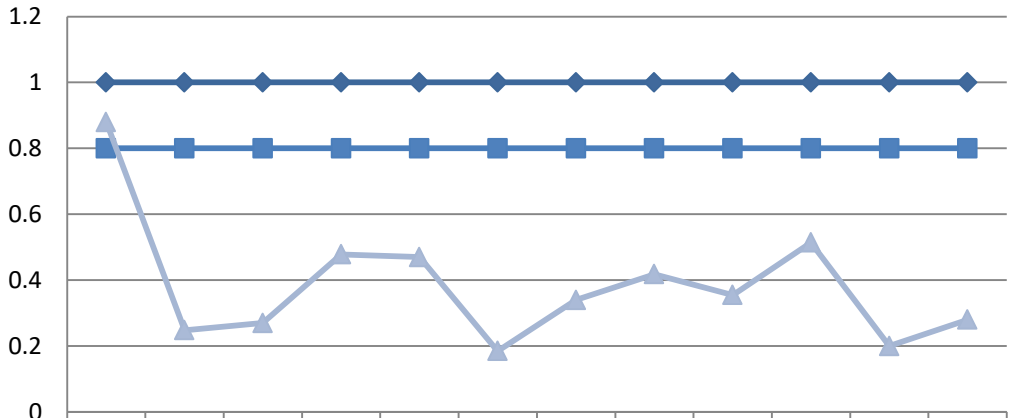
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2
Average	159.882	57.517	20.786	79.722	81.973	29.787	23.69	37.176	43.261	34.287	16.639	29.64

Total Phosphorus

Compliance

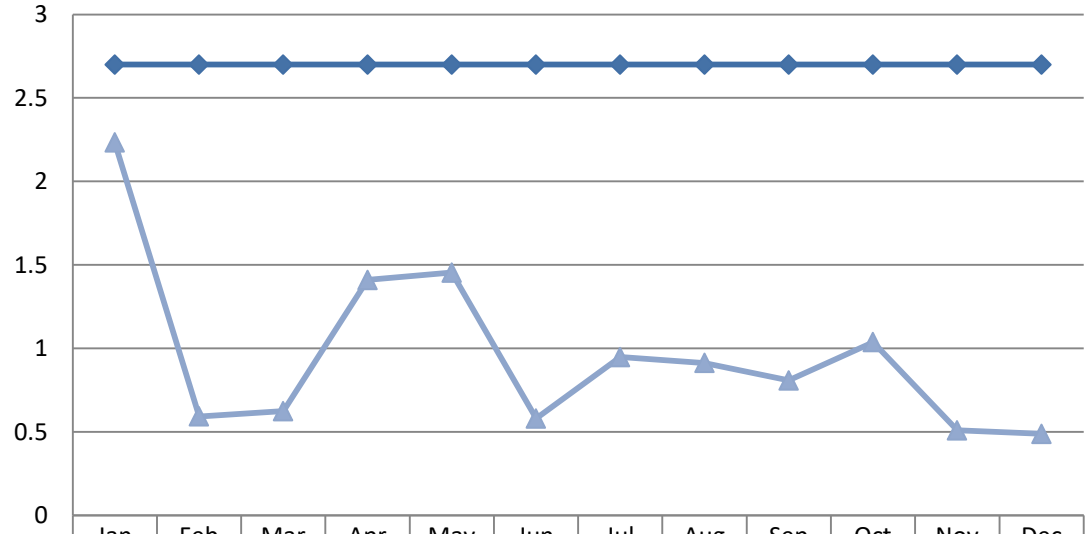
Date	Exceedance of	Limit	Value	Corrective Action
DD-MMM-YYYY	ECA Limit	1.0 mg/L		N/A

Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	1	1	1	1	1	1	1	1	1	1	1	1
ECA Objective	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Average	0.88	0.248	0.27	0.478	0.47	0.185	0.34	0.418	0.355	0.514	0.2	0.28

Loading (kg/d)



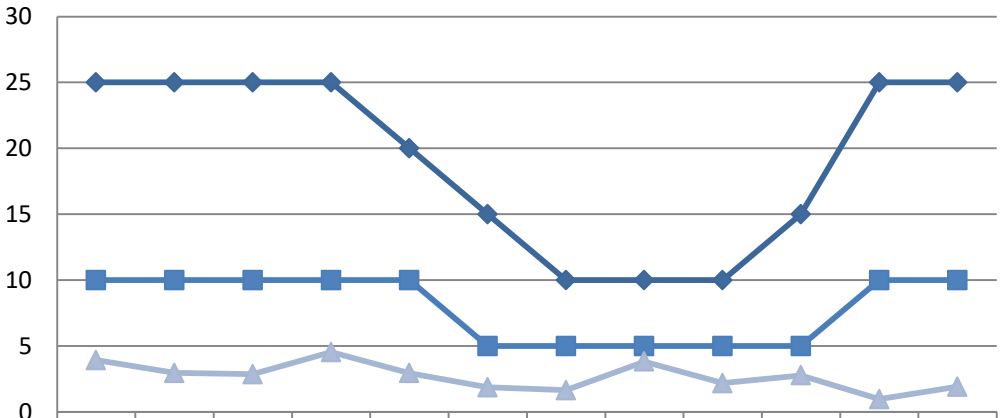
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Average	2.233	0.593	0.624	1.41	1.454	0.58	0.948	0.913	0.808	1.037	0.509	0.488

