STAYNER WASTEWATER TREATMENT PLANT

2023 Performance Report

Contents

Definitions

BOD	Biochemical Oxygen Demand
$CBOD_5$	Carbonaceous Biochemical Oxygen Demand
Cfu	Colony Forming Units
COD	Chemical Oxygen Demand
DO	Dissolved Oxygen
ECA	Environmental Compliance Approval
Hg	Mercury
FP	Filtered Phosphorous
GEOMEAN	Average of a set of Products
HP	Horsepower
kg	Kilograms
kW	Kilowatt
mg/l	Milligrams per litre
Ml/d	Mega litres per day
m^3/d	Cubic metres per day
NH_3	Ammonia
NO_2	Nitrites
NO_3	Nitrates
OEM	Original Equipment Manufacturer
STF	Sewage Treatment Facility
SVI	Sludge Volume Index
TBOD	Total Biochemical Oxygen Demand
TAN	Total Ammonia Nitrogen
TKN	Total Kjeldahl Nitrogen
TP	Total Phosphorous
TS	Total Solids
TSS	Total Suspended Solids
UV	Ultraviolet
VFA	Volatile Fatty Acids
VS	Volatile Solids
WWTP	Wastewater Treatment Plant

Section 1: Wastewater System General Information

System Information	
Wastewater System Reporting	Stayner Wastewater Treatment Plant Lot 26, Lot 27 Concession 11, Township of Clearview Access to plant is from Mowatt Street
Wastewater Works Number	1100695
Wastewater System Owner	The Corporation of the Township of Clearview
Wastewater System Category	Class II Certification
Period Reported	January 1, 2023 – December 31, 2023
Plant Owner	The Corporation of the Township of Clearview 217 Gideon Street, P.O. Box 200 Stayner, Ontario L0M 1S0 (705) 428-6230
Plant Operating Authority	Town of Collingwood P.O. Box 157 97 Hurontario St. Collingwood, Ontario L9Y 3Z5 Tel. (705) 445-1581

Wastewater Treatment (WWT) Operator Listing			
Name	WWT Classification	Licence No.	Expiry Date
Bell-Adams, Jennifer	3	11169	August 31, 2025
Regts, Brad	3	104259	July 31, 2026
Card, Cathy	3	83840	December 31, 2025
Barrette, Tyler	3	73068	January 31, 2024
MacNicol, Jason	1	95922	January 31, 2026
Weiland, Pierce	2	118539	March 31, 2026
Weatherall, Christian	1	120350	December 31, 2025

Wastewater Collection (WWC) Operator Listing			
Name	WWC Classification	Licence No.	Expiry Date
Barrette, Tyler	2	73067	March 31, 2024
Card, Cathy	OIT	OT65417	April 30, 2025
Regts, Brad	1	104258	February 28, 2026
Weatherall, Christian	1	124161	October 31, 2026
Wieland, Pierce	1	120263	December 31, 2025

Plant Certificate of Approval & Amendments

The Plant is operated according to the conditions set out in ECA (Environmental

Compliance Approval) #3718-A4CQTD issued January 4, 2016.

Section 2: Facility Description

The Stayner Wastewater Treatment Plant is owned by the Township of Clearview and operated by the Town of Collingwood under a four-year contract expiring December 31st, 2022.

The current population of Stayner is approximately 4,800 persons.

The plant was built in 1984 and subsequently upgraded in 1991 and modified in 2004 giving the plant a rated capacity of 2500 m3/d average daily flow and a peak flow rate of 6250 m3/d.

The treatment process consists of activated sludge extended aeration treatment in combination with a lagoon polishing and storage system with effluent discharge to Lamont Creek.

Section 3: Process Description

Wastewater generated within the community of Stayner is collected via gravity sewer to the main pumping station located at Dominion Drive. The existing pumping station located on the west side of Dominion Drive was upgraded (C of A No. 8872-5NTKX6) in 2004 to a firm rated capacity of 94.75 L/sec.

Dominion Drive Pumping Station

- 3.3m x 4.3m cast in place concrete dry well
- An extension on the existing concrete wet well to a total volume of 15.3 m^3 integral with the new dry well
- Electric channel grinder (muffin monster)
- 2 vertical axis centrifugal sewage pumps each having a peak design flow rate of 94.75 L/sec at 22.9 m of TDH. and drive motor capacity of 37.5 kw, complete with variable frequency drives with piping connecting to an existing 250 mm diameter force main
- A natural gas fixed 60 kw standby gen-set
- A 400 mm diameter gravity overflow sewer, approximately 10 meters in length, to Lamont Creek
- A wet well venting system with an exhaust fan rated at approximately 236 L/sec capacity exhausting to the atmosphere via a 300 mm diameter, 6m high stainless steel stack

Stayner Sewage Pumping Station #2 – Phase 1

- Two (2) 525 mm diameter sanitary sewers to a confluence manhole with a 675 mm diameter inlet sewer to the influent channel of the pumping station.
- An influent channel equipped with a grinder having a Peak Flow Rate of 171.6 L/s and two slide gates discharging to the two compartments of the wet well which are connected by an isolation valve.
- Three (3) drywell-installed submersible pumps each equipped with a VFD, Pump No.1 as the lead/jockey pump rated at 28.9 L/s at 30.9 m TDH and at 57.9 L/s at 43.8 m TDH, Pumps No.2 and 3 as duty/standby peak flow pumps each rated at 92 L/s at 17.0 m TDH.
- A chemical system for treatment of hydrogen sulphide for odour control in the force main, consisting of two (2) double-walled chemical solution storage tanks, two (2) chemical feed pumps (one as shelf spare) with injection point located in the influent channel.
- One (1) 200 mm diameter force main and one (1) 350 mm diameter force main each with magnetic flow meter and station bypass access chamber, both approximately 6,300 m long from the pumping station to the outlet sanitary sewer manhole near the intersection of Knox road West and Sunnidale Road in the Town of Wasaga Beach, wherefrom the sewage is conveyed via the Town of Wasaga Beach sanitary sewage collection system to Wasaga Beach Water Pollution Control Plant for treatment.
- One (1) 200 mm diameter force main with magnetic flow meter and station bypass access chamber approximately 1,100 m long from the pumping station to the Stayner Sewage Treatment Plant for use initially until such time as the flow would result in exceedance of the capacity of the Stayner Sewage Treatment Plant, and in emergency situations only.
- One (1) 250 kW outdoor waterproof standby diesel generator set No.1 with sub-base fuel tank.

