



**GREEN VALLEY SEWAGE TREATMENT
Annual Report
2018**

**Prepared by Shawn Killoran
Director of Water/Wastewater Operations**

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**The Corporation of the Township of South Glengarry
Green Valley Sewage Treatment
(Sewage Plant)
2018 Annual Performance Report**

In accordance with the Certificate of Approval, Number 3-2012-88-896, Issue date August 1, 1989 the Water Pollution Control Plant (WPCP) is required to prepare an annual performance report. This document covers the reporting year January 01 to December 31, 2018; the facility performance report summarizes important information regarding the quality of the effluent wastewater, analytical test results, maintenance operations, and relevant activities of the WPCP.

DESCRIPTION OF WORKS

Capacity of Works	300 m ³ /day (average daily flow)
Service Area	Hamlet of Green Valley
Service Population	approximately 475
Effluent Receiver	Beaudette River
Major Process	Twin cell waste stabilization pond, with annual alum dosing for phosphorus and solids removal.

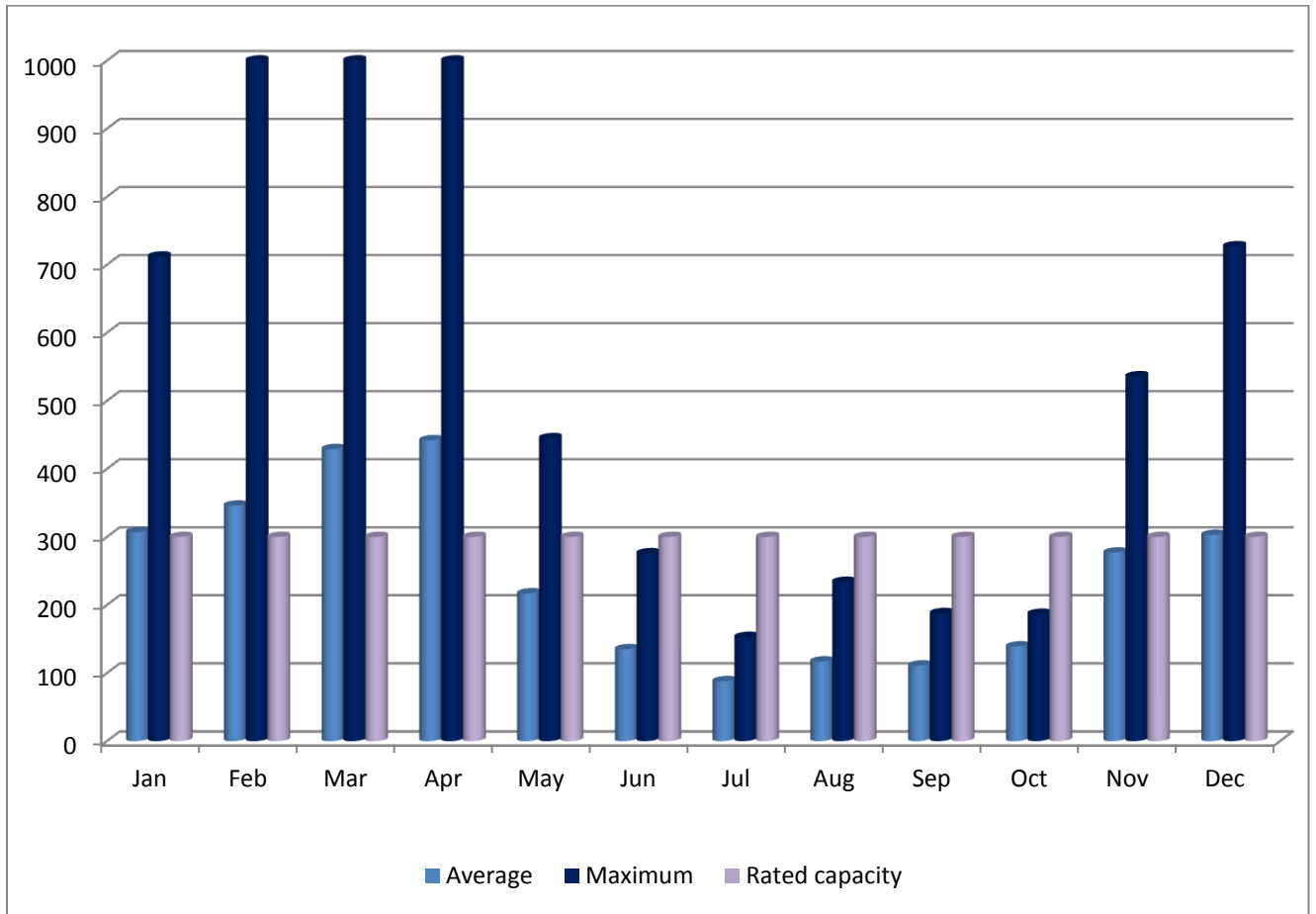
The Green Valley WPCP received and operates its operation under *Certificates of Approval (now referred to as Environmental Compliance Approval [ECA]) Number 3-2012-88-896*, in accordance with Section 53 of the Ontario Water Resources Act. The Certificate of Approval outlines the terms and conditions, and, the report captures these terms and conditions in the following sections.