Total Ammonia Nitrogen

Compliance

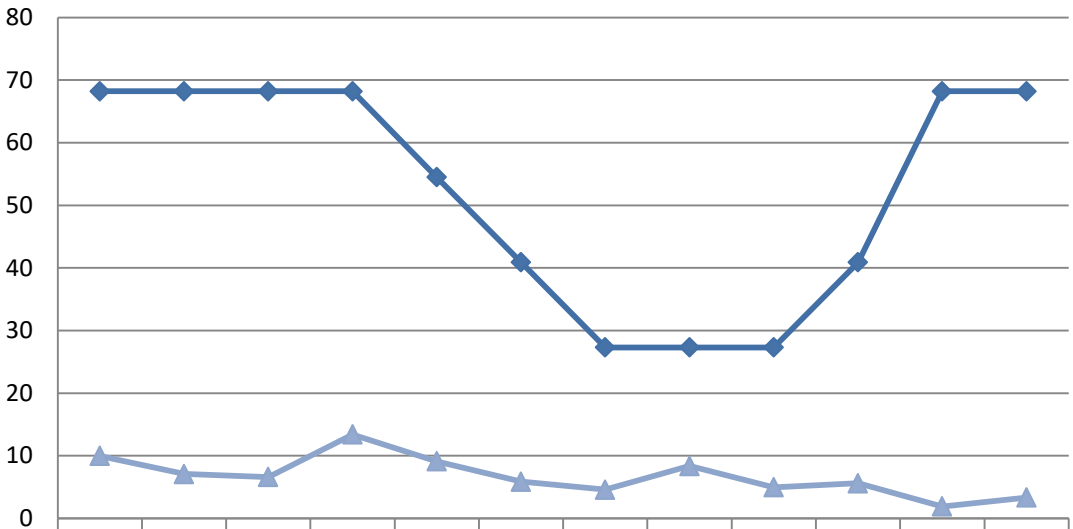
Date	Exceedance of	Limit	Value	Corrective Action
DD-MMM-YYYY	ECA Limit	Varies by Month		N/A

Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	25	25	25	25	20	15	10	10	10	15	25	25
ECA Objective	10	10	10	10	10	5	5	5	5	5	10	10
Average	3.932	2.963	2.865	4.535	2.946	1.868	1.65	3.823	2.185	2.782	0.97	1.918

Loading (kg/d)



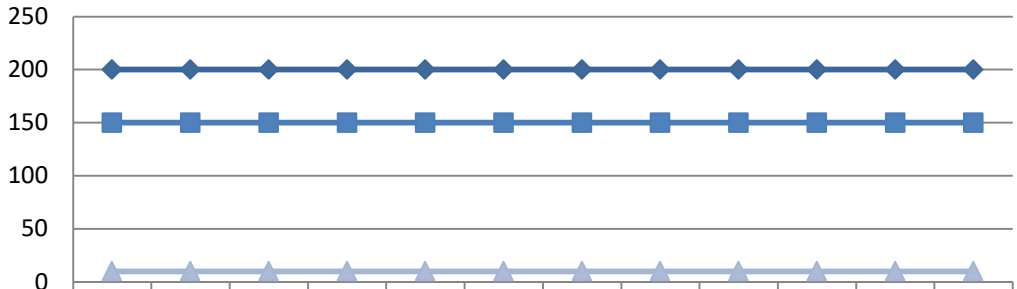
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	68.2	68.2	68.2	68.2	54.5	40.9	27.3	27.3	27.3	40.9	68.2	68.2
Average	9.979	7.1	6.617	13.39	9.113	5.856	4.599	8.359	4.975	5.611	1.899	3.343

E-coli

Compliance

Date	Exceedance of	Limit	Value	Corrective Action
DD-MMM-YYYY	ECA Limit	200 cfu/mL		N/A

Geometric Mean (cfu/100mL)



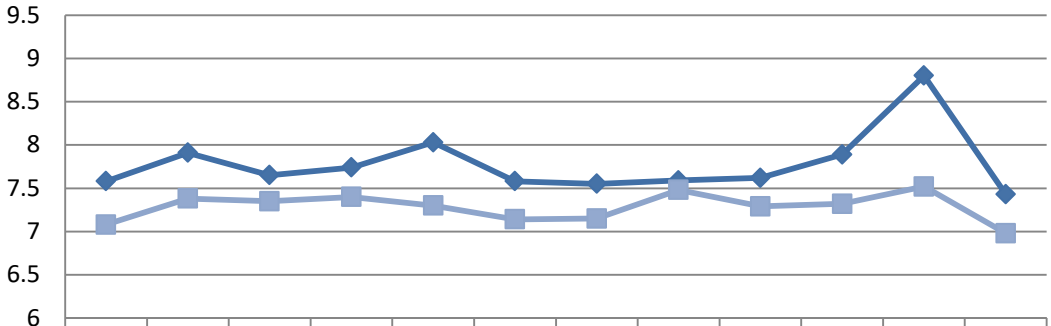
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	200	200	200	200	200	200	200	200	200	200	200	200
ECA Objective	150	150	150	150	150	150	150	150	150	150	150	150
Average	10	10	10	10	10	10	10	10	10	10	10	10

pH

Compliance

Date	Exceedance of	Limit	Value	Corrective Action
DD-MMM-YYYY	ECA Limit	6.0 – 9.5		N/A

pH is to remain in the range of 6.0 - 9.5; Each instance the pH is outside of that range, it is reported as a Non-Compliance.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum	7.58	7.91	7.65	7.74	8.03	7.58	7.55	7.59	7.62	7.89	8.8	7.43
Minimum	7.08	7.38	7.35	7.4	7.3	7.14	7.15	7.48	7.29	7.32	7.52	6.98

Acute Lethality

There was one (1) sample collected in 2018 and tested for acute lethality for both Rainbow Trout and Daphnia magna. This sampling is required annually, both provincially and federally. Results are displayed as % mortality. An adverse result is a > 50% mortality rate.

Quarter/Date	Rainbow Trout	Daphnia Magna
1st Quarter		
2nd Quarter		
3rd Quarter (03-Jul-2018)	0	0
4th Quarter		

Maintenance

The Deep River STP uses a Workplace Management System (WMS) called Maximo. This is a comprehensive computerized maintenance tracking system. The system creates work orders for scheduled maintenance on an annual, semi-annual, monthly, quarterly and weekly basis. The service work is recorded in the work order history. This ensures routine and preventive maintenance is performed. Emergency and capital repair maintenance is completed and added to the system.

