ANNUAL REPORT

SNOW VALLEY HIGHLANDS

WASTEWATER TREATMENT PLANT

FOR THE PERIOD:
JANUARY 1, 2017 – DECEMBER 31, 2017

Prepared for the Corporation of the Township of Springwater
by the Ontario Clean Water Agency

Township of Springwater

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

REQUIREMENTS FOR ANNUAL PERFORMANCE REPORT

(In accordance with Amended Certificate of Approval No. 7115-5WXQ5B)

10. REPORTING

(6) The Owner shall prepare and submit to the *Water Compliance Supervisor*, a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

(a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;

(b) a description of any operating problems encountered and corrective actions taken;

(c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;

(d) a summary of any effluent quality assurance or control measures undertaken in the reporting period;

(e) a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and

(f) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6.

(g) a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;

(h) a summary of any complaints received during the reporting period and any steps taken to address the complaints;

(i) a summary of all By-pass, spill or abnormal discharge events; and

(j) any other information the *Water Compliance Supervisor* requires from time to time.

SNOW VALLEY HIGHLANDS WASTEWATER TREATMENT PLANT
ANNUAL PEFORMANCE REPORT FOR 2017

Ministry of the Environment & Climate Change
Barrie District Office
54 Cedar Point Drive, Unit 1203
Barrie, ON L4N 5R7

ATTN: ***Water Compliance Supervisor***

RE: 2017 Annual Performance Report for the Snow Valley Highlands Wastewater Treatment Plant 15 Alpine Drive, Springwater Township

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The enclosed 2017 Annual Performance Report for the Snow Valley Highlands Wastewater Treatment Plant summarizes the performance and related activities in accordance with its Certificate of Approval No. 7115-5WXQ5B as per Condition 10.6 elements a) through j) as follows:

a) A summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;

The following table outlines the water quality monitoring program at the Snow Valley Highlands Wastewater Treatment Plant as per its CoA as it applies to influent and effluent samples taken for the purpose of being analyzed by analytical laboratories. There are additional in-house samples taken and analyzed in-house throughout the year in order to help with process performance monitoring, adjustment, and optimization.

Table 1: Water Quality Monitoring Program

Source	Parameter	Frequency	Method
Raw Sewage (24-hour composite)	$CBOD_5$ Total Suspended Solids Total Phosphorus Total Kjeldahl Nitrogen	Monthly	External Analysis
Final Effluent (24-hour composite)	$CBOD_5$ Total Suspended Solids Total Phosphorus Nitrates	Weekly	

The following table outlines the effluent water quality compliance limits at the Snow Valley Highlands Wastewater Treatment Plant as per its CoA. The applicable effluent parameters are either “concentrations” expressed as milligrams per litre or “loadings” expressed as kilograms per day, and they are reportable as an Annual Average.

Table 2: Effluent Quality Objectives and Limits as per the CofA

Source	Parameter	Units	Compliance Objective	Compliance Limit	Reportable
Effluent (Concentration)	$CBOD_5$	mg/L	12.0	**15.0**	*Annual Average*
	TSS	mg/L	12.0	**15.0**	*Annual Average*
	Nitrates	mg/L	5.6	**7.0**	*Annual Average*
Effluent (Loading)	$CBOD_5$	kg/day	-	**2.7**	*Annual Average*
	TSS	kg/day	-	**2.7**	*Annual Average*
	Nitrates	kg/day	-	**1.26**	*Annual Average*

The following table and graph outline the Effluent flow data for 2017.

Table 4: Daily Effluent Flow Data in 2017

Month	Average Daily Flow (m^3)	Peak Flow (m^3)	Total Flow (m^3)
January	80.84	112.00	2506.00
February	84.71	118.00	2372.00
March	82.48	113.00	2577.00
April	91.83	113.00	2755.00
May	91.71	125.00	2843.00
June	82.43	110.00	2473.00
July	77.83	110.00	2412.70
August	76.06	109.00	2358.00
September	78.07	109.00	2342.00
October	78.35	111.00	2429.00
November	80.90	113.00	2427.00
December	80.90	113.00	2508.00
Annual	**82.18***	**125.00**	**29982.70**
Design	***180.0***	**-**	**-**

The average daily flow for 2017 was 82.18m^3, which is 45.6% of the specified design flow of 180m^3/day. The maximum flow rate for this reporting period was 125 $m^{3,}$ which is 69.4% of its rated capacity.

Please refer to the following graphical representation for more details on the flows.

