



March 30, 2023

Town of Goderich c/o
Sean Thomas
Director of Operations - The Town of Goderich
57 West St
Goderich, ON
N7A 2K5

RE: Goderich WWTP Works # 120000943
Annual Report for Reporting Year 2022

Veolia Water Canada is pleased to submit the 2022 annual report for the Goderich WWTP as per requirement of Condition 10, Reporting, Sub-section (6) of Amended Certificate of Approval 0749-7KEJHK issued October 16th, 2008.

If you have any questions or concerns, please do not hesitate to call.

Respectfully yours,

Steve Johnston
Veolia Water - Goderich

Annual Report

2022 Operating Year

Goderich Water Pollution Control Plant

Works # 120000943

PREPARED BY

Veolia Water

**211 Sunset Drive
Goderich, ON
N7A 4C5**

FOR

The Town of Goderich

Sean Thomas - Director of Operations

**57 West St
Goderich, ON
N7A 2K5**

Resourcing the world



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1.0 INTRODUCTION

The Town of Goderich Water Pollution Control Plant, Works #120000943 is located at 211 Sunset Drive. The plant was classified as a Class II Wastewater Treatment Facility until a reclassification was undertaken in 2022. Notice was received by the Town of Goderich on September 8, 2022, in a letter from OWWCO dated August 31, 2022, that the Goderich Water Pollution Control Plant Class II classification had been changed to a Wastewater Treatment Class III Facility.

The wastewater treatment system was originally constructed in 1967. Throughout the years the plant has undergone many expansions with the last being completed in 2009 with the installation of Ultraviolet Light (UV) disinfection in place of Chlorine gas as a disinfectant.

The system is operated under Amended Certificate of Approval (ECA) No. 0749-7KEJHK, dated October 16, 2008.

The works consist of the following components:

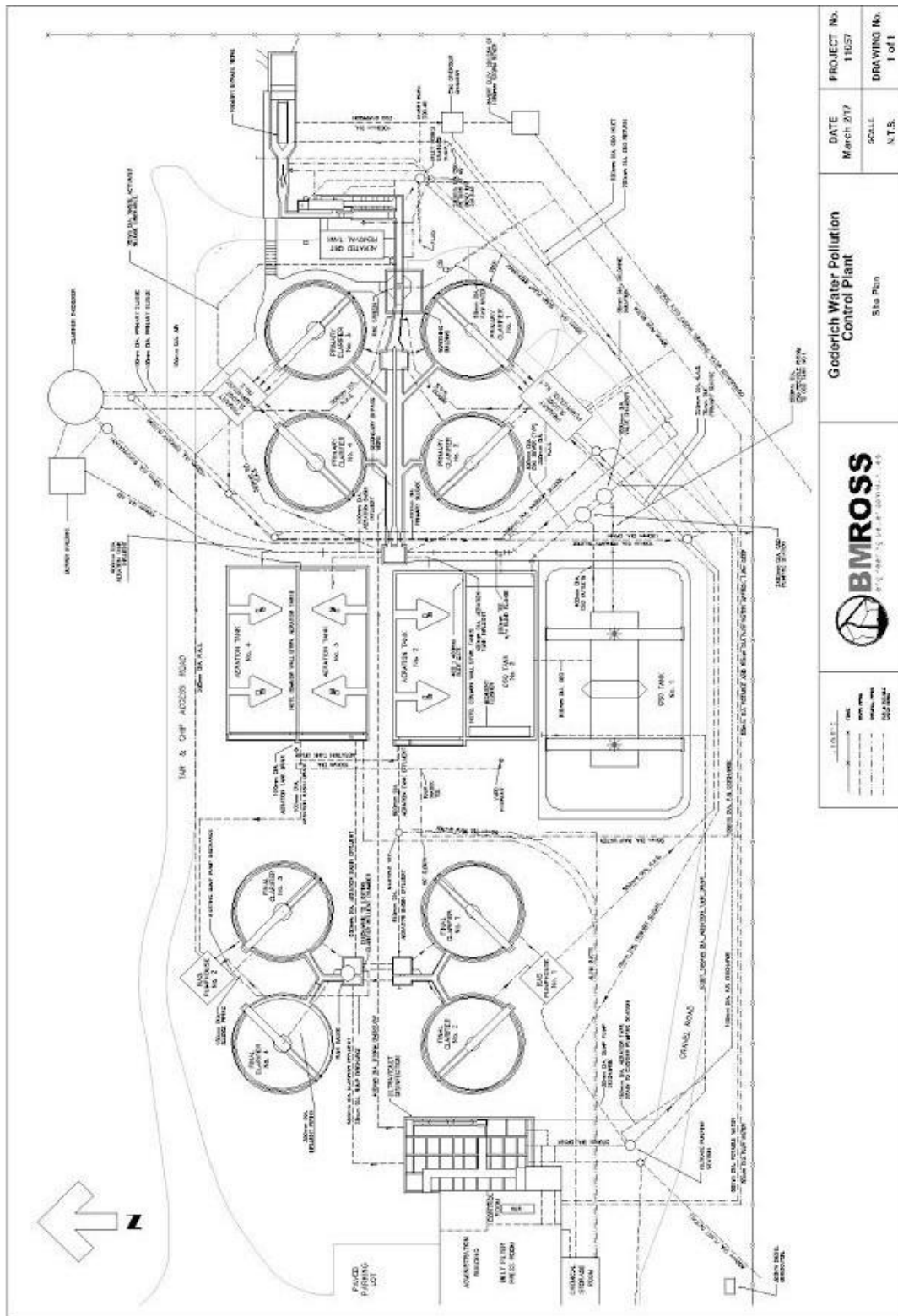
- Course fixed Bar Screen.
- Aerated Grit Tank and Grit removal system.
- Inclined Mechanical Fine Screen and Compactor
- 4 Primary Clarifiers.
- 2 Raw Sludge Pumps
- 1 Waste Return Pump
- 3 Aeration Tanks with two (2) mechanical aerators in each.
- 4 Secondary Clarifiers.
- 6 Return Activated Sludge Pumps
- UV Disinfection System
- Belt Filter Press
- By-pass Diversion Chamber
- 2 Combined Sewer Overflow (CSO) Tanks