During the 2018 calendar year, a total of 352 Work Orders were completed at the Deep River Sewage Treatment Plant. A breakdown of this total is listed below:

Maintenance Type	# Completed in 2018
Corrective Work Orders	18
Emergency Work Orders	0
Preventative Work Orders	262
Operational Work Orders	50
Capital Work Orders	11
Call Back Work Orders	11

Major Maintenance Summary (Capital)

WO #	Description
740698	Outfall inspection by Dundee Marine.
782258	Replacement of pump rails at sewage plant.
821374	Miscellaneous Capital for Imhoff tank parts, sump pump repairs, extension pole for tanks, pumps, new battery for generator, service call for backwash pump, air filter element, emergency replacement of sump pump, and other hardware.
768083	Submersible pump repair and fabrication of new lifting handle completed by Rick's Electric.
899438	Replacement ballast kit required for the repair of UV system. Kit supplied by H2Flow.
941268	Replacement UV lamps to ensure adequate disinfection.
980645	Miscellaneous Capital items such as tools, electrode sensor and holder connectors, level regulator, calibrated chain, decant valve bracket, painting supplies, electrical supplies and

	other hardware.
628171	Miscellaneous Capital items such as torch for de-icing, disconnect switch for digester pump, drain valve for EQ tank trash pump, hose clamps, gauges for plant, cart to move heavy items, Honda pump and other hardware.
633594	Replacement of submersible mixer by Xylem.
779724	Repair of erratic level indicator at plant by Capitol Controls.
781627	Replacement of solenoid valves required for the repair of the grit Tea Cup system.

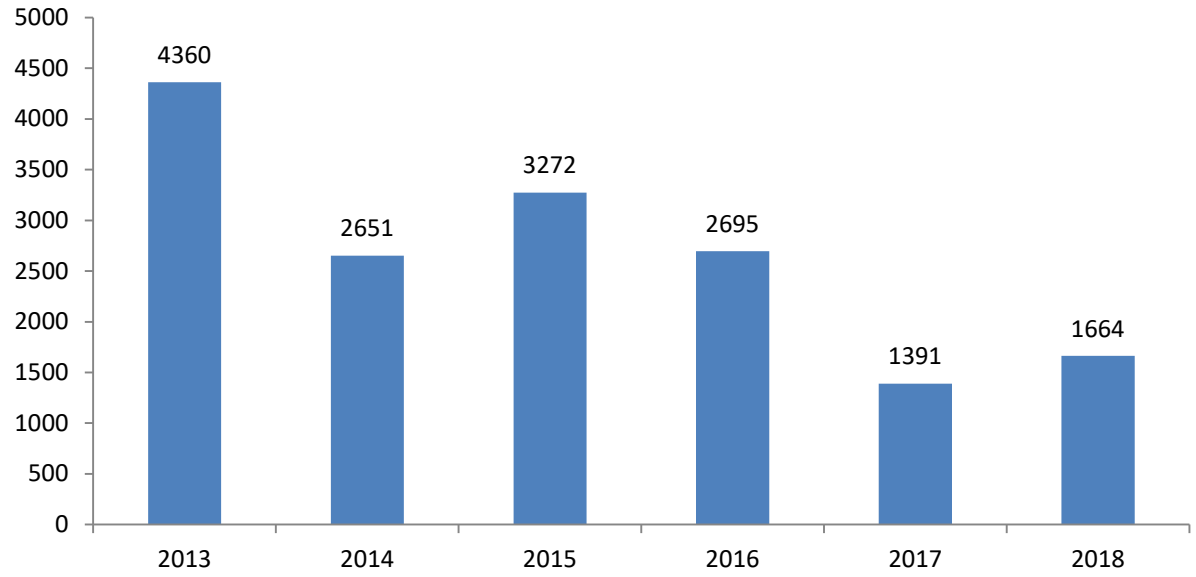
Sludge Generation

Sludge generated from the treatment plant is spread on agricultural land during the spreading season, as per the Nutrient Management Act, O. Reg. 267/03. OCWA contracted the sludge hauling in 2018 to Bio-Ag. All NASM Plans are done under their authority. The total hauled for the 2018 season is summarized in the below table. It is anticipated that sludge volumes will be similar in the 2019 season, as in 2018. Also, See Appendixes D and E, for the Biosolids Quality Reports from OCWA's PDM, and the NASM Land Application Report provided from Bio-Ag.

Sludge Disposal Summary – NASM Land Application

Date	Disposal Location	NASM Approval Number	Total Volume (m3)
Oct 2018	Sunny Hillcrest – Home Farm	22328	1664

Annual Comparison (m3/year)



Summary of Complaints

Location	Date	Nature of Complaint	Actions Taken
None to report for 2018.			

Summary of Abnormal Discharge Events

Bypass/Overflows: None to report in 2018.

Spills: April 27, 2018 – Some of the UV banks at the Deep River STP shut down after being exposed to higher than normal flows. For full details of this report, See Appendix B for the Environmental Incident Report (EIR) and the Notification of Spill/Unauthorized Deposit sent to the MECP and EC.

Outside Normal Operating Conditions: None to report for 2018.

Appendix A

Performance Assessment Report

Ontario Clean Water Agency
Performance Assessment Report Wastewater/Lagoon

From: 01/01/2018 to 31/12/2018

Report extracted 02/13/2019 07:53

Facility: [5853] DEEP RIVER WASTEWATER TREATMENT FACILITY

Works: [120000612]