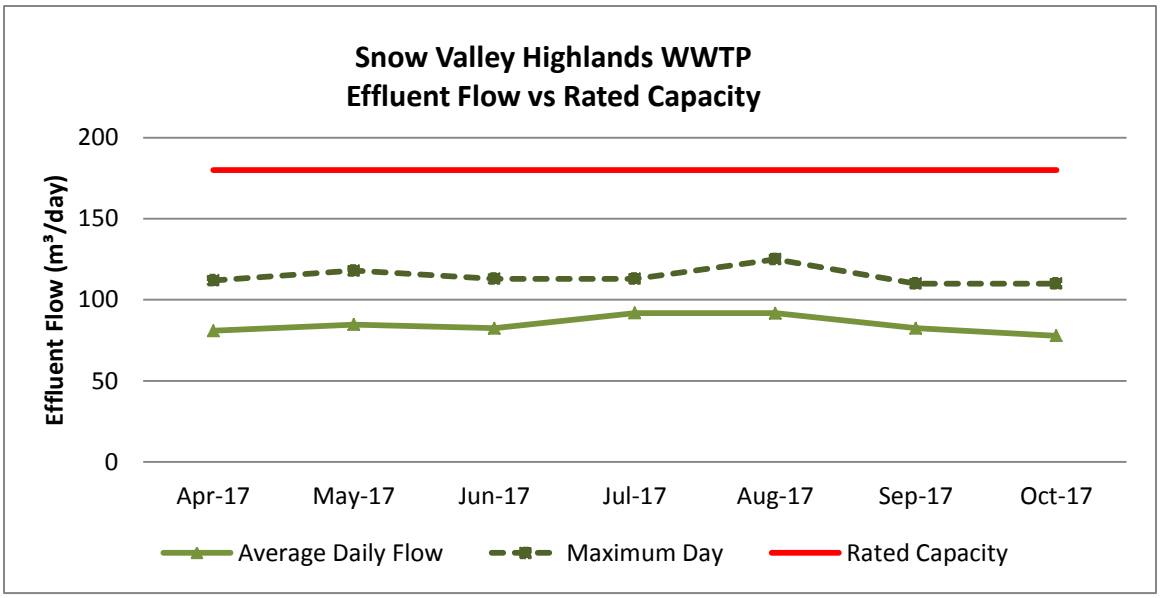


Table 2: Effluent Quality Limits & Comparison

Source	Parameter	Units	Compliance Limit	Annual Average	Annual Maximum
Effluent (Concentration)	$CBOD_5$	mg/L	**15.0**	2.9	7.5
	TSS	mg/L	**15.0**	4.6	6.0
	Nitrates	mg/L	**7.0**	2.9	5.3
Effluent (Loading)	$CBOD_5$	kg/day	**2.7**	0.2	0.6
	TSS	kg/day	**2.7**	0.4	0.5
	Nitrates	kg/day	**1.26**	0.24	0.40

The effluent parameters specified in the above table were analyzed by SGS Canada Inc., Lakefield, Ontario.

There were zero non-compliance events for the 2017 operating period.

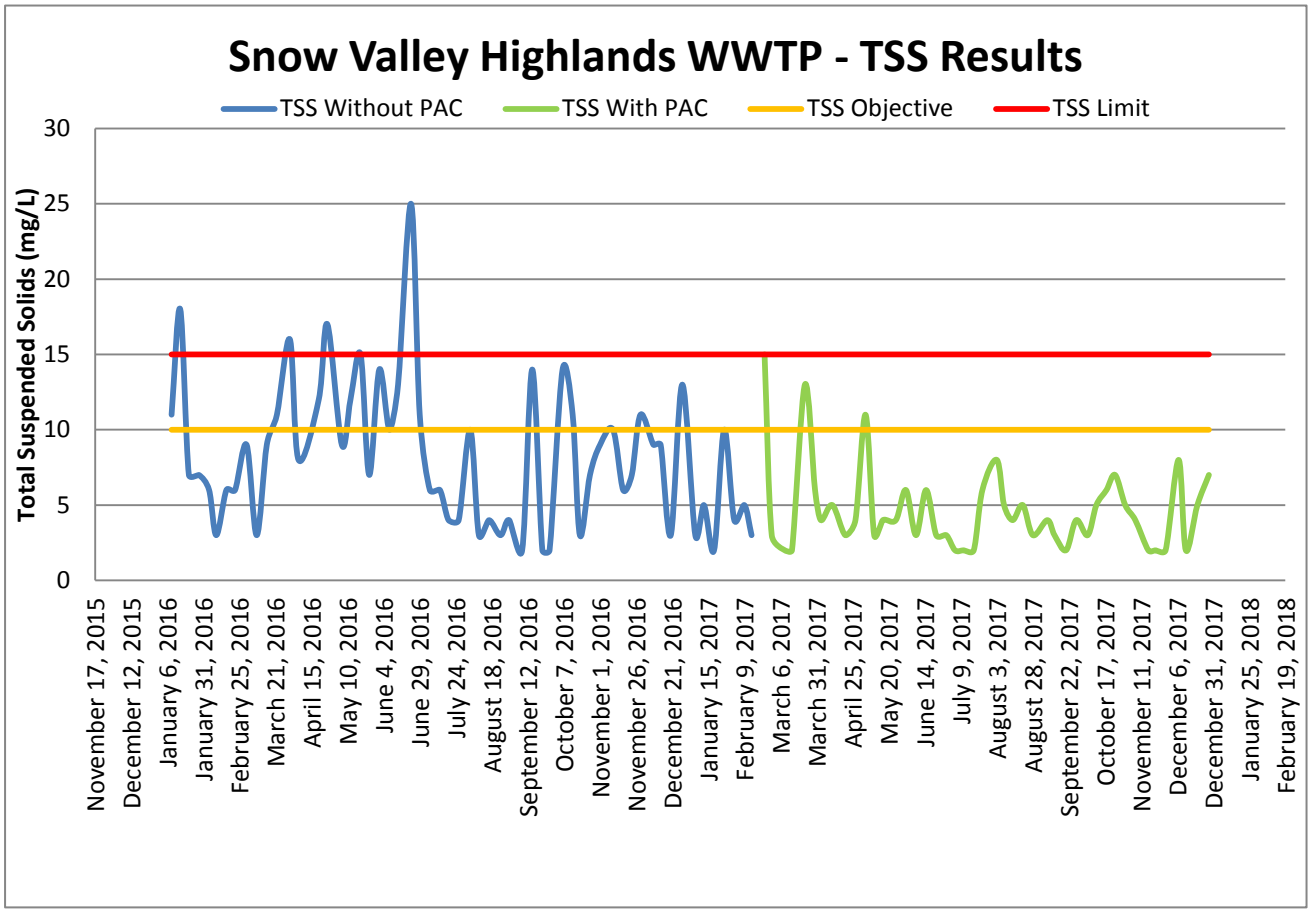
Based on the above monitoring program and effluent quality data, the sewage works provided adequate treatment for all parameters in 2017.