Stayner Sewage Pumping Station #2 – Phase 2 (Future)

- Two (2) drywell-installed submersible pumps each equipped with VFD, pump No.3 to replace the Phase 1 pump and Pump No.4 as standby peak flow pumps each rated at 142.8 L/s at 45.2 m TDH
- One (1) 400 kW outdoors waterproof standby diesel generator set No.2 with sub base fuel tank

All other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned sewage works

WWTP Configuration

- Wastewater from the Dominion St. pumping station and Pump Station #2 are conveyed via force main to a flow splitter box upstream of the aeration basins.
- Two parallel treatment trains (aeration basin and secondary clarifier) follow.

- Clarifier effluent is directed to one of three effluent storage lagoons (#1, #3, #4), or occasionally discharged directly to Lamont Creek
- WAS is pumped to Lagoon #2 for long term storage and the supernatant flows by gravity to lagoon #3
- RAS is returned to aeration cells via splitter box
- The treated effluent (from the lagoon) is discharged to Lamont Creek according to rates listed in Table 3 (Effluent Discharges to Lamont Creek). There is no disinfection provided for effluent being discharged to the creek.

Process Data

Major unit process data is listed below:

Table 1: Major Unit Process Data

Dominion Drive Pumping Station	
Bar Screens: • 1 x electric channel grinder (Muffin Monster)	
Wet Well Pumps: • 2 x Fairbanks Morse, 50 hp, vertical axis, close coupled centrifugal pumps each having a peak design flow rate of 94.75 L/sec at 22.9 m of TDH and drive motor capacity of 37.5 kilowatts. Standby Power: • 1 x natural gas Harper Detroit 60 kilowatt generator set Force Main: • Pumps connected to a 250 mm force main	
Stayner Sewage Pumping Station #2	
Bar Screens: • 1 x electric channel grinder Wet Well Pumps: • 3 drywell installed submersible pumps. Pump #1 rated at 28.9 l/s at 30.9m TDH and Pumps #2 and #3 rated at 92 l/s at 17.0m TDH. Standby Power: • 1 x 250kW outdoors-installed waterproof diesel generator Force Main: • 1 x 200mm diameter force main supplying to the Stayner Treatment Plant • 1 x 200mm and one 350mm diameter force main feeding to Wasaga Beach	
WWTP Aeration Basins	
Type:	Extended aeration with full floor coverage fine bubble diffused air (Sanitaire)
Number:	2 parallel trains
Total Volume:	4320 m^3 (2 x 2160 m^3)
Air Supply:	1 blower rated at 401.7 L/s 1 blower rated at 63.9 m3/min

	1 blower (rental) rated at 5500 m3/h
RAS/WAS Pumps:	2
WWTP Secondary Clarifiers	
Number:	2 model “H” circular clarifiers by AMWELL
Volume:	2894 m^3 (2 @ 1447 m^3)
Drives/Mechanisms:	AMWELL
WWTP Polishing Storage Lagoons	
• No. 1, 3 & 4 with a combined volume of 294,095 m^3	
WWTP Wasting Lagoon #2	
• Volume: 74,692 m^3	

Section 4: Annual Average Performance Assessment

Effluent Objectives and Limits

- The effluent objectives and effluent concentration limits are summarized below in Table 2A. The loading limits are summarized below in Table 2B.

- The plant is to be operated and maintained such that the concentrations and waste loadings of the materials named below as effluent parameters are not exceeded in the final effluent.

Table 2A: Effluent Objectives & Effluent Concentration Limits		
	mg/L	**mg/L**
$CBOD_5$	5	10
Total Suspended Solids	10	15
Total Phosphorus	0.3	0.4

Table 2A: Effluent Objectives & Effluent Concentration Limits		
Total Ammonia Nitrogen (Ammonia plus ammonium)		
January	3.0	4.0
February	3.0	4.0
March	3.0	4.0
April	2.0	2.5
May	2.0	2.5
June	1.0	1.5
July	1.0	1.5
August	1.0	1.5
September	2.0	2.5
October	2.0	2.5
November	3.0	4.0
December	3.0	4.0
pH	6.5-9.0	6.0-9.0

Table 2B: Effluent Loading Limits				
Monthly Average Loading (kgs/d)				
Month	**$CBOD_5$**	**TSS**	**TP**	**NH_3**
January	16.3	24.5	0.65	6.5
February	19.7	29.6	0.79	7.9
March	82.0	123.0	3.28	32.8
April	86.4	129.6	3.46	21.6
May	17.6	26.4	0.7	4.4
June	6.3	9.5	0.25	0.9
July	2.8	4.2	0.11	0.4
August	3.2	4.8	0.13	0.5
September	1.9	2.9	0.08	0.5
October	10.4	15.6	0.42	2.6
November	21.4	32.1	0.86	8.6
December	33.3	50.0	1.33	13.3

Effluent Limits

To determine compliance with and enforcing of the above:

- In reference to Table 2A, the monthly average concentration of a parameter named in Column 1 shall not exceed the corresponding maximum concentration set out in Column 3.
- In reference to Table 2B, the monthly average loading of a parameter named in Columns 2 to 5 shall not exceed the corresponding maximum waste loading as set for the corresponding month (Column 1).
- The pH of the effluent shall be maintained within the limits outlined in Column 3 of Table 2A, at all times.