A schematic of the treatment facility is shown as **Figure 1.1**. The Water Pollution Control plant is operated by Veolia Water Canada.

Veolia is also responsible for the following Pumping Stations:

- Station A – Outside of Salt Mine on North Harbour Rd.
- Station B – North end of the Harbour.
- Gloucester Terrace – North end of Cambria Rd
- Main Beach – North side of road just before Washrooms and Concessions building
- South Cove – East side of Bethune Crescent by Community Clubhouse
- Essex Street – West side of Essex Street. North East corner of Park (end of Picton Street)

Figure 1.1



	PROJECT No. 11057
	DATE March 2017
SCALE N.T.S.	DRAWING No. 1 of 1
Goderich Water Pollution Control Plant Site Plan	

2.0 SUMMARY AND INTERPRETATION OF MONITORING DATA

2.1 Flows

Flow data for the reporting period is obtained from the SCADA system and records maintained by Veolia, the operator of the works. **(See Appendix A)** The flows are recorded from an open channel flow meter located at the south end of the UV disinfection channel.

Table 2.1 is a summary of the 2022 monthly flows at the WPCP and monthly recorded rainfall amounts. The annual average daily flow for 2022 was 4,800 m³/day, which is 53% of the rated plant flow capacity of 9,050m³/day.

Table 2.1 | 2022 Monthly Flow / Rainfall Amounts

Month	Total Flow (m ³)	Average Day (m ³)	Maximum Day (m ³)	Rainfall (mm)
January	132,926	4,288	5,145	3.50
February	167,422	5,979	12,467	50.20
March	212,851	6,866	10,238	37.50
April	195,786	6,526	7,702	52.68
May	167,233	5,395	7,236	32.00
June	145,074	4,836	8,557	80.04
July	107,942	3,482	4,126	6.00
August	108,549	3,502	5,804	96.20
September	106,258	3,542	7,026	33.00
October	140,263	4,525	10,416	82.50
November	123,144	4,105	5,158	10.70
December	141,024	4,549	10,543	28.30
Total	1,748,472			512.62
Average		4,800		42.71
Maximum			12,467	

Annual Report - 2022 Operating Year

Goderich Water Pollution Control Plant

Works # 120000943

Table 2.1.2 is a monthly comparison of the Water Treatment plant flows (Treated Water) versus the Water Pollution Control plant effluent flows. The Treated Water enters the Distribution System for use and then is returned via the Collection System for treatment at the Wastewater Treatment Plant.

Table 2.1.2 | Water Treatment Plant vs. Water Pollution Control Plant 2022 Monthly Flows.