	01/2018	02/2018	03/2018	04/2018	05/2018	06/2018	07/2018	08/2018	09/2018	10/2018	11/2018	12/2018	<--Total-->	<--Avg.-->	<--Max.-->	<--Criteria-->
Flows:																
Raw Flow: Total - Raw Sewage (m^3)	78672.22	67102.82	71594.95	88579.75	95892.63	94065.31	86400.16	67791.51	68306.42	62523.13	58724.53	54048.79	893702.22			
Raw Flow: Avg - Raw Sewage (m^3/d)	2537.81	2396.53	2309.51	2952.66	3093.31	3135.51	2787.10	2186.82	2276.88	2016.88	1957.48	1743.51		2449.50		
Raw Flow: Max - Raw Sewage (m^3/d)	3792.63	3284.49	2868.24	3751.00	3529.82	3409.65	3340.29	3055.80	2675.86	2334.35	2508.97	1990.26			3792.63	
Eff. Flow: Total - Final Effluent (m^3)	78672.22	67102.82	71594.95	88579.75	95892.63	94065.31	86400.16	67791.51	68306.42	62523.13	58724.53	54048.79	893702.22			
Eff. Flow: Avg - Final Effluent (m^3/d)	2537.81	2396.53	2309.51	2952.66	3093.31	3135.51	2787.10	2186.82	2276.88	2016.88	1957.48	1743.51		2449.50		2727.0
Eff. Flow: Max - Final Effluent (m^3/d)	3792.63	3284.49	2868.24	3751.00	3529.82	3409.65	3340.29	3055.80	2675.86	2334.35	2508.97	1990.26			3792.63	
Carbonaceous Biochemical Oxygen Demand: CBOD:																
Raw: Avg cBOD5 - Raw Sewage (mg/L)	59.000	47.000	31.000	56.500	93.000	68.500	49.500	123.000	52.000	120.000	128.000	66.000		74.458	128.000	
Raw: # of samples of cBOD5 - Raw Sewage (mg/L)	2	1	2	2	2	2	2	2	2	2	2	2	23			
Eff: Avg cBOD5 - Final Effluent (mg/L)	11.000	3.000	3.000	7.500	4.000	< 1.500	< 1.500	3.000	3.500	< 1.500	2.500	6.500		< 4.042	11.000	25.0
Eff: # of samples of cBOD5 - Final Effluent (mg/L)	2	1	2	2	2	2	2	2	2	2	2	2	23			
Loading: cBOD5 - Final Effluent (kg/d)	27.916	7.190	6.929	22.145	12.373	< 4.703	< 4.181	6.560	7.969	< 3.025	4.894	11.333		< 9.935	27.916	
Biochemical Oxygen Demand: BOD5:																
Total Suspended Solids: TSS:																
Raw: Avg TSS - Raw Sewage (mg/L)	130.500	155.000	86.500	110.500	254.667	88.000	111.500	241.000	309.500	291.000	176.000	134.500		174.056	309.500	
Raw: # of samples of TSS - Raw Sewage (mg/L)	2	1	2	2	3	2	2	2	2	2	2	2	24			
Eff: Avg TSS - Final Effluent (mg/L)	63.000	24.000	9.000	27.000	26.500	< 9.500	8.500	17.000	19.000	17.000	8.500	17.000		< 20.500	63.000	25.0
Eff: # of samples of TSS - Final Effluent (mg/L)	2	1	2	2	2	2	2	2	2	2	2	2	23			
Loading: TSS - Final Effluent (kg/d)	159.882	57.517	20.786	79.722	81.973	< 29.787	23.690	37.176	43.261	34.287	16.639	29.640		< 51.197	159.882	
Percent Removal: TSS - Raw Sewage (mg/L)	51.724	84.516	89.595	75.566	89.594	89.205	92.377	92.946	93.861	94.158	95.170	87.361			95.170	
Total Phosphorus: TP:																
Raw: Avg TP - Raw Sewage (mg/L)	2.704	2.655	2.340	5.603	5.986	3.082	2.890	5.118	7.328	5.018	4.198	2.655		4.131	7.328	
Raw: # of samples of TP - Raw Sewage (mg/L)	5	4	4	4	5	4	5	4	4	5	4	4	52			
Eff: Avg TP - Final Effluent (mg/L)	0.880	0.248	0.270	0.478	0.470	0.185	0.340	0.418	0.355	0.514	0.260	0.280		0.391	0.880	1.0
Eff: # of samples of TP - Final Effluent (mg/L)	5	4	4	4	5	4	5	4	4	5	4	4	52			
Loading: TP - Final Effluent (kg/d)	2.233	0.593	0.624	1.410	1.454	0.580	0.948	0.913	0.808	1.037	0.509	0.488		0.966	2.233	
Percent Removal: TP - Raw Sewage (mg/L)	67.456	90.678	88.462	91.477	92.148	93.998	88.235	91.842	95.155	89.757	93.806	89.454			95.155	
Nitrogen Series:																
Raw: Avg TKN - Raw Sewage (mg/L)	22.160	21.425	22.150	40.375	34.420	26.925	25.360	38.500	31.950	36.700	36.025	28.225		30.351	40.375	
Raw: # of samples of TKN - Raw Sewage (mg/L)	5	4	4	4	5	4	5	4	4	5	4	4	52			
Eff: Avg TAN - Final Effluent (mg/L)	3.932	2.963	2.865	4.535	2.946	1.868	1.650	3.823	2.185	2.782	0.970	1.918		2.703	4.535	
Eff: # of samples of TAN - Final Effluent (mg/L)	5	4	4	4	5	4	5	4	4	5	4	4	52			
Loading: TAN - Final Effluent (kg/d)	9.979	7.100	6.617	13.390	9.113	5.856	4.599	8.359	4.975	5.611	1.899	3.343		6.737	13.390	
Disinfection:																
Eff: GMD E. Coli - Final Effluent (cfu/100mL)	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000		10.000	10.000	200.0
Eff: # of samples of E. Coli - Final Effluent (cfu/100mL)	5	4	4	4	5	4	5	4	4	5	4	4	52			

Appendix B

Environmental Incident Reports (EIR) / Notification of Spill/Unauthorized Deposit

QEMS Ontario Clean Water Agency	Eastern Regional Hub **Environmental Incident Report (EIR)**	FORM ERHF-10 Issued: 22-Jan-2018 Rev.#: 0 Pages: 1 of 2
Reviewed by: Vanessa Greatrix (SPC Manager)	Approved by: Andrew Trader (Regional Manager)	

1.0 General Information

Facility Name: DEEP RIVER WASTE WATER TREATMENT PLANT		
Date: APRIL 27 2018	Time: 15:00	Facility ORG #: 5853
		WO #: 771723