Rated Capacity

For the purposes of the ECA and the terms and conditions specified, the following definition applies: “*Rated Capacity*” means the *Average Daily Flow* for which the *Works* are approved to handle.

The rated capacity of the Green Valley WPCP is 300 cubic meters per day (m³/day); that is raw influent (flow) into the lagoon for treatment. During the reporting year 2018.

Monthly Average and Maximum Daily Flows for 2018
(Rated capacity 300 m³/day)



EFFLUENT LIMITS

The *Owner* shall operate and maintain the *Works* such that the concentrations and waste loadings of the materials named in Table 1 as effluent parameters are not exceeded in the effluent from the *Works*.

Effluent Limits as per C of A, conditions 10 (1) Table 1

Effluent Parameter	Average Concentration (milligrams per litre unless otherwise indicated)	Average Loading Objective (kilograms per day unless otherwise indicated)
Column 1	Column 2	Column 3
<i>CBOD</i> ₅	30	214.3
Total Suspended Solids	30	214.3
Total Phosphorus	1.0	7.1

MONITORING AND RECORDING

The *Owner* shall, upon commencement of operation of the *Works*, carry out the following the monitoring program.

Effluent Monitoring - (samples to be collected at the outlet of the disinfection facilities or at the outfall sewer as close as possible at the treatment plant)

Effluent Monitoring

Parameters	Sample Type	Frequency
<i>CBOD</i> ₅	Grab	Every 0.5 meters
Total Suspended Solids	Grab	Every 0.5 meters
Total Phosphorus	Grab	Every 0.5 meters

LABORATORY

Caduceon Environmental laboratories is contracted to conduct the required analytical tests of the influent (raw) and effluent samples, as per the ECA.

2018 ANNUAL EFFLUENT QUALITY:

Parameters	Average Concentration mg/L	Criteria Concentration mg/L	Average Loading, kg/d	Loading Criteria, kg/d
CBOD ₅	5.25	30	24.44	214.3
Total Suspended Solids	15.75	30	73.33	214.3
Total Phosphorus	0.27	1.0	1.26	7.1

In the reporting year 2018, the *Works* were operated and maintained such that the concentrations and waste loadings of the materials named in Table 2 as effluent parameters were not exceeded in the effluent from the *Works*; in compliance with the ECA requirements for the effluent limits parameters.

In addition, *best efforts* were achieved with the objective that the concentrations and loadings of the materials named above in (Table 1) as effluent parameters were not exceeded in the effluent from the *Works*

INVENTORY

Chemical	Annual Status	Units
Alum	14	Cubic meters

MAINTENANCE

The operators performed the routine operations and maintenance at the treatment plant and pumping stations in accordance with the preventative maintenance program (report on file at plant). The activities are highlighted as follows:

MONTHLY

- Checked operations and performance of sewage pumps.

Pump Stations:

- Re-grease grey-line unit probes in sewage pump stations

QUARTERLY

- N/A

SEMI-ANNUALLY

- N/A

ANNUALLY

- Annual calibration of monitoring equipment – Flowmetrix Technical Services Inc.
- Annual calibration of flow meters – Flowmetrix Technical Services Inc.

OPERATIONAL ISSUES

- The facility did meet all operational requirements for the fiscal year January 01 – December 31, 2018.

COMPLAINTS

- No complaints were lodged in the fiscal year January 01 – December 31, 2018.

BY-PASS REPORT(S)

- By-passed January 12, 2018; April 17, 2018; December 28, 2018

GREEN VALLEY WASTEWATER TREATMENT LAGOON PERFORMANCE 2018

On May 1st, 2018 the Township of South Glengarry Wastewater Department dosed the twin celled lagoon system with 14,000 litres of Alum for phosphorus removal. Each cell is equipped with a level marker which read 1.8 meters, that is equal to approximately 108,000 cubic meters of raw sewage.

On May 2nd, 2018 at approximately 10:30 am, the lagoon discharge commenced and the first set of samples were collected. The flow was set at approximately 6,800 cubic meters per day. On May 22nd, 2018 the discharge was terminated as per C of A 3-2012-88-896 which states: the sewage works shall be operated on an annual discharge basis with the effluent discharge commencing not earlier than March 15th or terminating not later than May 25th of each year. A total of 97,784 cubic meters have been recorded on the Manta Ray Level Velocity Logger.