Month	Water Treatment Plant		Water Pollution Control Plant		Water Flows as a % of Wastewater
	Monthly Flows (m ³)	Daily Avg. (m ³)	Monthly Flows (m ³)	Daily Avg. (m ³)	
January	86,825	2,801	132,926	4,288	65 %
February	78,059	2,788	167,422	5,979	47 %
March	84,537	2,727	212,851	6,866	40 %
April	84,554	2,818	195,786	6,526	43 %
May	109,786	3,541	167,233	5,395	66 %
June	134,618	4,487	145,074	4,836	93 %
July	160,991	5,193	107,942	3,482	149 %
August	140,333	4,527	108,549	3,502	129 %
September	120,618	4,021	106,258	3,542	114 %
October	101,439	3,272	140,263	4,525	72 %
November	94,406	3,147	123,144	4,105	77 %
December	90,271	2,912	141,024	4,549	64 %
Total	1,286,437		1,748,472		
Average	107,203	3,520	145,706	4,800	72 %

Table 2.1.3 is a visual representation of the flows produced and entering the distribution system from the Water Treatment Plant and the flows entering and treated at the Wastewater Treatment Plant. The differences are listed as extraneous flows.

Table 2.1.3 | Visual Representation of Flows Produced at WTP vs Flows Treated at WWTP

January

■ Treated Water as % Wastewater ■ Extraneous Flow



February

■ Treated Water as % Wastewater ■ Extraneous Flow



March

■ Treated Water as % Wastewater ■ Extraneous Flow



April

■ Treated Water as % Wastewater ■ Extraneous Flow



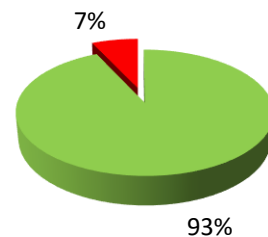
May

■ Treated Water as % Wastewater ■ Extraneous Flow



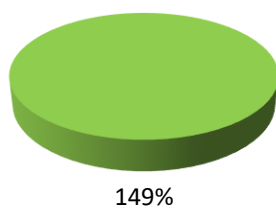
June

■ Treated Water as % Wastewater ■ Extraneous Flow



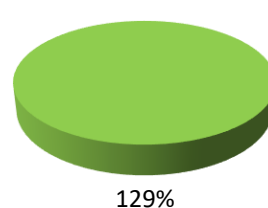
July

■ Treated Water as % Wastewater ■ Extraneous Flow



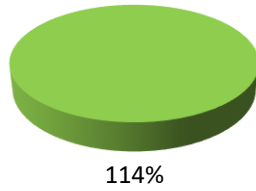
August

■ Treated Water as % Wastewater ■ Extraneous Flow



September

■ Treated Water as % Wastewater ■ Extraneous Flow



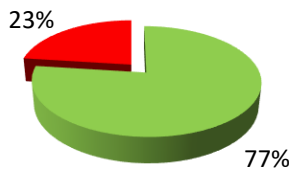
October

■ Treated Water as % Wastewater ■ Extraneous Flow



November

■ Treated Water as % Wastewater ■ Extraneous Flow



December

■ Treated Water as % Wastewater ■ Extraneous Flow



Total - Annual

■ Treated Water as % Wastewater ■ Extraneous Flow



The Distribution and Collection systems are essentially a closed system. What enters the Distribution system, treated water, should be the bulk of what is returned via the Collection system to the Wastewater Treatment Facility.

As can be seen in the above table and subsequent charts, there are significant flows most months of the year that are referred to as “extraneous” flows. These amounts cannot be accounted for from the treated water numbers entering the Distribution system. As everything that enters the Wastewater Treatment Plant must enter from the Collection system, these “extraneous” flows are picked up in the Collection System and returned to the Wastewater Treatment Plant for Treatment.

Treated Water flows for July, August and September are 149%, 129%, and 114% of Wastewater Flows respectively. This is normal as treated water from the Distribution System is used for lawn watering, car washing etc. and is not returned via the Collection System. There is more treated water being produced than is being returned for Wastewater Treatment during these periods.

Note: The Wastewater Treatment Plant receives Leachate from the Mid-Huron Landfill site via the Parsons Court transfer station. In 2022 the WWTP received 10,613 m³ representing 0.61% of the Plants annual flow.

2.2 2022 Raw Sewage Sample Results

The Certificate of Approval (ECA) specifies raw sewage monitoring on a quarterly basis (minimum) for BOD₅, Total Suspended Solids (TSS), and Total Phosphorus (TP). Veolia monitors these parameters along with CBOD₅ on a monthly basis. These samples are sent to an accredited laboratory for analysis. The Goderich WWTP used SGS Labs for its analyses.

Table 2.2 provides a summary of the 2022 Raw Sewage sample results.