2.0 Incident Category

If incident does not fit into the table below outline details in section 5.0

Result Exceedances (3.0)	Environmental Discharges/Releases (4.0)	
PTTW Flow ☐	Spill ☒	Where was the release discharged to: Ottawa River
MDWL Flow ☐	Bypass ☐	What was released/discharged: WW Effluent treated partially by UV + Sodium Hypo
ECA Limit Non-Compliance ☐	Overflow ☐	Authorization:
ECA Objective Exceedance ☐		Did the release go off-site Yes ☒ No ☐
Fisheries Exceedance ☐		Affected: Air ☐ Water ☒ Land ☐
Guideline Exceedance ☐		NOTE: is water frequented by fish ☒
Other ☐ Specify:		

3.0 Result Exceedances

Parameter	Date	Reporting Period	Established Limit/Objective/Flow	Result
		Single ☐ Daily ☐ Weekly ☐ Monthly ☐ Quarterly ☐ Annual ☐	Grab ☐ Composite ☐	*For flow attach CT Calculation

4.0 Environmental Discharges/Releases

Location	Volume Released (m3)	Duration of Release			Any known Hazards	Disinfected?
		Start Date & Time	End Date & Time	Total Duration (h)		
DR STP Effluent	Unknown	April 27/18 3PM	April 29/18 NOON	45	None	Yes

5.0 Cause and Details

(include any damage to surrounding property or if insurance was involved)

THE UV SYSTEM BANKS WERE EXPOSED TO WATER CAUSING 3 OF THE LINE TO BE SENT DOWN AND DRIED OUT.

6.0 Samples

Attach CofC forms and results. For By-pass/Overflow Events verify frequency and parameters in Facility Compliance Documents.

Were Samples Collected? Yes ☑ No ☐

7.0 Corrective Action Taken, Remedial Measures, Future Prevention

THE BACK UP DISINFECTION SYSTEM (HYPO) WAS IMMEDIATELY PUT INTO SERVICE AND USED UNTIL THE 3 - UV BANKS EFFECTED COULD BE PROPERLY DRIED AND PUT BACK IN SERVICE

EFFLUENT WAS MONITORED THROUGHOUT THE 45 HOURS THE UV SYSTEM WAS PARTIALLY SHUT DOWN.

A FREE RESIDUAL OF 0.19 – 0.30 WAS MAINTAINED.

Use additional sheets if more space is required. Ensure you fax/scan the additional sheets. Can attach copies of logbook.

8.0 Verbal Reporting

Follow Standard Operating Procedure for required contacts. For those not required indicate with N/A

SAC REFERENCE # 1221-AY8RR4 (You will have to ask for this number)

	Person Contacted	Date	Time
Spills Action Center	JUSTIN CHIN	APRIL 27/18	16:10
SAC Call Back			
Health Unit	DAVE TANTENEAU	APR 27/18	16:40
Conservation Auth.			
Local MOECC Inspector	JEAN VEILLEUX	APR 27/18	16:00
Owner/Client			
ORO	STEPHEN BILO	REPORTING	
Local OCWA Management	BRAD SWEET	APR 27/18	16:55
PCT	BRENDA ROYCE	APR 27/18	16:55
Other: Specify	JAKE DEWAR	APR 27/18	16:55
Other: Specify			

Operator Name: STEPHEN BILO Operator Signature

*Ensure all labour and associated costs are imputed in the Maximo Work Order

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

560 Abbie Lane
Petawawa, Ontario K8H 0A6
Tel: 613-687-2141
www.ocwa.com

Water Compliance Supervisor
Ministry of Environment and Climate Change
james.mahoney@ontario.ca

Wastewater Program
Environment Canada
Ec.FA-LP-On.ec@canada.ca

Date: May 1, 2018

Re: Notification of Spill/Unauthorized Deposit – DEEP RIVER STP

This is a written notification of Spill/Unauthorized Deposit submitted in accordance with terms and conditions the Ontario Water Resources Act, Environmental Protection Act, Fisheries Act and the current Environmental Compliance Approval, Number #1655-7P8SPE.

This written notice confirms the verbal notifications provided to Justin Chin at the Spills Action Center on April 28/18 at 16:10.

Details:

At approx. 15:00 on Friday, April 27, 2018 three of five UV banks at the Deep River STP, shut down after being exposed to water (higher than normal flows). The back-up disinfection system (sodium hypo) was immediately put into service, along with the two operating UV banks to treat the final effluent, as the two other UV banks were being dried out with the use of fans. This alteration in the disinfection process was reported to SAC (Ref. # 1221-AY8RR4) and to the Renfrew County Health Unit Coordinator of Environmental Health, David Tantalo. The OCWA operators continued to monitor the process over the weekend, until the out-of-service UV banks were dried out and put back in service. The UV system was put back into full service on Sunday, April 29th at noon. The final effluent was also monitored throughout the 45 hours the UV system was partially shut down. A free chlorine residual of 0.19-0.30 mg/L of the effluent was maintained during this entire event.

The cause of this incident was due to operator error, as the UV valve was improperly opened and caused the UV banks to be submerged in a much higher volume of water than normal flows, while the operators were performing maintenance on the equalization tank at the sewage plant. The operators will be able to prevent a future event of this kind, by throttling the UV valve to regulate the volume of water entering the UV tank, when maintenance is being performed to such equipment.

Location	Volume (m3)	Start Date and Time	End Date and Time	Duration (h)	Discharge Receiver	Disinfection Provided
DR STP effluent to Ottawa River	Unknown	Apr. 27/18	Apr. 29/18	45	Ottawa River	Yes – partially UV & Sodium Hypo

If you have any questions or concerns, do not hesitate to contact me at 613-687-2141 or at broyce@ocwa.com.