Refer to **Appendix A** for detailed performance assessment.

b) A description of any operating problems encountered and corrective actions taken;

i. In 2017, OCWA and Township of Springwater obtained approval from MOECC to complete a pilot study using Polyaluminum Chloride (PAX). This was introduced as an effort to reduce effluent total suspended solids at the Snow Valley WWTP. The addition of this coagulant in the process significantly improved the biomass

settling rate. Please refer to **Appendix B** for a spreadsheet that outlines the overall performance of the facility. A graphical representation of the results is also shown below:



Graph 1: PAX Results

ii. On February 13th 2017, it was discovered that Tile Bed #4b was not receiving effluent. All other tile beds were checked for flow and were deemed operational. Operators closed the valve to Tile Bed #4b and diverted the flow to the remaining beds. OCWA operations staff arranged jetting/cleaning of the plugged lines on tile bed #4b and were successful in clearing the blockages.

On August 30th 2017, there was an attempt to camera the lines of Tile Beds 7, 4A, 4B, and 1; however issues were encountered with solids and lines being backed up with effluent. As a result of this discovery, ROHES was arranged to jet/clean the tile beds. In November of 2017, Tile Bed 7 was replaced.

Staff continue to monitor flow to Beds weekly, and also perform monthly inspections of all distribution boxes to monitor performance.

c) ***A summary of maintenance carried out on major structure, equipment, apparatus, mechanism or thing forming part of the Works;***

Planned maintenance, including scheduled and non-scheduled maintenance activities are scheduled using a computerized Work Management System (WMS) that allows user to:

- Enter detailed asset information
- Generate and process work orders
- Access maintenance and inspection procedures
- Plan, schedule, and document all asset related tasks and activities
- Access maintenance records and asset histories

Work Orders are automatically generated by the WMS program and are assigned to the applicable Operations staff accordingly.

The following repairs and/or improvements were made in 2017:

- Repair - Portable gas detector
- PAX Chemical
- Pump repair/installment at Boothby Pump Station
- Emergency Effluent Tank Pump-Out
- Genset Battery Charger
- Boothby Pump Station – seals and capacitor

d) A summary of any effluent quality assurance or control measures undertaken in the reporting period;

OCWA operates the Snow Valley Highlands Wastewater Treatment Plant in accordance with provincial regulations.

- Use of Accredited Labs: analytical tests to monitor the effluent quality are conducted by a laboratory audited by the Canadian Association for Laboratory Accreditation Inc. (CALA) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analysts performing the test methods. During this monitoring period (January 1, to December 31, 2017), all chemical sample analyses were conducted by SGS (Lakefield) Canada Inc.

- Operation by Licensed Operators: Snow Valley Highlands WWTP is operated and maintained by the Ontario Clean Water Agency's licensed Operation Staff. The mandatory licensing program for operators of sewage treatment facilities in Ontario is regulated under the Ontario Water Resources Act (OWRA) Regulation 435/93 and Ontario Regulation 129/04. Licensing means that an individual meets the education and experience requirements and has successfully passed the certification exam. The Georgian Highlands Region of the Ontario Clean Water Agency operates the sewage works from their North Simcoe Hub Office in Wasaga Beach, Ontario using only Licensed Operators.

- Sampling and Analytical Requirements: OCWA followed a sampling and analysis schedule required by the Certificate of Approval.

- Use of In-House Laboratory: in-house tests are conducted by Licensed Operators for monitoring purposes using Standard Methods. The data generated from these tests is used to determine the treatment efficiency while maintaining process control. All in-house monitoring equipment is calibrated based on the manufacturer's recommendations. The Snow Valley Highlands continues to provide excellent wastewater treatment quality. The Operators of the facility will continue to use their expertise in order to meet our objective of no exceedances of the CoA Effluent Compliance Limits and OCWA will continue to do their best to meet the CoA Effluent Objectives.

e) A summary of the calibration and maintenance carried out on all effluent monitoring equipment;

The flow meters used to measure the raw sewage and final effluent were calibrated on October 2017 by Indus Control Inc.

Refer to **Appendix C** for a copy of the Calibration Records.

f) A description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6;

A summary of the effluent water quality as it relates to the CoA Objectives is as follows:

There were periodic sample results in 2017 that exceeded the CBOD5, total suspended solids (TSS) and nitrate-nitrogen objectives. As previously mentioned, the PAX pilot study was initiated in an attempt to assist with reducing objective exceedances, and improving the overall wastewater quality. As shown, in section b) we have seen favourable results since commencing the PAC trial; the solids have been consistently below the ECA Objective and the overall system seems to be operating better. We have also received positive operational feedback with respect to this process change.

The table below summarizes this data.