Table 2.2 | 2022 Raw Sewage Concentrations – Plant Influent

Month	BOD ₅ (mg/L)	Suspended Solids (mg/L)	Total Phosphorus (mg/L)	CBOD ₅ (mg/L)
January	78	87	1.47	65
February	31	35	0.71	26
March	32	41	0.99	26
April	47	52	1.44	40
May	74	44	1.24	48
June	99	100	2.26	85
July	68	69	2.47	75
August	150	100	3.11	101
September	22	17	0.94	18
October	44	122	1.39	46
November	43	33	1.62	44
December	48	43	2.86	53
Average	61	62	1.71	52

2.3 Final Effluent ECA Objectives and ECA Compliance Limits

Table 2.3 provides the final effluent design objectives contained in the ECA.

Table 2.3 | Final Effluent ECA Design Objectives

Parameter	Concentration Objectives
CBOD ₅	≤ 10.0 mg/L
Suspended Solids	≤ 12.0 mg/L
Total Phosphorus	≤ 0.7 mg/L

Table 2.3.2 provides the Final Effluent limits contained in the ECA.

Table 2.3.2 | ECA Final Effluent Limits

Parameter	Non-Compliance Limits Average Monthly Concentrations
CBOD ₅	15.0 mg/L
Suspended Solids	15.0 mg/L
Total Phosphorus	1.0 mg/L
pH	Maintained between 6.0 to 9.5
<i>E. Coli</i>	200 cfu/ 100 ml (Geometric Mean Density)

2.4 2022 Final Effluent

The ECA requires Final Effluent monitoring on a weekly basis for CBOD₅, TSS, TP, E. Coli, pH, Temperature, and Unionized Ammonia (calculated). Analysis and results for weekly Final Effluent samples are provided by an accredited laboratory. The Goderich WWTP used SGS Labs for its analyses.

Table 2.4 provides a summary of the 2022 monthly average final effluent samples results.

Table 2.4 | 2022 Final Effluent Monthly Sample Average Results (See Appendix A)

Month	CBOD ₅ (mg/L)	Suspended Solids (mg/L)	Total Phosphorus (mg/L)	NH ₃ -N (mg/L)	E. Coli (cfu/100mL)	Minimum pH (units)	Maximum pH (units)	Unionized Ammonia (mg/L)
Jan	2.25	3.50	0.34	0.40	29	7.70	8.21	0.003
Feb	2.75	6.75	0.42	0.53	36	7.75	8.01	0.001
Mar	2.80	4.20	0.29	0.32	7	7.63	8.26	0.001
Apr	2.00	4.25	0.24	0.80	2	7.82	7.97	0.001
May	2.50	3.50	0.32	0.45	1	7.86	7.93	0.001
Jun	2.00	5.00	0.47	0.10	3	7.66	8.02	0.001
Jul	2.00	3.00	0.41	0.10	10	8.00	8.17	0.001
Aug	2.00	3.00	0.40	0.10	7	7.88	8.19	0.001
Sept	2.00	6.00	0.35	0.10	5	7.59	8.15	0.001
Oct	2.00	2.75	0.32	0.10	10	7.87	7.96	0.001
Nov	3.00	2.80	0.29	0.14	45	7.64	8.06	0.001
Dec	2.25	8.25	0.44	0.10	41	7.65	8.22	0.001
Annual Average	2.30	4.42	0.36	0.27	16	7.75	8.10	0.001
MECP Limits	15.00	15.00	1.0	*2.0	200	>6.00	<9.5	

Avg. Monthly

*Note - Final Effluent Unionized Ammonia minimum analysis reported from SGS is 0.001 mg/L