Sincerely,

Brenda Royce

Brenda Royce
Process and Compliance Technician
Laurentian View Cluster
OCWA – Eastern Regional Hub

ec: SAC, MOECC at moe.sac.moe@ontatio.ca
Jean Veilleux, Water Inspector, Ottawa District Office, MOECC
David Tantalo, Coordinator of Environmental Health, RCDHU
Sean Patterson, Director of Public Works, Town of Deep River
Brad Sweet, Senior Operations Manager, Ontario Clean Water Agency
Andrew Trader, Regional Hub Manager, Ontario Clean Water Agency
Vanessa Greatrix, Safety, Process and Compliance Manager, Ontario Clean Water Agency
Stephen Bird, Senior Operator/ORO, Ontario Clean Water Agency
Copy to File

Appendix C

Calibration Reports

Tag # Raw Sewage	Tag # WAS
Size: 10 inch	**Size: 3 inch**
Converter Model # IFC100W	**Converter Model # IFC010**
IFC010 - Settings as follows:	IFC010 - Settings as follows:
SIZE: 10 inch (250 mm)	SIZE: 3 inch (80 mm)
GK : 4.372	GK : 2.5
FIELD FREQUENCY: 1/6	FIELD FREQUENCY: 1/6
Current Output : 4 - 20mA	Current Output : 4 - 20mA
MEASURENMENT: VOLUME FLOW	MEASURENMENT: VOLUME FLOW
RANGE: 0 to 175 l/sec	RANGE: 0 to 60 l/sec
Time Constant: 3 sec	Time Constant: 3 sec
Counter:	Counter:
Counter : OFF	Counter : OFF
Measurement:	Measurement:
Volume :	Volume :

Site Visit Notes:

- All remaining configuration parameters at Krohne factory defaults.
- Hooked up MAGCHECK Verificator during site visit at each IFC010 converter and initiated the verification procedure. See attached PDF certificates and Trend reports. ALL Meters / Converters PASSED verification.

- Hooked up GS8B simulator during site visit at the IFC100W converter on the 250mm Raw Sewage flowmeter. Simulated flows and documented results of flow rate indications at converter display.

Note: See copies of GS8B simulation report attached for the Raw Sewage Flow Meter.

Should additional information be required, please feel free to contact us.

Best regards,

Angelo Valente
ACI Instrumentation Limited

KROHNE
Altometer

KROHNE Altometer
Production facility
of Krohne AG, Basel

Kerkeplaat 12, 3313 LC Dordrecht
P.O. Box 110, 3300 AC Dordrecht
The Netherlands

Phone : (31) (0)78 - 63 06 331
Fax : (31) (0)78 - 63 06 394
E-mail : Helpdesk@Krohne-altometer.nl
Website : http://Krohne.com

FLOWMETER VERIFICATION CHECK CERTIFICATE

Measurement:

Operator:	AJV
Date of verification:	17-08-2018
Flowmeter:	DEEP RIVER WAS

Flowmeter:

Converter type:	IFC010
Number:	00069498
Order number:	
Full scale range:	60 l/s
Current output:	4 - 20
Frequency output:	0-1000 Hz
Diameter:	80 mm / 3 inch
PC:	2.5
Field frequency:	1/6
Empty pipe:	No

MagCheck info

MagCheck Serial No.:	00640486
MagCheck date of Calibration:	18-01-2018

Results:

Field current	O.K.
Field frequency	O.K.
ADC 25%	O.K.
ADC 50%	O.K.
ADC 75%	O.K.
ADC 100%	O.K.
Current output 4mA	O.K.
Current output 20mA	O.K.
Pulse output	O.K.
Coil resistance	O.K.
Resistance electrode 1 with filled pipe	O.K.
Resistance electrode 1 with empty pipe	Not measured
Resistance electrode 2 with filled pipe	O.K.
Resistance electrode 2 with empty pipe	Not measured
Isolation	O.K.

Based on the verification results stated above, this certificate confirms that the accuracy of this electromagnetic flowmeter is within +/- 1% of the original factory calibration values

KROHNE Altometer
is certified according to
ISO 9001

Device identification:	D R WAS	Full scale range:	60 l/s
Medium:	SLUDGE	Current output:	4 - 20
Converter type:	IFC010	Frequency output:	0-1000 Hz
Number:	00069498	Diameter:	80 mm / 3 inch
Order number:		PC:	2.5
		Field frequency:	1/6
		Empty pipe:	No

Field current
Nullvalue: 133.237 mA Lower limit: 132.837 mA (-0.3%) Upper limit: 133.637 mA (+0.3%)
21-06-2016: 133.144 mA (-0.07%)

Field frequency
Nullvalue: 9.167 Hz Lower limit: 7.792 Hz (-15%) Upper limit: 10.542 Hz (+15%)
21-06-2016: 9.998 Hz (-8.31%)

ADC 25%
Nullvalue: 25 % Lower limit: 24.9 % (-0.4%) Upper limit: 25.1 % (+0.4%)
21-06-2016: 24.982 % (-0.08%)

ADC 50%
Nullvalue: 50 % Lower limit: 49.8 % (-0.4%) Upper limit: 50.2 % (+0.4%)
21-06-2016: 49.968 % (-0.07%)

ADC 75%
Nullvalue: 75 % Lower limit: 74.7 % (-0.4%) Upper limit: 75.3 % (+0.4%)
21-06-2016: 74.961 % (-0.06%)

ADC 100%
Nullvalue: 100 % Lower limit: 99.6 % (-0.4%) Upper limit: 100.4 % (+0.4%)
21-06-2016: 99.962 % (-0.04%)

Current output 4mA
Nullvalue: 4 mA Lower limit: 3.968 mA (-0.3% - 0.02 mA) Upper limit: 4.032 mA (+0.3% + 0.02 mA)
21-06-2016: 3.997 mA (-0.07%)

Current output 20mA
Nullvalue: 20 mA Lower limit: 19.92 mA (-0.3% - 0.02 mA) Upper limit: 20.08 mA (+0.3% + 0.02 mA)
21-06-2016: 19.99 mA (-0.05%)

Pulse output
Nullvalue: 500 Hz Lower limit: 499 Hz (-0.2%) Upper limit: 501 Hz (+0.2%)
21-06-2016: 499.95 Hz (-0.01%)

Coil resistance
Lower limit: 30 Ohm Upper limit: 250 Ohm
21-06-2016: 103.21 Ohm

Resistance electrode 1 with filled pipe
Lower limit: 0.15 kOhm Upper limit: 250 kOhm
21-06-2016: 4.496 kOhm

Resistance electrode 1 with empty pipe
21-06-2016: Not measured

Resistance electrode 2 with filled pipe
Lower limit: 0.15 kOhm Upper limit: 250 kOhm
21-06-2016: 4.687 kOhm