Table 3: Effluent Quality Objectives & Comparison

Source	Parameter	Units	Compliance Objective	Maximum	Minimum
Effluent (Concentration)	$CBOD_5$	mg/L	**12.0**	22.0	2.0
	TSS	mg/L	**12.0**	15.0	2.0
	Nitrates	mg/L	**5.6**	18.3	0.7

As per CoA Section 6 (2) (a), OCWA operated the Snow Valley Highlands WWTP within the Rated Capacity of the Works (i.e. Average Daily Flow: 180 m^3/day)

As per ECA Section 6 (2) (b), OCWA used their best efforts to ensure that the Effluent was essentially free of floating and settleable solids, and did not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters throughout 2017.

Staff routinely monitored plant effluent quality and adjust process as required to maintain a high level of effluent quality from the Snow Valley Highlands WWTP.

g) A tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;

Sludge was hauled from the SBR tanks by a licensed hauler on several occasions to assist in process control. The table below shows a breakdown of sludge haulage for 2017.

Table 4 – Snow Valley Highlands Sludge Haulage 2017

Date	Volume Hauled (m^3)	Facility Transferred To
25-Jan-17	28.0	Elmvale WWTP
14-Feb-17	14.0	Elmvale WWTP
18-Feb-17	36.0	Elmvale WWTP
07-Mar-17	28.0	Elmvale WWTP
15-Mar-17	28.0	Elmvale WWTP
26-Mar-17	36.4	ROHES Sewage Lagoons
29-Mar-17	28.0	Elmvale WWTP
20-Apr-17	37.0	Elmvale WWTP
03-May-17	36.0	Elmvale WWTP
29-May-17	36.0	Elmvale WWTP
19-Jun-17	36.4	Elmvale WWTP
17-Jul-17	36.4	Elmvale WWTP
16-Aug-17	36.4	Elmvale WWTP
29-Sep-17	36.4	Elmvale WWTP
17-Nov-17	36.0	Elmvale WWTP
18-Dec-17	36.0	Elmvale WWTP
TOTAL	**525.0**	

It is expected that the sludge volumes that will be generated in 2018 should be around the same volume generated in 2017.

h) A summary of any complaints received during the reporting period and any steps taken to address the complaints;

SNOW VALLEY HIGHLANDS WASTEWATER TREATMENT PLANT
ANNUAL PEFORMANCE REPORT FOR 2017

There were no complaints regarding the Snow Valley Highlands WWTP during the 2017 reporting period.

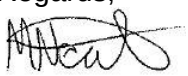
i) A summary of all By-pass, spill or abnormal discharge events;

There was one (1) spill event that occurred on May 17th 2017.
The source of the release was treated effluent from the subsurface Tile Bed #7, located along Seadon Road. The treated effluent filled the access chamber until it overflowed out of the manhole cover. This occurrence was reported to the appropriate authorities.
The details of this event are included in the Environmental Incident Report located in **Appendix D**.

j) Any other information the District Manager requires from time to time.

There is no additional information for the 2017 reporting period.

Regards,



Michelle Neal
Process and Compliance Technician
Ontario Clean Water Agency, North Simcoe Hub

cc. Heather Coleman, Director of Public Works, Township of Springwater

List of Appendices

Performance Assessment Report for 2017

Appendix A

Annual Summary

Ontario Clean Water Agency
Performance Assessment Report Wastewater/Lagoon

Report extracted 03/06/2018 12:15 **From: 01/01/2017 to 31/12/2017**

Facility: [8254] SNOW VALLEY HIGHLANDS WASTEWATER TREATMENT FACILIT

Works: [110003610]