*Note - Final Effluent NH₃-N minimum analysis reported from SGS is 0.10 mg/L

*Final Effluent NH₃-N is a Contractual Limit

Table 2.4.2 provides the weekly sample results for Final Effluent in 2022

Table 2.4.2 | 2022 Final Effluent Weekly Sample Results

Date (Weekly Samples)	CBOD ₅ (mg/L)	Suspended Solids (mg/L)	NH ₃ -N (mg/L)	Total Phosphorus (mg/L)	pH	Unionized Ammonia (mg/L)	E. Coli (cfu/100mL)
01/04/22	3.00	4.00	0.10	0.41	7.90	.001	36
01/11/22	2.00	5.00	0.60	0.31	7.86	.002	76
01/18/22	2.00	2.00	0.70	0.25	8.21	.009	25
01/25/22	2.00	3.00	0.20	0.38	7.70	.001	11
Jan Average	2.25	3.50	0.40	0.34	7.92	.003	29
02/01/22	2.00	8.00	1.20	0.50	7.75	.002	23
02/08/22	2.00	7.00	0.40	0.41	7.84	.001	12
02/15/22	3.00	4.00	0.30	0.39	7.80	.001	58
02/22/22	4.00	8.00	0.20	0.39	8.01	.001	103
Feb Average	2.75	6.80	0.53	0.42	7.85	.001	36
03/01/22	2.00	6.00	0.40	0.33	8.11	.001	89
03/08/22	2.00	4.00	0.50	0.34	7.91	.001	14
03/15/22	3.00	5.00	0.30	0.29	8.26	.001	4
03/22/22	3.00	2.00	0.20	0.22	7.86	.001	1
03/29/22	4.00	4.00	0.20	0.27	7.63	.001	3
Mar Average	2.80	4.20	0.32	0.29	7.95	.001	7
04/05/22	2.00	6.00	0.70	0.26	7.97	.001	2
04/12/22	2.00	2.00	0.20	0.25	7.88	.001	2
04/19/22	2.00	3.00	1.60	0.24	7.82	.002	2
04/26/22	2.00	6.00	0.70	0.19	7.92	.001	0
Apr Average	2.00	4.30	0.80	0.24	7.51	.001	2
05/03/22	4.00	3.00	1.40	0.30	7.86	.001	0
05/10/22	2.00	3.00	0.20	0.27	7.88	.001	0
05/17/22	2.00	2.00	0.10	0.35	7.93	.001	1
05/24/22	2.00	6.00	0.10	0.37	7.90	.001	3
May Average	2.50	3.50	0.45	0.32	7.89	.001	1
06/01/22	2.00	8.00	0.10	0.71	7.93	.001	3
06/07/22	2.00	9.00	0.10	0.50	7.66	.001	5
06/14/22	2.00	2.00	0.10	0.34	8.02	.001	1
06/21/22	2.00	2.00	0.10	0.31	8.01	.001	2
06/27/22	2.00	4.00	0.10	0.47	7.87	.001	6
June Average	2.00	5.00	0.10	0.47	7.90	.001	3

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Goderich Water Pollution Control Plant

Works # 120000943

Date (Weekly Samples)	CBOD ₅ (mg/L)	Total Suspended Solids (mg/L)	NH ₃ -N (mg/L)	Total Phosphorus (mg/L)	pH	Unionized Ammonia (mg/L)	E. Coli (cfu/100mL)
07/05/22	2.00	2.00	0.10	0.39	8.00	.001	11
07/12/22	2.00	3.00	0.10	0.39	8.13	.001	2
07/19/22	2.00	4.00	0.10	0.44	8.10	.001	49
07/26/22	2.00	3.00	0.10	0.40	8.17	.001	11
July Average	2.00	3.00	0.10	0.41	8.10	.001	10
08/02/22	2.00	4.00	0.10	0.47	8.02	.001	27
08/09/22	2.00	2.00	0.10	0.42	8.19	.001	13
08/16/22	2.00	2.00	0.10	0.39	7.95	.001	4
08/23/22	2.00	3.00	0.10	0.33	8.11	.001	14
08/30/22	2.00	4.00	0.10	0.38	7.88	.001	1
Aug Average	2.00	3.00	0.31	0.40	8.03	.001	7
09/06/22	2.00	2.00	0.10	0.37	8.15	.001	3
09/13/22	2.00	2.00	0.10	0.33	8.09	.001	0
09/20/22	2.00	2.00	0.10	0.37	7.59	.001	8
09/27/22	2.00	17.00	0.10	0.34	8.15	.001	30
Sept Average	2.00	6.00	0.10	0.35	8.00	.001	5
10/04/22	2.00	4.00	0.10	0.29	7.87	.001	5
10/11/22	2.00	2.00	0.10	0.28	7.96	.001	5
10/18/22	2.00	3.00	0.10	0.37	7.89	.001	42
10/25/22	2.00	2.00	0.10	0.32	7.96	.001	9
Oct Average	2.00	2.80	0.10	0.32	7.92	.001	10
11/01/22	2.00	2.00	0.10	0.29	7.64	.001	25
11/08/22	2.00	2.00	0.10	0.30	7.80	.001	21
11/15/22	7.00	6.00	0.10	0.28	8.06	.001	50
11/22/22	2.00	3.00	0.30	0.26	7.87	.001	168
11/29/22	2.00	2.00	0.10	0.30	7.87	.001	41
Nov Average	3.00	2.80	0.14	0.29	7.85	.001	45
12/06/22	2.00	5.00	0.10	0.27	8.22	.001	13
12/13/22	2.00	2.00	0.10	0.31	7.98	.001	47
12/20/22	2.00	6.00	0.10	0.36	7.65	.001	40
12/27/22	3.00	20.00	0.10	0.80	7.83	.001	121
Dec Average	2.25	8.30	0.10	0.44	7.92	.001	41
Annual Average	2.30	4.43	0.29	0.36	7.90	.001	9
MECP Limits (Avg. Monthly)	15.0	15.0	*2.0	1.0	> 6.0 <9.5		200

* NH₃-N is a Contractual Limit

* E. Coli (cfu/100ml) limit is Average Monthly Concentrations reported as Geometric Mean Density

In summary, while there were a few instances where the weekly results returned a higher-than-normal value, all parameters are below MECP Limits as established in the ECA for the Goderich Wastewater Treatment Plant.