Resistance electrode 2 with empty pipe
21-06-2016: Not measured

Isolation
Lower limit: 2 MOhm
21-06-2016: 21 MOhm

Trends

Device identification:	D R WAS	Full scale range:	60 l/s
Medium:	SLUDGE	Current output:	4 - 20
Converter type:	IFC010	Frequency output:	0-1000 Hz
Number:	00069498	Diameter:	80 mm / 3 inch
Order number:		PC:	2.5
		Field frequency:	1/6
		Empty pipe:	No

Field current
Nullvalue: 133.237 mA Lower limit: 132.837 mA (-0.3%) Upper limit: 133.637 mA (+0.3%)
17-08-2018: 133.201 mA (-0.03%)

Field frequency
Nullvalue: 9.167 Hz Lower limit: 7.792 Hz (-15%) Upper limit: 10.542 Hz (+15%)
17-08-2018: 10.001 Hz (-8.34%)

ADC 25%
Nullvalue: 25 % Lower limit: 24.9 % (-0.4%) Upper limit: 25.1 % (+0.4%)
17-08-2018: 24.992 % (-0.04%)

ADC 50%
Nullvalue: 50 % Lower limit: 49.8 % (-0.4%) Upper limit: 50.2 % (+0.4%)
17-08-2018: 49.986 % (-0.03%)

ADC 75%
Nullvalue: 75 % Lower limit: 74.7 % (-0.4%) Upper limit: 75.3 % (+0.4%)
17-08-2018: 75.001 % (0%)

ADC 100%
Nullvalue: 100 % Lower limit: 99.6 % (-0.4%) Upper limit: 100.4 % (+0.4%)
17-08-2018: 99.999 % (-0.01%)

Current output 4mA
Nullvalue: 4 mA Lower limit: 3.968 mA (-0.3% - 0.02 mA) Upper limit: 4.032 mA (+0.3% + 0.02 mA)
17-08-2018: 3.998 mA (-0.06%)

Current output 20mA
Nullvalue: 20 mA Lower limit: 19.92 mA (-0.3% - 0.02 mA) Upper limit: 20.08 mA (+0.3% + 0.02 mA)
17-08-2018: 19.987 mA (-0.07%)

Pulse output
Nullvalue: 500 Hz Lower limit: 499 Hz (-0.2%) Upper limit: 501 Hz (+0.2%)
17-08-2018: 499.962 Hz (-0.01%)

Coil resistance
Lower limit: 30 Ohm Upper limit: 250 Ohm
17-08-2018: 103.99 Ohm

Resistance electrode 1 with filled pipe
Lower limit: 0.15 kOhm Upper limit: 250 kOhm
17-08-2018: 4.099 kOhm

Resistance electrode 1 with empty pipe
17-08-2018: Not measured

Resistance electrode 2 with filled pipe
Lower limit: 0.15 kOhm Upper limit: 250 kOhm
17-08-2018: 4.333 kOhm

Resistance electrode 2 with empty pipe
17-08-2018: Not measured

Isolation
Lower limit: 2 MOhm
17-08-2018: 21 MOhm

Appendix D

Biosolids Quality Reports

Ontario Clean Water Agency

Biosolids Quality Report - Liquid

Digestor Type: AEROBIC

Solids and Nutrients

Facility: DEEP RIVER WASTEWATER TREATMENT FACILITY

Works: 5853

Period: 01/01/2018 to 12/01/2018

Facility Name: *DEEP RIVER WASTEWATER TREATMENT FACILITY*

Facility Owner: *Municipality: TOWN OF DEEP RIVER*

Facility Classification: *Class 2 Wastewater Treatment*

Receiver: *OTTAWA RIVER*

Service Population: *4109.0*

Total Design Capacity: *2727.0 m3/day*

Period Being Reported: 01/01/2018 12/01/2018

Month	Total Sludge Hauled (m3)	Avg. Total Solids (mg/L)	Avg. Volatile Solids (mg/L)	Avg. Total Phosphorus (mg/L)	Ammonia (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	TKN (mg/L)	Ammonia + Nitrate (mg/L)	Potassium (mg/L)
Site	DEEP RIVER WASTEWATER TREATMENT FACILITY									
Station	Bslq Station only									
Parameter Short Name	HauledVol	TS	VS	TP	NH3p_NH4p_N	NO3-N	NO2-N	TKN	calculation in report - no T/S	K
T/s	IH Month.Total	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean		Lab Published Month Mean
Jan										
Feb										
Mar		17,200.000	12,650.000	502.500	14.250	10.000	10.000	924.500	12.125	22.000
Apr		16,700.000	12,200.000	481.000	10.890	5.050	5.050	828.000	7.970	1,000.000
May		16,500.000	12,050.000	476.500	18.365	54.965	50.050	745.500	36.665	2,390.000
Jun		11,530.000	8,465.000	318.000	41.100	5.050	5.050	750.000	23.075	74.500
Jul		16,633.333	10,856.667	580.333	25.710	9.543	10.000	682.667	17.627	66.333
Aug		12,730.000	7,900.000	407.000	3.225	28.200	10.000	514.000	15.713	46.500
Sep		12,790.000	8,355.000	531.500	12.870	53.400	10.000	487.000	33.135	43.300
Oct	1,664.000	18,400.000	11,750.000	606.500	3.105	86.350	10.000	758.000	44.728	49.650
Nov										
Dec										
Average	1,664.000	15,310.417	10,528.333	487.917	16.189	31.570	13.769	711.208	23.880	461.535
Total	1,664.000	122,483.333	84,226.667	3,903.333	129.515	252.558	110.150	5,689.667	191.037	3,692.283