	01/2017	02/2017	03/2017	04/2017	05/2017	06/2017	07/2017	08/2017	09/2017	10/2017	11/2017	12/2017	<--Total-->	<--Avg-->	<--Max-->	<--Criteria-->
Flows:																
Raw Flow: Total - Raw (m³)	3567.00	2336.00	2637.00	2685.00	2681.00	2500.00	2485.00	2347.00	2345.00	2336.00	2361.00	2552.00	30832.00			
Raw Flow: Avg - Raw (m³/d)	115.06	83.43	85.06	89.50	86.48	83.33	80.16	75.71	78.17	75.35	78.70	82.32		84.44		
Raw Flow: Max - Raw (m³/d)	145.00	101.00	105.00	111.00	101.00	105.00	96.00	94.00	111.00	96.00	101.00	100.00			145.00	
Eff. Flow: Total - Effluent (m³)	2506.00	2372.00	2557.00	2755.00	2843.00	2473.00	2412.70	2358.00	2342.00	2429.00	2427.00	2508.00	29982.70			
Eff. Flow: Avg - Effluent (m³/d)	80.84	84.71	82.48	91.83	91.71	82.43	77.83	76.06	78.07	78.35	80.90	80.90		82.18		
Eff. Flow: Max - Effluent (m³/d)	112.00	118.00	113.00	113.00	125.00	110.00	110.00	109.00	109.00	111.00	113.00	113.00			125.00	
Carbonaceous Biochemical Oxygen Demand: CBOD:																
Raw: Avg cBOD5 - Raw (mg/L)	132.000	224.000	234.000	307.000	338.000	403.000	312.000	231.000	167.000	410.000	260.000	250.000		272.333	410.000	
Raw: # of samples of cBOD5 - Raw (mg/L)	1	1	1	1	1	1	2	1	1	1	1	1	13			
Eff: Avg cBOD5 - Effluent (mg/L)	< 2.000	< 2.400	< 2.250	< 2.000	3.000	< 2.400	< 7.500	< 2.400	< 2.250	3.000	< 2.250	< 4.250		< 2.975	7.500	15.0
Percent Removal: cBOD5 - Raw (mg/L)	98.485	98.929	99.038	99.349	99.112	99.404	97.596	98.961	98.653	99.268	99.135	98.300			99.404	
Biochemical Oxygen Demand: BOD5:																
Total Suspended Solids: TSS:																
Raw: Avg TSS - Raw (mg/L)	141.000	124.000	143.000	211.000	156.000	98.000	316.500	188.000	98.000	104.000	103.000	100.000		148.542	316.500	
Raw: # of samples of TSS - Raw (mg/L)	1	1	1	1	1	1	2	1	1	1	1	1	13			
Eff: Avg TSS - Effluent (mg/L)	5.000	6.000	< 5.750	4.000	5.500	4.200	< 3.000	5.000	3.250	5.200	< 2.500	5.500		< 4.575	6.000	15.0
Eff: # of samples of TSS - Effluent (mg/L)	4	5	4	4	4	5	4	5	4	5	4	4	52			
Loading: TSS - Effluent (kg/d)	0.404	0.508	< 0.474	0.367	0.504	0.346	< 0.233	0.380	0.254	0.407	< 0.202	0.445		< 0.377	0.508	
Percent Removal: TSS - Raw (mg/L)	96.454	95.161	95.979	98.104	96.474	95.714	99.052	97.340	96.684	95.000	97.573	94.500			99.052	
Total Phosphorus: TP:																
Raw: Avg TP - Raw (mg/L)	5.710	6.900	5.030	16.400	5.440	9.930	10.145	7.590	9.240	7.640	8.430	7.180		8.303	16.400	
Raw: # of samples of TP - Raw (mg/L)	1	1	1	1	1	1	2	1	1	1	1	1	13			
Eff: Avg TP - Effluent (mg/L)	1.210	3.482	0.193	0.125	0.190	0.086	0.165	1.580	0.785	5.268	2.115	0.970		1.347	5.268	
Eff: # of samples of TP - Effluent (mg/L)	4	5	4	4	4	5	4	5	4	5	4	4	52			
Loading: TP - Effluent (kg/d)	0.098	0.295	0.016	0.011	0.017	0.007	0.013	0.120	0.061	0.413	0.171	0.078		0.108	0.413	
Percent Removal: TP - Raw (mg/L)	78.809	49.536	96.173	99.238	96.507	99.134	98.374	79.183	91.504	31.047	74.911	86.490			99.238	
Nitrogen Series:																
Raw: Avg TKN - Raw (mg/L)	45.000	47.100	45.200	88.100	44.500	81.400	64.250	55.600	48.900	59.700	66.100	59.000		58.738	88.100	
Raw: # of samples of TKN - Raw (mg/L)	1	1	1	1	1	1	2	1	1	1	1	1	13			
Eff: Avg TAN - Effluent (mg/L)	< 0.150	0.680	< 1.425	< 0.775	< 5.400	< 0.100	< 0.150	< 0.160	< 0.925	0.960	1.125	3.675		< 1.294	5.400	
Eff: # of samples of TAN - Effluent (mg/L)	4	5	4	4	4	5	4	5	4	5	4	4	52			
Loading: TAN - Effluent (kg/d)	< 0.012	0.058	< 0.118	< 0.071	< 0.495	< 0.008	< 0.012	< 0.012	< 0.072	0.075	0.091	0.297		< 0.110	0.495	
Eff: Avg NO3-N - Effluent (mg/L)	3.683	5.186	4.160	2.925	1.643	1.176	0.675	5.306	0.908	2.840	4.502	1.988		2.916	5.306	
Eff: # of samples of NO3-N - Effluent (mg/L)	4	5	4	4	4	5	4	5	4	5	4	4	52			
Eff: Avg NO2-N - Effluent (mg/L)	< 0.050	< 0.084	< 0.220	< 0.130	< 0.190	< 0.032	< 0.050	< 0.106	< 0.110	< 0.180	0.090	< 0.108		< 0.112	0.220	
Eff: # of samples of NO2-N - Effluent (mg/L)	4	5	4	4	4	5	4	5	4	5	4	4	52			
Disinfection:																

$CBOD_5$ Loading

Snow Valley Highlands WWTP
2017

ECA #7115-5WXQ5B
Effluent Limit = 2.7 kg/day (annual average loading)

Source:	Lab Report	Lab Report	WISKI PAR	Avg Daily Flow for the Year	Avg Daily Flow (Year) x Avg $CBOD_5$ (Year) / 1000
Month	**Day**	**$CBOD_5$ Concentration (mg/L)**	**Flow Average Daily for the Month (m^3/day)**	**Flow Average Daily for the Year (m^3/day)**	**$CBOD_5$ Annual Average Loading (kg/day)**
January	6	2.00	80.8	82.2	0.24
	12	2.00			
	19	2.00			
	26	2.00			
February	2	2.00	84.7		
	9	2.00			
	14	2.00			
	23	4.00			
	28	2.00			
March	9	2.00	82.5		
	14	2.00			
	23	2.00			
	30	3.00			
April	3	2.00	91.8		
	11	2.00			
	20	2.00			
	27	2.00			
May	4	3.00	91.7		
	10	4.00			
	16	3.00			
	25	2.00			
June	1	4.00	82.4		
	8	2.00			
	15	2.00			
	22	2.00			
	29	2.00			
July	5	2.00	77.83		
	11	2.00			
	18	22.00			
	24	4.00			
August	3	2.00	76.06		
	8	2.00			
	14	2.00			
	21	4.00			
	28	2.00			
September	7	3.00	78.07		
	12	2.00			
	20	2.00			
	27	2.00			
October	5	4.00	78.35		
	11	3.00			
	18	2.00			
	24	2.00			
	31	4.00			
November	7	2.00	80.9		
	16	3.00			
	21	2.00			
	28	2.00			
December	7	2.00	80.9		
	12	2.00			
	20	10.00			
	28	3.00			