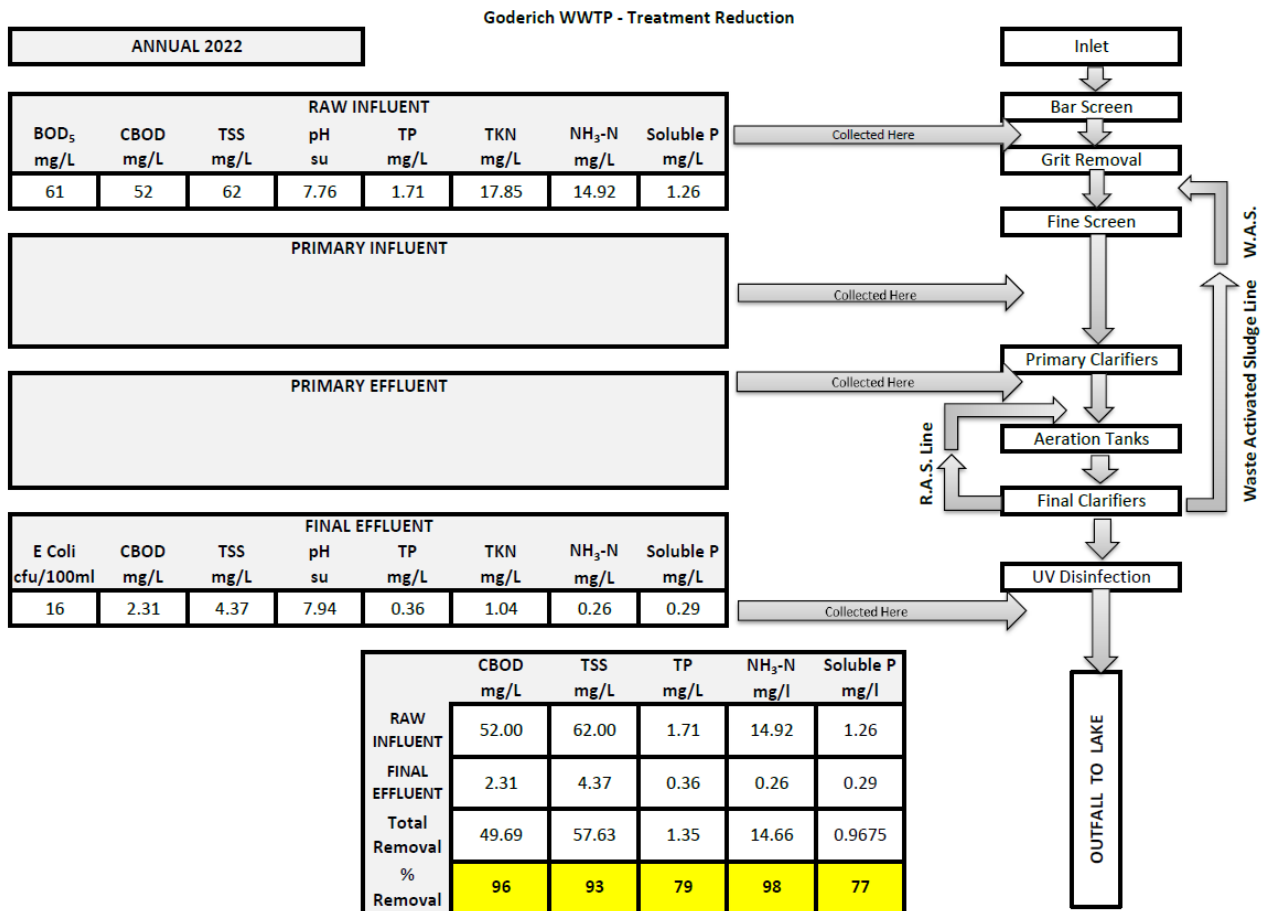
2.5 2022 Performance Summary

Table No. 2.5 is a summary of the overall effectiveness of the treatment of raw sewage from its entry to the Final Effluent entering Lake Huron.