Ontario Clean Water Agency

Biosolids Quality Report - Liquid

Digestor Type: AEROBIC

Metals and Criteria

Facility: DEEP RIVER WASTEWATER TREATMENT FACILITY

Works: 5853

Period: 01/01/2018 to 12/01/2018

Month	Arsenic (mg/L)	Cadmium (mg/L)	Cobalt (mg/L)	Chromium (mg/L)	Copper (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Lead (mg/L)	Selenium (mg/L)	Zinc (mg/L)
Site	DEEP RIVER WASTEWATER TREATMENT FACILITY										
Station	Bslq Station only										
Parameter Short Name	As	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Zn
T/s	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean
Jan											
Feb											
Mar	0.050	0.019	0.045	0.310	6.450	0.050	0.085	0.260	0.325	0.055	8.800
Apr	0.045	0.018	0.040	0.295	5.975	0.050	0.080	0.245	0.290	0.055	7.915
May	0.045	0.016	0.040	0.290	6.035	0.050	0.075	0.245	0.305	0.050	11.120
Jun	0.025	0.010	0.025	0.165	3.885	0.050	0.045	0.145	0.180	0.035	8.480
Jul	0.050	0.021	0.047	0.353	6.873	0.050	0.083	0.300	0.343	0.060	9.580
Aug	0.075	0.031	0.060	0.455	8.865	0.050	0.110	0.370	0.445	0.095	10.910
Sep	0.043	0.037	0.050	0.270	5.465	0.030	0.075	0.235	0.300	0.037	8.140
Oct	0.059	0.037	0.050	0.430	8.555	0.037	0.095	0.290	0.480	0.055	9.105
Nov											
Dec											
Average	0.049	0.023	0.045	0.321	6.513	0.046	0.081	0.261	0.334	0.055	9.256
Max. Permissible Metal Concentrations (mg/kg of Solids)	170.000	34.000	340.000	2,800.000	1,700.000	11.000	94.000	420.000	1,100.000	34.000	4,200.000
Metal Concentrations in Sludge (mg/kg)	3.196	1.524	2.912	20.969	425.391	2.996	5.293	17.064	21.785	3.605	604.572

Ontario Clean Water Agency

Biosolids Quality Report - Liquid - Based on Last 4 Samples

Digestor Type: AEROBIC

Facility: DEEP RIVER WASTEWATER TREATMENT FACILITY

Works: 5853

Period: 01/01/2018 to 12/01/2018

Parameter Short Name	Time Series	09/04/2018	09/18/2018	10/02/2018	10/16/2018	Average	Metal Concentrations in Sludge (mg/kg):	Max. Permissible Metal Concentrations (mg/kg of Solids):
As (mg/L)	Lab Published	0.060	0.025	0.058	0.060	0.051	3.270	170
Cd (mg/L)	Lab Published	0.024	0.050	0.050	0.023	0.037	2.373	34
Co (mg/L)	Lab Published	0.050	0.050	0.050	0.050	0.050	3.206	340
Cr (mg/L)	Lab Published	0.390	0.150	0.490	0.370	0.350	22.443	2800
Cu (mg/L)	Lab Published	7.940	2.990	8.400	8.710	7.010	449.503	1700
Hg (mg/L)	Lab Published	0.050	0.010	0.024	0.050	0.033	2.116	11
Mo (mg/L)	Lab Published	0.100	0.050	0.090	0.100	0.085	5.450	94
Ni (mg/L)	Lab Published	0.320	0.150	0.280	0.300	0.262	16.800	420
Pb (mg/L)	Lab Published	0.400	0.200	0.560	0.400	0.390	25.008	1100
Se (mg/L)	Lab Published	0.060	0.013	0.040	0.070	0.046	2.950	34
Zn (mg/L)	Lab Published	9.950	6.330	9.340	8.870	8.622	552.870	4200
E. Coli: Dry Wt (cfu/g)	Lab Published	4,710.000	890,000.000	11,100.000	41,600.000	37,299.826	E.Coli average is the GMD	
TS (mg/L)	Lab Published	15,700.000	9,880.000	17,700.000	19,100.000	15,595.000		
VS (mg/L)	Lab Published	9,570.000	7,140.000	11,100.000	12,400.000	10,052.500		
TP (mg/L)	Lab Published	774.000	289.000	620.000	593.000	569.000		
NO2-N (mg/L)	Lab Published	10.000	10.000	10.000	10.000	10.000		
TKN (mg/L)	Lab Published	353.000	621.000	746.000	770.000	622.500		
K (mg/L)	Lab Published	49.000	37.600	45.300	54.000	46.475		
NH3p_NH4p_N (mg/L)	Lab Published	6.040	19.700	1.170	5.040	7.988		
NO3-N (mg/L)	Lab Published	96.800	10.000	79.300	93.400	69.875		

Appendix E

NASM Land Application Report

DEEP RIVER WWTP

LAND APPLICATION REPORT

2018

DATE	M3	NASM PLAN#	SITE NAME	SITE ADDRESS
10/20/18	220.00	22328	Sunny Hillcrest - Home Farm	County of Renfrew, Twp of Laurentian Valley, ALICE, Lot 18, 19, Conc 14 - Field 3A
10/21/18	279.00	22328	Sunny Hillcrest - Home Farm	County of Renfrew, Twp of Laurentian Valley, ALICE, Lot 18, 19, Conc 14 - Field 3A
10/21/18	112.00	22328	Sunny Hillcrest - Home Farm	County of Renfrew, Twp of Laurentian Valley, ALICE, Lot 18, 19, Conc 14 - Field 3B
10/22/18	279.00	22328	Sunny Hillcrest - Home Farm	County of Renfrew, Twp of Laurentian Valley, ALICE, Lot 18, 19, Conc 14 - Field 3A
10/22/18	156.00	22328	Sunny Hillcrest - Home Farm	County of Renfrew, Twp of Laurentian Valley, ALICE, Lot 18, 19, Conc 14 - Field 3B
10/23/18	148.00	22328	Sunny Hillcrest - Home Farm	County of Renfrew, Twp of Laurentian Valley, ALICE, Lot 18, 19, Conc 14 - Field 3A
10/23/18	245.00	22328	Sunny Hillcrest - Home Farm	County of Renfrew, Twp of Laurentian Valley, ALICE, Lot 18, 19, Conc 14 - Field 3B
10/24/18	225.00	22328	Sunny Hillcrest - Home Farm	County of Renfrew, Twp of Laurentian Valley, ALICE, Lot 18, 19, Conc 14 - Field 4
TOTAL	**1664.00**			
TOTAL 2018	**1664.00**			