TSS Loading

Snow Valley Highlands WWTP
2017

ECA #7115-5WXQ5B
Effluent Limit = 2.7 kg/day (annual average loading)

Source:	Lab Report	Lab Report	WISKI PAR	Avg Daily Flow for the Year	Avg Daily Flow (Year) x Avg TSS (Year) / 1000
Month	**Day**	**TSS Concentration (mg/L)**	**Flow Average Daily for the Month (m^3/day)**	**Flow Average Daily for the Year (m^3/day)**	**TSS Annual Average Loading (kg/day)**
January	6	3.00	80.8	82.2	0.38
	12	5.00			
	19	2.00			
	26	10.00			
February	2	4.00	84.7		
	9	5.00			
	14	3.00			
	23	15.00			
	28	3.00			
March	9	2.00	82.5		
	14	2.00			
	23	13.00			
	30	6.00			
April	3	4.00	91.8		
	11	5.00			
	20	3.00			
	27	4.00			
May	4	11.00	91.7		
	10	3.00			
	16	4.00			
	25	4.00			
June	1	6.00	82.4		
	8	3.00			
	15	6.00			
	22	3.00			
	29	3.00			
July	5	2.00	77.83		
	11	2.00			
	18	2.00			
	24	6.00			
August	3	8.00	76.06		
	8	5.00			
	14	4.00			
	21	5.00			
	28	3.00			
September	7	4.00	78.07		
	12	3.00			
	20	2.00			
	27	4.00			
October	5	3.00	78.35		
	11	5.00			
	18	6.00			
	24	7.00			
	31	5.00			
November	7	4.00	80.9		
	16	2.00			
	21	2.00			
	28	2.00			
December	7	8.00	80.9		
	12	2.00			
	20	5.00			
	28	7.00			

Nitrates Loading

Snow Valley Highlands WWTP
2017

ECA #7115-5WXQ5B
Effluent Limit = 1.26 kg/day (annual average loading)

Source:	Lab Report	Lab Report	WISKI PAR	Avg Daily Flow for the Year	Avg Daily Flow (Year) x Avg Nitrates (Year) / 1000
Month	**Day**	**Nitrates Concentration (mg/L)**	**Flow Average Daily for the Month (m^3/day)**	**Flow Average Daily for the Year (m^3/day)**	**Nitrates Annual Average Loading (kg/day)**
January	6	2.16	80.8	82.2	0.24
	12	3.76			
	19	4.52			
	26	4.29			
February	2	7.70	84.7		
	9	6.43			
	14	6.16			
	23	2.90			
	28	2.67			
March	9	1.85	82.5		
	14	8.16			
	23	2.45			
	30	4.18			
April	3	2.11	91.8		
	11	3.77			
	20	1.22			
	27	4.60			
May	4	4.37	91.7		
	10	0.77			
	16	0.84			
	25	0.59			
June	1	0.94	82.4		
	8	2.30			
	15	0.77			
	22	1.01			
	29	0.86			
July	5	0.60	77.83		
	11	0.50			
	18	0.75			
	24	0.85			
August	3	0.71	76.06		
	8	0.76			
	14	0.92			
	21	5.84			
	28	18.30			
September	7	0.97	78.07		
	12	0.99			
	20	0.39			
	27	1.28			
October	5	3.98	78.36		
	11	2.43			
	18	5.18			
	24	1.28			
	31	1.33			
November	7	0.71	80.9		
	16	3.29			
	21	2.41			
	28	11.60			
December	7	5.01	80.9		
	12	1.00			
	20	0.70			
	28	1.24			

PAX Trial for 2017

Appendix B

Total Suspended Solids Results

Snow Valley Highlands WWTP

Polyaluminum Chloride (PAC) Trial

On-Going Since February 21, 2017

TSS Limit = 15 mg/L
TSS Objective = 10 mg/L

Month	Dosage (mg/L)		
	Minimum	Average	Maximum
February	319	375	416
March	126	373	693
April	256	495	714
May			
June	158	328	795

Date	TSS Result (mg/L)
January 9, 2016	**11**
January 15, 2016	**18**
January 21, 2016	7
January 28, 2016	7
February 4, 2016	6
February 9, 2016	3
February 16, 2016	6
February 22, 2016	6
March 1, 2016	9
March 8, 2016	3
March 15, 2016	9
March 22, 2016	**11**
March 31, 2016	**16**
April 6, 2016	8
April 20, 2016	**12**
April 26, 2016	**17**
May 6, 2016	9
May 12, 2016	**12**
May 19, 2016	**15**
May 25, 2016	7
June 1, 2016	**14**
June 8, 2016	**10**
June 14, 2016	**13**
June 23, 2016	**25**
June 29, 2016	**11**
July 6, 2016	6
July 13, 2016	6
July 19, 2016	4
July 26, 2016	4
August 3, 2016	**10**
August 9, 2016	3
August 16, 2016	4
August 24, 2016	3
August 30, 2016	4
September 8, 2016	2
September 15, 2016	**14**
September 22, 2016	2
September 27, 2016	2
October 6, 2016	**14**
October 13, 2016	**11**
October 18, 2016	3
October 25, 2016	7
November 1, 2016	9
November 10, 2016	**10**
November 17, 2016	6
November 23, 2016	7
November 29, 2016	**11**
December 8, 2016	9
December 13, 2016	9
December 20, 2016	3
December 28, 2016	**13**