Effluent Objectives

The monthly average effluent concentration objective:

- Total ammonia nitrogen (TAN) was achieved throughout 2023.
- CBOD5 was achieved throughout 2023.
- TSS was above the objective of 10mg/L in March with a monthly average of 12.5mg/L and April with a monthly average of 14.0mg/L
- TP was achieved throughout 2023.
- The pH values fell within the range of 6.5 to 9.0 inclusive, at all times.

Effluent Compliance

- The monthly average effluent concentrations for TAN fell within the applicable compliance limits.
- The monthly average effluent concentration of CBOD5 fell within the applicable compliance limits.
- The monthly average effluent concentration of TSS fell within the applicable compliance limits.
- The monthly average effluent concentration of TP fell within the applicable compliance limits.
- The pH values fell within the range of 6.0 to 9.0 inclusive, at all times.

Documentation sent to the MECP notifying them of any of any events is attached as Appendix C.

Loading Compliance

- TKN (kg/d): was not exceeded in 2023
- $CBOD_5$ (kg/d): was not exceeded in 2023
- TSS (kg/d): was not exceeded in 2023
- TP (kg/d): was not exceeded in 2023

Effluent Discharge to Lamont Creek

The average daily effluent discharge rate to Lamont Creek shall not exceed the daily discharges listed in Table 3 below. However, periodic discharges in excess of these daily discharges are allowed if a minimum dilution ratio of 3:1 (3 parts creek flow and 1 part effluent discharge), based on actual measurements of flow rate in the Lamont Creek. Notwithstanding these periodic excess discharges, the average annual effluent discharge should not exceed 2,500 m3/d, which is the rated capacity of the treatment works.

Table 3 – Effluent Discharges to Lamont Creek	
Month	**Average Daily Discharge (m^3/d)**
January	1,630
February	1,970
March	8,200
April	8,640
May	1,760
June	630
July	280
August	320
September	190
October	1,040
November	2,140
December	3,330

During certain times of the year, Lamont Creek backs up into the final effluent channel and the discharge flow meter becomes blinded. This causes the flow meter to incorrectly record that there is discharge coming from the polishing lagoons towards Lamont Creek. This type of back up occurred once in 2023 during a heavy rainfall on June 30th resulting in an incorrect flow measurement above the prescribed limit. Please see the attached letter in appendix C.

Compliance Testing and Analysis

- Monitoring requirements are specified under Condition 9 of the ECA. Grab samples of raw sewage are required to be collected at the Dominion Street pumping station weekly and analyzed for $CBOD_5$, total SS, TP and TKN. Grab samples of final effluent are required to be collected weekly (during discharge periods) and analyzed for BOD5, TSS, TP, Total Ammonia Nitrogen and E. coli. Temperature and pH of the final effluent are required to be tested on-site weekly

- Compliance sampling and analysis of raw sewage are carried out weekly. 48-hour composite samples are collected using a refrigerated automatic sampler for analysis of $CBOD_5$, total suspended solids, total phosphorus, and total Kjeldahl nitrogen.
- Compliance sampling and analysis of final effluent are carried out weekly when discharging and secondary effluent analysis is carried out weekly to monitor the quality of the effluent being received by the storage lagoons.
- Samples are collected at the outfall to Lamont Creek, analysis of $CBOD_5$, total suspended solids, total phosphorus, and total Kjeldahl nitrogen, total ammonia

nitrogen, nitrite, nitrate and E. coli. Lastly, grab samples are collected weekly and tested for PH and temperature

- With the exception of the samples collected for pH and temperature testing, analysis for all compliance samples is carried out by an external contract laboratory, Testmark Laboratories, in Mississauga, ON. The plant also complies with Guideline F-10-1 concerning sampling and analysis requirements which satisfies Condition 9 (4) (a) of the ECA.
- The temperature and pH of the final effluent is measured in the field at the time of sampling for Total Ammonia Nitrogen so the concentration of un-ionized ammonia can be calculated, as set out in condition 8 (5).
- The Stayner WPCP external sampling program is attached as Appendix A
- All external laboratory analysis results are reported in the Municipal Utility Monitoring forms which are submitted electronically to the Barrie District Office and are used in generating the annual plant performance report.

In House Testing and Analysis for Process Control

- Grab samples are taken twice per week of the secondary effluent and final effluent (if discharging to Lamont Creek).

- Grab samples are also obtained for other process streams as required for process control purposes. Grab samples are also obtained for other process streams as required for process control purposes.
- All samples are analyzed on-site or at the Collingwood WPCP laboratory using techniques in standard methods or using approved methods for HACH DR/2800 Spectrophotometer.
- The Stayner WPCP internal sampling program is attached as Appendix A
- Flow Measurement
- Raw sewage (influent) flows at Dominion PS are monitored by a magnetic flow meter installed on the station force main. Final effluent flows are continuously monitored by means of Parshall flume in conjunction with a Milltronics flow monitor.
- Both the influent and final effluent flows are trended through the SCADA system
- The meters are calibrated annually for accuracy (must be +/- 15%of flow rate) to satisfy condition 9(7) of the ECA.

Section 5: Capacity Assessment

	Design	Current Year
ADF (m^3/d)	2,500	1,488
Peak Flow Rate (m^3/d)	6,250	1,920

The annual average daily flow (ADF) has fallen within the design limit for this reporting period. The peak influent flow for any day did not exceed the design flow.

The annual average performance data is summarized in Appendix B.

Section 6: Sludge Management

- Sludge is routinely wasted from the plant to wasting lagoon #2.
- In 2023, approximately 36,353 m3 was wasted in total.
- Sludge Accountability for 2023:
    - Reported 472.82 kg/d
    - Projected 470.21 kg/d
    - Accountability – 0.6 % (desirable +/- 15%)
- Sludge removal took place in 2023.
- A total of 3,605.20 m3 of sludge was removed from lagoon #2 in 2023 and directly applied to approved land.
- Sludge removal is not part of the Town of Collingwood's scope of work and is managed by Clearview Township. Sludge removal has been identified as a recurring operational need as part of the capital works budget.

Section 7: Bypass Occurrences

- There were no bypass occurrences in 2023.