Table 2.5 | Overall Sewage Reduction Based on Annual Averages

Parameter (mg/L unless noted)	Raw Sewage	Final Effluent	Design Objective	MECP Limit	% Reduction
CBOD ₅	61	2.30	10.0	15.0	96 %
Suspended Solids	62	4.43	12.0	15.0	93 %
Total Phosphorus	1.71	0.36	0.7	1.0	79 %

Figure 2.5 | Performance Summary Visualization



In general terms, the works are providing excellent treatment of the incoming sewage, and there is anticipated to be little, if any, impact to the receiving body (Lake Huron) from the works.

3.0 OPERATIONS

3.1 General

Condition **(10.6.a)** of the ECA requires the owner to report a summary and interpretation of monitoring data and comparisons to effluent limits and objectives. **Section 2.0** of this report provides a summary and interpretation of monitoring data and comparisons to effluent limits and effluent objectives.

3.2 Operating Problems (ECA 10.6.b)

Other than a few minor equipment breakdowns, which were repaired in a timely matter without affecting the treatment process, we did not experience any operating problems in 2022.

3.3 Maintenance and Repairs (ECA 10.6.c)

Routine maintenance occurred as required. The following activities were specifically carried out.

- Restoration of CSO Tank #1. Vegetation, overgrowth and debris removed from tank. Cracks, holes, and seams filled. Polyurea coating applied to floor and walls of tank.
- New VFD Installed In Primary Pump House #2 for Primary Sludge Pump #2.
- Pressure Washed Interior of Wet Well at Gloucester Pumping Station. Spring and Fall.
- Pressure Washed Interior of Wet Well at Main Beach Pumping Station. Spring and Fall.
- Sealing completed on roof of control building around vent pipes.
- Flushed grease in RAS pumps.
- Brush Systems installed on skimmer arms of the 4 Primary Clarifiers.
- New H2S Sensors, Warning Beacon, and Control Panel Supplied and Installed by Hetek.
- New Conveyor Belt System Installed in Belt Filter Press Room.
- New Verbatim Dialer Installed In Control Room.
- Annual Backflow Preventer Certifications done by Fergusons Plumbing and Heating.
- H2S meters calibrated by Hetek.
- Final Effluent flow meter calibrated by Iconix.
- Annual inspection of hoists and chain falls by Acu-Tec.
- Automatic Gate Installed at main entrance of Wastewater Treatment Plant.
- Electric Hoist installed at Grit Classifier location.
- New door and frame installed on Blower building.
- Garage door replaced and automatic opener installed in Truck Bay.
- 12,000 Hr rebuild of UV banks. All UV bulbs replaced, wipers rebuilt, quartz sleeves cleaned.

3.4 Effluent Quality Assurance (ECA 10.6.d)

According to the Wastewater Systems Effluent Regulations Final Effluent is to be sampled quarterly to determine if the effluent being deposited is acutely lethal. Paragraph 11(6)(a) states that if samples tested in each of four consecutive quarters were determined not to be acutely lethal, then the Wastewater System is eligible to reduce the sampling frequency for the determination of acute lethality.

Due to reporting four consecutive quarters of not acutely lethal results in 2016 the Goderich Wastewater Treatment Plant has been granted a sampling frequency of once yearly. A Final Effluent sample was collected July 27, 2022 and sent to an accredited lab to be tested for Acute Lethality. The result of the sample was zero (0), not acutely lethal.

All monitoring and sampling for quality assurance was completed as required by the ECA.

3.5 Calibration of Effluent Monitoring Equipment (10.6.e)

The final effluent flow monitoring equipment was calibrated by ICONIX. For Details (**See Appendix B**)

The HACH bench top pH meter is calibrated in-house on a monthly basis by Veolia operators using the 4.01, 7.00 and 10.01 buffers. The pH meter and Colorimeter are calibrated by a HACH Technician annually. Fixed mount D.O. sensors are calibrated annually. The Plant is equipped with a variety of Gas (H₂S, LEL and 4 Gas Units) detection units which are calibrated semi-annually by Hetek Solutions Inc.

3.6 Effluent Quality Objectives (ECA 10.6.f)

With the use of the In-house labs and tests we can monitor the Settleability of MLSS, Final Effluent Total Suspended Solids and Soluble Phosphorus levels. The results from these tests give us an indication where we stand in relation to meeting our Effluent Objectives and allow us to make process changes when necessary. All results are entered into the daily logbook and Hach WIMS database.

In addition to In-house labs and test Veolia employs a Process Management Control Plan that compiles the results from in-house labs and testing along with weekly and monthly lab results. The PCMP program provides monitoring of targets and flags throughout the process allowing operators the ability to identify and react to a situation in the process before it affects the quality of the Final Effluent.