Date	TSS Result (mg/L)
January 6, 2017	3
January 12, 2017	5
January 19, 2017	2
January 26, 2017	**10**
February 2, 2017	4
February 9, 2017	5
February 14, 2017	3
February 23, 2017	**15**
February 28, 2017	3
March 9, 2017	2
March 14, 2017	2
March 23, 2017	**13**
March 30, 2017	6
April 3, 2017	4
April 11, 2017	5
April 20, 2017	3
April 27, 2017	4
May 4, 2017	**11**
May 10, 2017	3
May 16, 2017	4
May 25, 2017	4
June 1, 2017	6
June 8, 2017	3
June 15, 2017	6
June 22, 2017	3
June 29, 2017	3
July 5, 2017	2
July 11, 2017	2
July 18, 2017	2
July 24, 2017	6
August 3, 2017	8
August 8, 2017	5
August 14, 2017	4
August 21, 2017	5
August 28, 2017	3
September 7, 2017	4
September 12, 2017	3
September 20, 2017	2
September 27, 2017	4
October 5, 2017	3
October 11, 2017	5
October 18, 2017	6
October 24, 2017	7
October 31, 2017	5
November 7, 2017	4
November 16, 2017	2
November 21, 2017	2
November 28, 2017	2
December 7, 2017	8
December 12, 2017	2
December 20, 2017	5
December 28, 2017	7

Calibration Reports for 2017

Appendix C

Flow Meters

VERIFICATION REPORT

CUSTOMER:
GEORGIAN BAY **- Springwater - Elmvale**
ADDRESS :
15 Alpine Trail, Minesing

EQUIPMENT ITEM: MANGNETIC FLOW METER
REPORT NO.: GB_HIGHLAND_1710_01
OCWA NUMBER: 92418
SERVICE DATE: October 25, 2017
LOCATION: EFFLUENT FLOW METER
MANUFACTURER: ABB
CONTACT PERSON HAREKRISHNA BHAGATJI
PART NUMBER: MAGMASTER
SENS. SERIAL NO.: P/51307/2/10
JOB NO.: CO1016-1709

	STATUS	COMMENT
MOUNTING	A	
ELECTRICAL	A	
CERTIFICATION	A	
NAMEPLATE	A	

STATUS LEGEND
A: INSPECTED AND FOUND ACCEPTABLE
B: INSPECTED, FOUND DEFECTIVE AND CORRECTED
C: INSPECTED, FOUND DEFECTIVE AND NOT CORRECTED
D: NOT INSPECTED

OUTPUT	SIGNAL	PROCESS
TYPE:	mA	L/S
MIN.:	4.00	0
MAX:	20.00	50

TEST EQUIPMENT			
Description	**Serial No.**	**Calibration Date**	**Due Date**
Fluke 179	**29660064**	**04/20/2017**	**04/20/2018**

TEST POINT	COMPARATIVE VALUE - DISPLAY	OUT PUT	CALC. OUTPUT	DEVIATION
	LPS	mA	LPS	ML/D
1	0.00	4.00	0.00	0.00%
2	12.50	7.97	12.47	0.24%
3	25.00	11.97	24.91	-0.36%
4	37.50	15.98	37.56	0.16%
5	50.00	20.01	49.99	-0.02%

PARAMETES AND SETTINGS
UNIT : L/S, RANGE : 50 LPS, TOTALIZER UNIT : Cubic M, K FACTOR - 1.00839 / 5 / 1.0000, DIA : 100 mm

COMMENTS

RESULTS MEASURMENT WORKS WITHIN THE SPECIFICATION, CALIBRATION PASSED

SERVICE BY: HAREKRISHNA BHAGATJI
DATE: 25/10/2017

WITNESS BY:
DATE:

Endress+Hauser
People for Process Automation

Verification report flowmeter

Plant operator	INDUSCONTROL INC
Device information	
Location HIGHLAND	**Device tag** Promag
Module name Promag L	**Nominal diameter** DN80 / 3"
Device name Promag 400	**Order code** 5L4C80-3WC6/101
Serial number L6004916000	**Firmware version** 01.05.05
Calibration	
Calibration factor 0.9901	**Zero point** 2

Verification information	
Operating time 378d23h28m34s	**Date/time** 25.10.17 12:00
Verification ID 2	
Verification results	
Overall result	☑ **Passed**
Detailed results	See next page

Overall result: Result of the complete device functionality test via Heartbeat Technology

Notes

Validity of the verification report is only given:
For devices with the Heartbeat Verification enabled software option
For verifications, carried out by the Endress+Hauser Service, or an authorized Endress+Hauser service provider

Date	Inspectors signature	Operator's signature

Endress+Hauser
People for Process Automation

Verification report flowmeter

Serial number: L6004916000
Verification detailed results Verification ID 2

Sensor	✓	**Passed**
Coil current shot time	✓	Passed
Coil hold voltage	✓	Passed
Coil current	✓	Passed
Sensor electronic module	✓	**Passed**
Reference voltage	✓	Passed
Linearity of electrode measuring circuit	✓	Passed
Offset of electrode measuring circuit	✓	Passed
I/O module	✓	**Passed**