Section 8: Maintenance

- Routine preventative maintenance was performed throughout the year in accordance with the recommendations of the O.E.M. (original equipment manufacturer).
- There were no major equipment failures or malfunctions that occurred during this reporting period that would compromise effluent quality.
- Maintenance records are kept for each piece of equipment at the plant and are available at the plant for viewing.
- Calibrations were carried out on the plant instrumentation and flow metering equipment on July 7, 2023 by SCG Flowmetrix.

Date 2023	Equipment Calibrated/Maintained	Pass/Fail	Comments
July 7	Dominion Street SPS flowmeter	Pass	
July 7	Pump station #2 Pump #1 flowmeter	Pass	
July 7	Pump Station #2 Pump #2 flowmeter	Pass	
July 7	Pump station #2 pump #3 flowmeter	Pass	
July 7	Effluent flowmeter	Pass	
July 7	WAS flowmeter	Pass	
July 7	RAS flowmeter	Pass	

2023 Maintenance Tracking	
HMI Panel – Dominion Street SPS	Replaced
Generator SPS #2	Battery and battery tender replaced
Air Compressor	Replaced
Sump Pump	Replaced
Gate valves in aeration basins	Replaced

Section 9: Complaints

- There were no complaints in 2023

Section 10: Operational Challenges

- On November 18, 2023 the final effluent flow meter failed which required operational staff to stop flow from the lagoons to Lamont Creek. This changed the normal sampling frequency for November and December leaving no final effluent samples to submit to the external lab on November 22nd, 29th, and December 6th. Please see the attached letter in Appendix C

Appendix A
Sampling & Process Control

Samples are analyzed using procedures from the most current edition of “Standard Methods for the Examination of Water and Wastewater” or HACH DR 2800 Spectrophotometer methods.

Samples are obtained by the Operators and returned to the Collingwood Lab for analysis other than pH, DO, Temp and 30 min. settling test which are done on site at the time sample is taken. Operators are responsible for obtaining sufficient samples for the laboratory technician.

In house Sampling:

Unit Process	Type Sample	Parameters Tested	Minimum Frequency
Influent	24 hr. composite	pH, SS, TP	2 x per week
Aeration • mixed liquor • RAS • WAS	 Grab Grab Grab	 half hour settling, pH, SS SS SS	2 x per week
Secondary Effluent	Grab	TP, NH3, SS, pH	2 x per week
Final Effluent	Grab	SS, pH,TP, NH3	2 x per week if discharging to Creek

External Lab Analysis:

Unit Process	Type Sample	Parameters Tested	Minimum Frequency
Influent	Composite	TP, SS, CBOD5, TKN	Weekly minimum as per ECA
Effluent	Grab	SS, CBOD5, TP, FP, TAN, N03, N02, TKN, E-coli	Weekly minimum as per ECA
	On-site at time of sample collection	pH & Temperature	Weekly

Samples are sent to an outside Lab to supplement the testing done in-house and provide a QA/QC check.

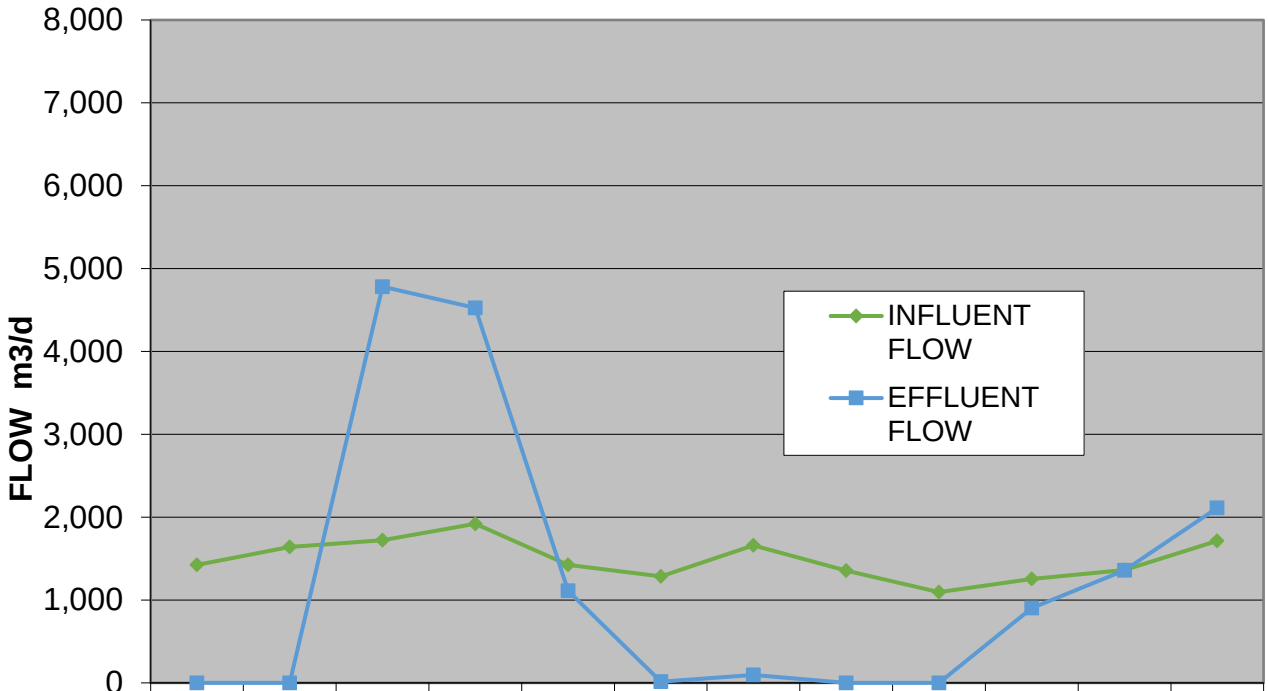
The external lab is an accredited laboratory, and these results are recorded on the monthly MUMPS reports.