Attached you will find the laboratory results of samples collected for the lagoon discharge period. (See Appendix. A)

REPORTS

Appendix A – Green Valley Sewage Annual Performance Report 2018 (Attached)

Caduceon Environmental Laboratories Analytical Reports - (on-file at plant)

Green Valley Daily/Monthly Report Summary - (on-file at plant)

Green Valley Bypass Incident – (on-file at plant)

APPENDIX – A –
Green Valley Lagoons
Sewage Annual Performance Report

Municipality: Township of South Glengarry
 Project: Green Valley Lagoons

**Annual Report Data
2018**

Water Course: Beaudette River
 Design Capacity: 0.300 x 1000 m3/D

Description: 2 Sewage Pumping Stations - 2 Faculative Cells - Annual Discharge

	Influent Flow			Effluent	Biochemical Oxygen Demand			Suspended Solids - Total			Phosphorus		Waste Loadings			Alum	
	Total X 1000 m3	Average X 1000 m3	Maximum Daily X 1000 m3	Flow - Total X 1000 m3/D	Average Influent mg/L	Average Effluent mg/L		Average Influent mg/L	Average Effluent mg/L		Average Influent mg/L	Average Effluent mg/L		BOD Kg/D	TSS Kg/D	TP Kg/D	m3 Used
January	9.522	0.307	0.712	0	225	0		302	0		6.08	0		0.00	0.00	0.00	0
February	9.715	0.346	1.173	0	67	0		820	0		3.23	0		0.00	0.00	0.00	0
March	13.313	0.429	1.084	0	57	0		420	0		2.37	0		0.00	0.00	0.00	0
April	13.287	0.442	1.067	0	60	0		80	0		1.94	0		0.00	0.00	0.00	0
May	6.731	0.217	0.445	4.656	77	5.25		92	15.75		2.01	0.27		24.44	73.33	1.26	14
June	4.196	0.135	0.276	0	117	0		180	0		3.46	0		0.00	0.00	0.00	0
July	2.748	0.088	0.153	0	319	0		250	0		9.05	0		0.00	0.00	0.00	0
August	3.643	0.117	0.234	0	174	0		184	0		5.22	0		0.00	0.00	0.00	0
September	3.335	0.111	0.188	0	80	0		36	0		3.47	0		0.00	0.00	0.00	0
October	4.321	0.139	0.187	0	174	0		200	0		5.61	0		0.00	0.00	0.00	0
November	8.594	0.277	0.536	0	117	0		160	0		1.86	0		0.00	0.00	0.00	0
December	9.401	0.303	0.727	0	578	0		1600	0		6.55	0		0.00	0.00	0.00	0
Total	88.806			4.656										24.44	73.33	1.26	14
Average	7.4005	0.243	0.565	4.656	170.42	5.25		360.33	15.75		4.24	0.27		24.44	73.33	1.26	
Criteria		0.3							25					214.3	214.3	7.1	
Maximum		0.442				5.25			15.75			0.27					
Compliance		No					Yes			Yes		Yes		Yes	Yes	Yes	

	Influent				Effluent	Sample Date:	Effluent									
	BOD Average mg/L	TKN Average mg/L	TP Average mg/L	NH3 Average mg/L	Average Flow X1000 m3/D		BOD mg/L	TSS mg/L	TP mg/L	NH3 mg/L	pH	TKN mg/L	NO2 mg/L	NO3 mg/L	E. Coli cfu/100ml	T. Coli cfu/100ml
January	225	47.60	6.08	24.60	0.000	May 2 2018	6	24	0.37	4.68	7.98	7.9	0.1	0.1	260	3800
February	67	28.60	3.23	16.90	0.000	May 7 2018	7	17	0.22	2.09	8.16	4.7	0.9	0.8	116	700
March	57	17.50	2.37	6.30	0.000	May 15 2018	3	11	0.17	0.04	8.46	2	0.1	0.1	4	20
April	60	15.10	1.94	6.78	0.000	May 22 2018	5	11	0.31	0.2	8.08	3.2	0.1	0.1	172	260
May	77	18.10	2.01	10.20	4.656											
June	117	24.30	3.46	12.80	0.000											
July	319	57.40	9.05	39.60	0.000											
August	174	39.20	5.22	18.20	0.000											
September	80	36.00	3.47	31.90	0.000											
October	174	51.10	5.61	36.20	0.000											
November	117	17.40	1.86	10.10	0.000											
December	578	42.30	6.55	5.44	0.000											
Average	170.42	32.88	4.24	18.25	4.656		5.25	15.75	0.27	1.75	8.17	4.45	0.30	0.28	138	1195