Record of By-Passing and Spills for 2017

Appendix D

```
                    ******************************
                    ***   MULTI TX/RX REPORT   ***
                    ******************************

TX/RX NO                4619
PGS.                       4
TX/RX INCOMPLETE
                        -----
TRANSACTION OK
                        [*012]7057396350                MOE - Water
                        [*014]18002686061               SAC - MOE
                        [*018]7057286957                Springwater Twp
                              18194207382
                              17053289865
                              14163148300
ERROR INFORMATION
                        -----
```

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

30 Woodland Drive
Wasaga Beach, Ontario
L9Z 2V4

TEL: 705 429-2525
FAX: 705 429-7967
www.ocwa.com

Fax

To:

Mark Bailey – MOECC Barrie District Office
Mark Archer – Township of Springwater
Environment Canada
Spills Action Centre – SAC
Richard Junkin – OCWA VP Operations
Liz Chopp – OCWA Operations Analyst

From: **Robyn Waher**
Date: **Wednesday, May 17, 2017**
Number of Pages (including this one): **4**
Subject: **Notification of Spill - Snow Valley Highlands Wastewater Treatment Plant - Incident #8217-AMFJ4D**

Please find the attached **Environmental Incident Report** for the **Notification of Spill at Snow Valley Highlands Wastewater Treatment Plant - Incident #7042-AGBLUX.**

This is submitted in accordance with terms and conditions of **Certificate of Approval (CofA) #7115-5WXQB5** and provisions of the *Ontario Water Resources Act* and *Environmental Protection Act.*

Ontario Clean Water Agency
Environmental Incident Report

Facility ID: 8254 EIncidentReport

Facility Name: Snow Valley Highlands Wastewater treatment and Collection PDC

Address: 15 Alpine Trail, RR#3

City: Minesing

Province: Ontario

Postal Code: L0L 1Y3

Date of Occurrence: 05/17/2017

Time of Occurrence: 07:30:00 AM

Nature of the Incident

● Level 1 Contingency ○ Level 2 Contingency ○ Level 3 Contingency *Click here To Show the Definitions*

Incident affected: ☐ Air ☐ Water ☒ Land ☐ Nothing

What was discharged or emitted?

☐ Chlorine
☐ Sodium Hypochlorite
☐ Calcium Chloride
☐ Aluminum Compounds (Specify in Other)
☐ Arsenic
☐ Fluoride
☐ Oil/Diesel/Gas
☐ Untreated or partly treated sewage
☐ Odours
☐ Water
☐ Iron Coagulants

Other: Treated Effluent

If this was a discharge, spill or emission...

If a liquid, approximately what quantity was released?: 10 Litres

If a gas, approximately what quantity was released?:

If a solid, approximately what quantity was released?: Kg

What was the source of release?:

The source of the release was treated effluent from the subsurface Tile Bed #7, located along Seadon Road. The treated effluent filled the access chamber until it overflowed out of the manhole cover.

Where did the release go?:

The treated effluent overflowed/spilled over the manhole cover at Tile Bed #7 and surrounded the manhole cover on the grassy ground.

If it entered a watercourse: ○ Yes ● No

If it went off site: ○ Yes ● No

Duration of the release?: Unknown

Is the release now stopped?: ● Yes ○ No

Was there any damage? (i.e. property and/or environmental): ○ Yes ● No ○ N/A

If "Yes", describe below and fill out "Insurance Claim" report

Action(s) Taken

What actions were taken to control the incident?

The effluent pumps shut off and the treated effluent level within the chamber dropped and the spilled treated effluent dissipated (appeared to have seeped into the grassy ground).

What actions have been taken to remediate the incident?

Tile Bed #7 has since been isolated (valve closed) and OCWA will be in contact with a contractor to perform jetting, etc. Afterward, there will be further investigation into the matter.

Was this a reportable spill or discharge?: ● Yes ○ No

If "Yes", at what time was it first reported to the MOE?

The incident was discussed with Mark Bailey, MOECC Inspector from the Barrie Office, at 08:30. Guidance was sought and it was advised that this spill be reported to SAC.

Was it reported to the MOE district office?: ● Yes ○ No

If "Yes", which office/location and who was the contact?: Barrie Office. Mark Bailey.

Was it reported to MOE SAC?: ○ Yes ○ No

If "Yes", at what time was it reported to MOE SAC?:

It was reported to MOECC SAC at 09:42. The incident was discussed with Brenda Capicciotti, Environmental Officer, and an Incident Report #8217-AMFJ4D was issued.

Was it reported to Municipality?: ○ Yes ○ No

If "Yes", at what time was it reported to Municipality?:

Yes, via e-mail from Richard Eagle on May 17, 2017.

External Assistance/Involvement

Was corporate or area office assistance requested?: ○ Yes ● No

If "Yes", was it received?: ○ Yes ○ No

Was external emergency assistance requested?: ○ Yes ● No

If "Yes", from who?: ☐ Fire Department ☐ Equipment Suppliers ☐ Canutec
☐ Ambulance or Hospital ☐ MOE ☐ Coast Guard
☐ Police ☐ Municipality

Other: _____

Was there any media involvment?: ○ Yes ● No

If "Yes", who?: _____

Was the public affected?: ○ Yes ● No

If "Yes", how?: _____

Updated By: Robyn Waher 05/17/2017 11:35:47 AM

Comments:

As a courtesy, the Simcoe Muskoka District Health Unit was contacted at 10:20 on May 17, 2017 and incident was discussed with Rob Towns who is a Senior Public Health Inspector.