Appendix B
Monthly Flow & Process Quality

TOWNSHIP OF CLEARVIEW
STAYNER WWTP PERFORMANCE EVALUATION

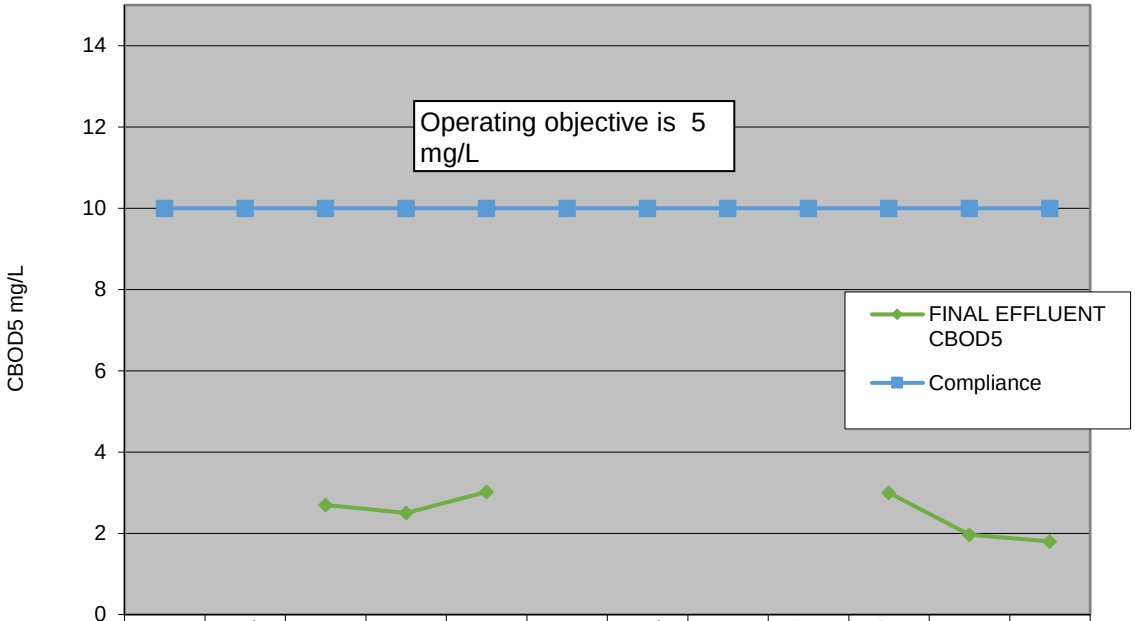
2023	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Summary
FLOWS(m3/d)													
Influent													
ADF	1,425	1,640	1,721	1,920	1,425	1,285	1,659	1,355	1,095	1,255	1,364	1,715	1,488
Total	44,161	45,931	53,358	57,602	44,185	38,551	51,432	42,003	32,852	38,905	40,917	53,165	543,062
Max day	1,959	2,281	2,456	3,037	1,875	1,890	3,492	1,712	1,258	2,213	1,600	2,391	3,492
Min day	1,198	1,145	1,352	1,470	1,179	1,047	0	1,108	1,008	1,001	1,202	1,430	0
Final Effluent													
ADF	0	0	4,782	4,525	1,111	13	94	0	0	903	1,360	2,113	1,246
Total	0	0	148,237	135,745	34,432	380	2,912	0	0	28,000	40,806	65,499	456,011
Max day	0	0	7,299	7,342	1,662	16	2,834	0	0	1,016	2,114	3,190	7,342
Min day	0	0	824	285	314	11	0	0	0	0	11	11	0
Max average daily discharge	1630	1970	8200	8640	1760	630	280	320	190	1040	2140	3330	2500
$CBOD_5$ (mg/L)													
Influent	528	355	462	343	540	633	428	858	1630	843	384	215	601
Effluent			2.7	2.5	3.0					3.0	2.0	1.8	2.5
	monthly average concentration: objective is 5mg/L ,compliance limit is 10mg/L												
$CBOD_5$ (kg/d)													
Final Effluent monthly ave loading	0.0	0.0	12.9	11.31	3.35	0.00	0.00	0.00	0.00	2.71	2.68	3.80	
Compliance monthly average loading	16.3	19.7	82.0	86.4	17.6	6.3	2.8	3.2	1.9	10.4	21.4	33.3	
SS (mg/L)													
Influent	186	220	235	262	179	259	410	238	285	591	216	247	277
Effluent			12.5	14.0	9.5					7.5	8.2	9.8	10.2
	monthly average concentration: objective is 10mg/L ,compliance limit is 15mg/L												
SS (kg/d)													
Final Effluent monthly ave loading	0.0	0.0	59.8	63.1	10.6	0.0	0.0	0.0	0.0	6.7	11.1	20.6	
Compliance monthly average loading	24.5	29.6	123.0	129.6	26.4	9.5	4.2	4.8	2.9	15.6	32.1	50.0	
TP (mg/L)													
Influent	4.4	4.5	5.0	4.6	5.6	4.9	12.0	4.5	8.1	9.7	4.3	4.5	6
Effluent			0.21	0.14	0.21					0.19	0.14	0.12	0.17
	monthly average concentration: objective is 0.3mg/L ,compliance limit is 0.4mg/L												
TP (kg/d)													
Final Effluent monthly ave loading			1.03	0.65	0.24					0.17	0.19	0.25	
Compliance monthly average loading	0.65	0.79	3.28	3.46	0.70	0.25	0.11	0.13	0.08	0.42	0.86	1.33	
TAN (NH_3+NH_4^+) (mg/L)	monthly average concentration:objective is 3.0 mg/L , compliance limit is 4.0 mg/L												
Effluent			1.0	0.2	0.1					0.9	0.8	0.5	0.57
	monthly average concentration: objective is 2.0mg/L,compliance limit is 2.5mg/L :objective is1.0mg/L,compliance limit is 1.5mg/L												
TAN (kg/d)													
Final Effluent monthly ave loading			4.68	0.84	0.16					0.79	1.03	1.08	
Compliance monthly average loading	6.50	7.90	32.80	21.60	4.40	0.90	0.40	0.50	0.50	2.60	8.60	13.30	
TKN (mg/L)													
Influent	32.2	35.4	38.8	51.7	42.0	37.5	58.8	34.0	46.3	49.2	27.6	29.3	40
Effluent			6.22	4.20	3.92					1.63	1.83	0.27	3.01
NO3 (mg/L)													
Effluent			7.28	6.57	4.69					0.58	3.77	14.43	6.22
NO2 (mg/L)													
Effluent			0.07	0.16	0.59					0.1	0.2	0.1	0.20
FP (mg/L)													
Effluent			0.06	0.018	0.06					0.17	0.084	0.039	0.07
Temperature and pH													
Effluent	Temperature and pH determined in the field at time of sampling as per ECA												
	Values are used to calculate unionized ammonia												
pH													
Influent	7.6	6.9	6.8	6.7	6.7	7.0	7.2	6.6	6.7	6.9	6.9	6.9	
Effluent	0.0	0.0	7.8	8.1	7.9	0.0	0.0	0.0	0.0	7.9	7.7	7.5	
Min	0.0	0.0	7.5	7.4	7.3	0.0	0.0	0.0	0.0	7.5	7.4	7.3	
Max	0.0	0.0	8.3	8.7	8.7	0.0	0.0	0.0	0.0	8.5	7.9	7.7	
	Compliance means maintaining the the pH of the final effluent within the limits 6.0 to 9.0 (objective within 6.5 to 9.0)												
E-Coli (MPN/100mL)													
Effluent			1987	1194	86					103	184	2324	

2023 MONTHLY AVERAGE FLOWS



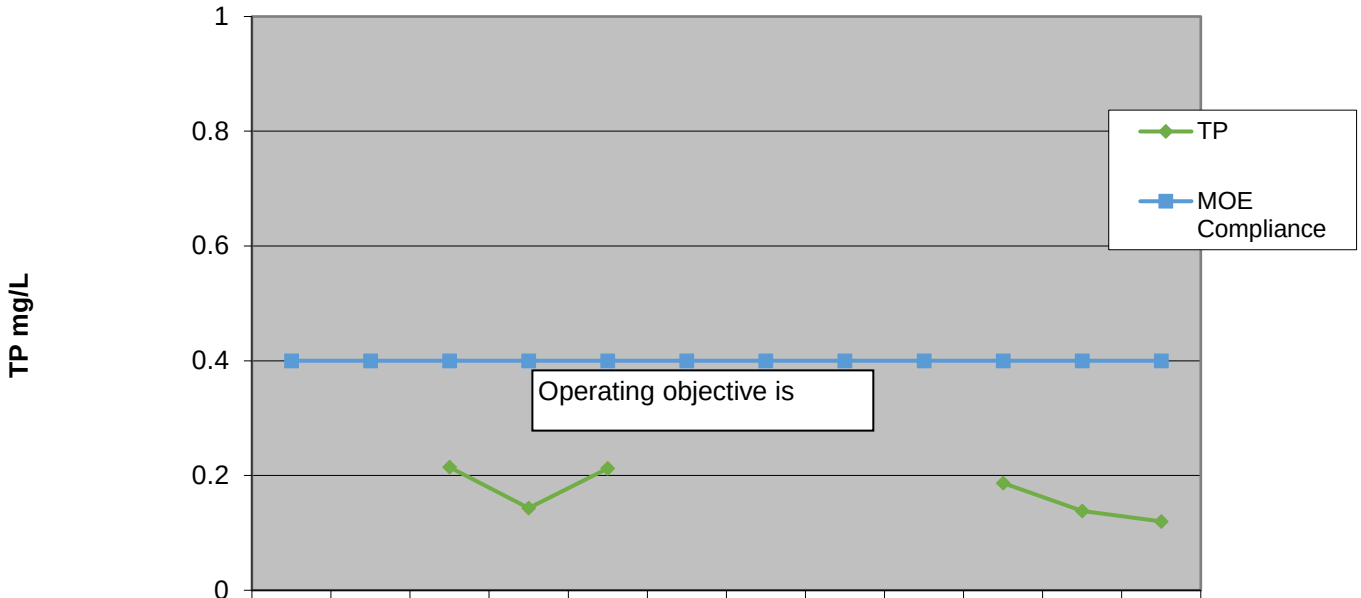
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
INFLUENT FLOW	1,425	1,640	1,721	1,920	1,425	1,285	1,659	1,355	1,095	1,255	1,364	1,715
EFFLUENT FLOW	0	0	4,782	4,525	1,111	13	94	0	0	903	1,360	2,113

2023 MONTHLY AVERAGE CONCENTRATION
FINAL EFFLUENT CBOD5



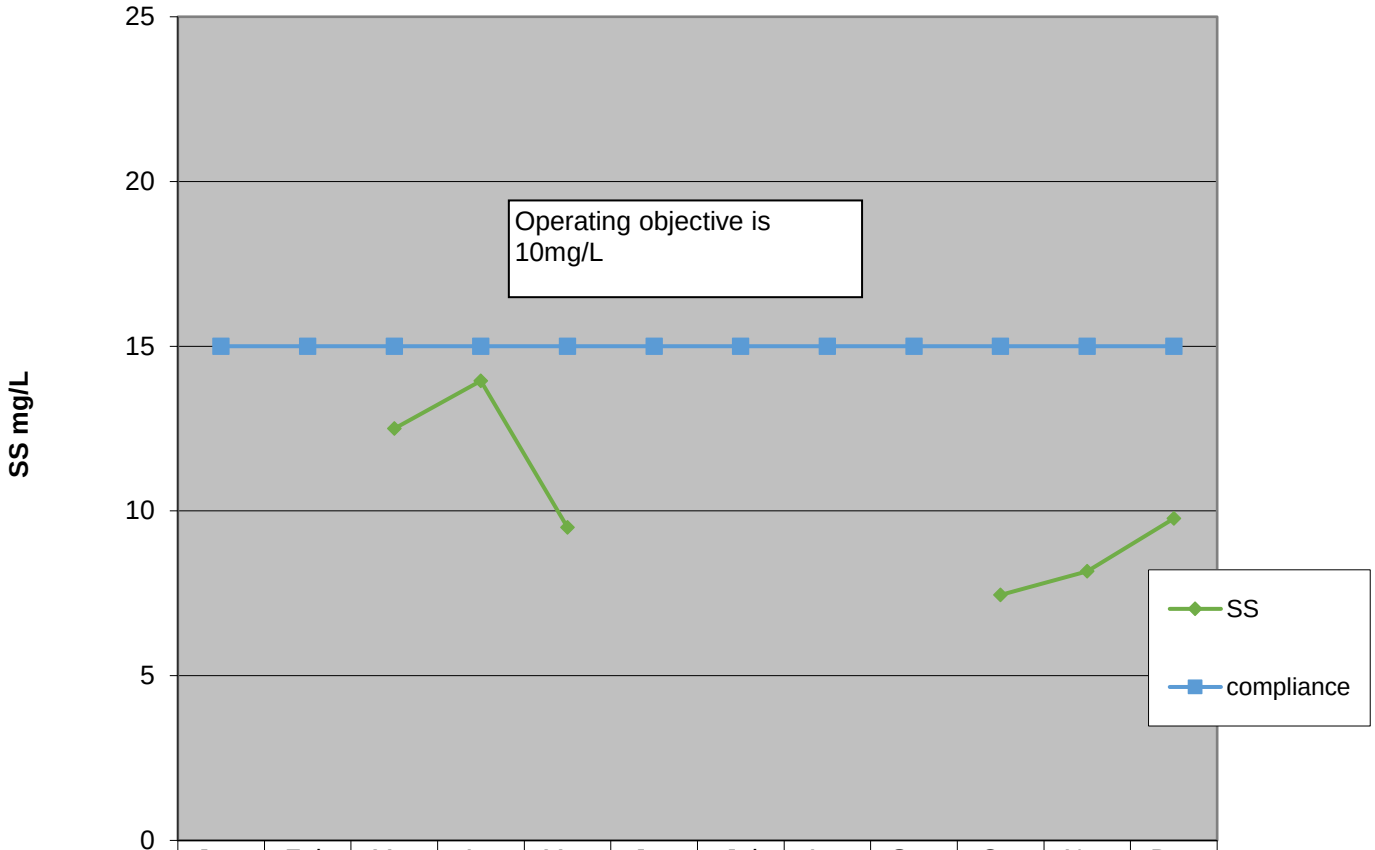
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FINAL EFFLUENT CBOD5			2.7	2.5	3.02					3	1.9667	1.8
Compliance	10	10	10	10	10	10	10	10	10	10	10	10

2023 MONTHLY AVERAGE
CONCENTRATION FINAL EFFLUENT TP



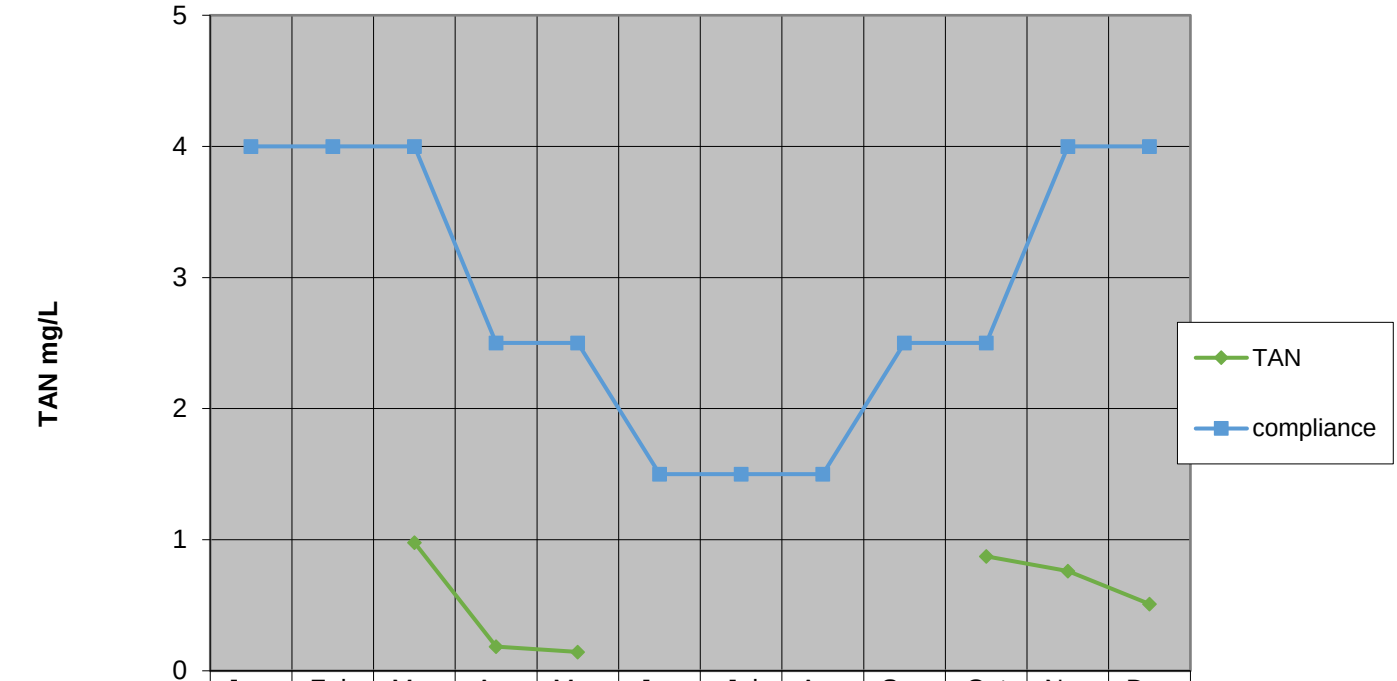
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TP			0.214	0.144	0.213					0.187	0.138	0.12
MOE Compliance	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

2023 MONTHLY AVERAGE
CONCENTRATION FINAL EFFLUENT SS



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SS			12.5	13.95	9.5					7.45	8.1667	9.7667
compliance	15	15	15	15	15	15	15	15	15	15	15	15

2023 MONTHLY AVERAGE
CONCENTRATION FINAL EFFLUENT
TAN (ammonia plus ammonium)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TAN			0.978	0.185	0.144					0.873	0.76	0.51
compliance	4	4	4	2.5	2.5	1.5	1.5	1.5	2.5	2.5	4	4

Appendix C
Exceedance & Corrective Actions

Hi Aaron,

I am reaching out to inform you of an issue we are currently experiencing at the Stayner Water Pollution Control Plant.

We have shut off all discharge from our system for the month of June but are still registering a small amount of flow on our effluent flowmeter, Please see details below:

May 31/23

- Operators collected the last reportable effluent samples for May.
- They then shut off all discharge from the Stayner Lagoon system to prepare for our June discharge shut down, as we have plenty of storage space available.
- Later that afternoon (14:30) I arrived on site to check operations and confirmed all valving was closed and also confirmed at the discharge pipe that no flow was running.

June 02/23

- While reviewing the weekly flow reports from the Stayner Plant, I noticed there was an effluent flow total of 16m3 for June 01/23
- I checked the Scada effluent page and saw there was a small amount of flow registering, moving in the range of 15 to 22m3/d
- I immediately went out and checked each lagoon discharge pit, confirming they were shut and there was no flow then went and checked the discharge pipe and also confirmed no flow was going out.

This appears to be a drifting issue with the final effluent flowmeter. Recalibration of this unit by Flowmetrics is scheduled for the week of July 3, 2023

If you have any more questions regarding this matter please let me know.

Thanks,

Brad Regts

Wastewater Operator, Environmental Services

Town of Collingwood

3 Birch St, Collingwood, Ont L9Y 2T8

705-445-1581 Ext. 3315

bregts@collingwood.ca | www.collingwood.ca

July 17, 2023
Ministry of Environment Conservation and Parks Barrie District Office
Unit 1201
54 Cedar Point Drive
Barrie, Ontario
L4N 5R7

Attention: Mark Bailey

As Aaron is away, I am writing to notify you about an irregularity in the Stayner WWTP Final Effluent discharge numbers for the month of July.

On July 01, 2023, the maximum daily flow was recorded as 2843m3/day on our SCADA flow totals and is considered as out of compliance as prescribed by condition 8(1) of the ECA.

Findings: A heavy rain rainfall event occurred on June 30, 2023, and continued into the night. Due to the amount of rainwater, Lamont Creek becomes swollen and floods its banks. It also backs up our discharge point and blinds our effluent flow milltronics, giving a false reading. We were not discharging to Lamont Creek on this date and the valves were confirmed closed on July 04, 2023, when this flow report was discovered and reviewed.

Regards,
Brad Regts
bregts@collingwood.ca 1 (705) 441-4218

August 22, 2023

Ministry of
Environment
Conservation and
Parks Barrie District
Office Unit 1201
54 Cedar Point Drive
Barrie, Ontario
L4N 5R7

Attention: Aaron Mattson, Drinking Water Inspector

I am writing to notify you about anomalies in the Stayner WWTP Influent numbers for the month of July.

July 07/23 Reported as 395m3, July 08/23 as 0m3, July 09/23 as 0m3 and July 10/23 as 857m3. These number are incorrect.

Findings: On July 07/23, SCG Flowmetrix was on site calibrating flowmeter devices. Upon completion of calibration, it appears that the internal wiring of the flowmeter was reconnected incorrectly which caused a misreading of total flow. This issue was rectified on July 10/23, and full flow totals resumed on July 11/23.

Regards,

Brad Regts
bregts@collingwood.ca 1 (705) 441-4218

December 01, 2023

Ministry of
Environment
Conservation and Parks
Barrie District Office
Unit 1201
54 Cedar Point Drive
Barrie, Ontario
L4N 5R7

Attention: Aaron Mattson, Drinking Water Inspector

I am writing to notify you about an issue with the final effluent flowmeter at the Stayner WWTP.

On November 18, 2023, the final effluent flowmeter malfunctioned and failed to register the proper flowrate leaving the plant. The flowmeter showed a latched flowrate of 2208m3/d and would not change.

Findings: On November 21, 2023 the issue was discovered by the site operator, who upon discovery shut off all remaining discharge from the plant. He then reviewed the SCADA effluent trending pages and determined when the flowmeter failed, the automatic valving that throttles our discharge rate closed completely, leaving only the flow from our Clarifier Effluent and Lagoon 1 discharging. An electrical contractor was brought in and determined the main controller for the flowmeter had burned out and would need to be replaced. The main controller was disconnected which has now resulted in a small amount of flow registering to our flow history each day, the site operator has confirmed that no discharge is leaving the plant. Below is the estimated maximum amount of discharge from the Stayner WWTP on the days the flowmeter was reading an incorrect flow of 2208m3/d, it is assumed that the amount of flow leaving the clarifiers would be equal to the amount of influent entering the plant.

Nov. 18 - 1487m3 (Influent) (+) 300m3 (lagoon 1) = 1787m3
Nov. 19 - 1503m3 (Influent) (+) 300m3 (lagoon 1) = 1803m3
Nov. 20 - 1474m3 (Influent) (+) 300m3 (lagoon 1) = 1774m3
Nov. 21 - 1516m3 (Influent)(+) 300m3 (lagoon 1) = 1816m3

The electrical contractor is currently sourcing a new controller to rectify this issue, until then we will be utilizing the space in the lagoons. If you need any further clarification, please let me know.

Regards,

Brad Regts
bregts@collingwood.ca
1 (705) 441-4218