In-House Tests conducted and frequency:

- 30-minute settling test of all aeration tanks mixed liquor – Monday thru Friday
- TSS lab of Primary Effluent, Mixed Liquor, RAS, and Final Effluent – Monday, Wednesday, Friday.
- Soluble Phosphorus residual in Final Effluent – Monday thru Friday.
- Primary Clarifier sludge blankets measured – Monday thru Thursday.
- Secondary Clarifier sludge blankets measured – Monday thru Friday.
- Aeration tanks Dissolved Oxygen readings – Monday, Wednesday, Friday.
-

3.7 Sludge (ECA 10.6.g)

Sludge accumulates in the bottom of the Primary Clarifiers. The sludge blankets in the four (4) primary clarifiers are measured daily Monday thru Thursday. The purpose of the measurement is to monitor sludge levels and determine which Primary Clarifier(s) will have sludge drawn down from. The sludge is removed from the clarifiers by pumping it to the Belt Filter Press and loaded in a 20-yard self-levelling bin (up to) twice weekly. The bin is then picked up and transported under agreement with Canadian Waste Management to an approved facility. Canadian Waste Management hauls the dewatered sludge under ECA #A840311. The waste is taken to Twin Creeks Landfill Site in Lambton County operating under ECA #A032303.

Table 3.7 compares the last five years of sludge hauled to landfill.

Table 3.7 | 5 Year Comparison of Tonnes and Loads of Sludge Hauled to Landfill

YEAR	2018	2019	2020	2021	2022
Tonnes	1146	1144	1228	1197	1120
Loads	84	75	88	82	74
Operating Days	84	75	88	82	74
Avg. Weight Per Load	13.64 Tonnes	15.25 Tonnes	13.95 Tonnes	14.60 Tonnes	15.36 Tonnes

Based on the past five years, we do not anticipate a major increase or decrease in sludge production for 2023.

3.8 Complaints (ECA 10.6.h)

No complaints were received by the Goderich WWTP for the year 2022.

3.9 Bypasses (ECA 10.6.i)

There were zero Plant-Bypasses in 2022 at the Goderich WWTP to Report

APPENDIX “A”

2022 PLANT DATA

Annual Report - 2022 Operating Year

Goderich Water Pollution Control Plant

Works # 12000943

	GODERICH WPCP MONTHLY REPORT												Average	
	January	February	March	April	May	June	July	August	September	October	November	December		Total
Flows (effluent)														
Total Flow (effluent)(m3)	132926	167422	212851	195786	167233	145074	107942	108549	106258	140263	123144	141024	1748472	7868
Maximum Daily Flow (m3/day)	5145	12467	10238	7702	7236	8557	4126	5804	7026	10416	5158	10543	4800	4800
Average Daily Flow (m3/day)	4288	5979	6866	6526	5395	4836	3482	3502	3542	4525	4105	4549	15139	15139
Peak Flow (Instantaneous)(m3/day)	7619	21905	16281	11340	10950	26030	12225	17234	20799	15720	7690	13878		
Return Activated Sludge														
Average Daily Flow (m3/day)	3003	4034	4120	3926	3237	2922	2280	2451	2479	3171	2875	3200	3142	3142
Return Rate %	70	68	60	60	60	60	66	70	70	70	70	70	66	66
Waste Ave. Daily Flow (m3/day)	57	51	56	58	61	56	56	59	62	60	60	60	58	58
BYPASS														
Primary Bypass Volume (m3)														
Primary Bypass Duration (hours)														
Primary Bypass Events	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Secondary Bypass Volume (m3)														
Secondary Bypass Events	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INFLUENT PARAMETERS														
Raw BOD (mg/l)	78.00	31.00	32.00	47.00	74.00	99.00	68.00	150.00	22.00	44.00	43.00	48.00	61.33	61.33
Raw CBOD (mg/l)	65.00	26.00	26.00	40.00	48.00	85.00	75.00	101.00	18.00	46.00	44.00	53.00	52.25	52.25
Raw CBOD Loading (Kg/day)	278.72	155.46	178.52	261.05	258.94	411.04	261.15	353.66	63.75	208.13	180.61	241.11	2,852.15	2,852.15
Raw TSS (mg/l)	87.00	35.00	41.00	52.00	44.00	100.00	69.00	100.00	17.00	122.00	33.00	43.00	61.92	61.92
Raw TSS Loading (Kg/day)	373.05	209.28	281.51	339.36	237.36	483.58	240.26	350.16	60.21	552.00	135.46	195.61	3,457.85	3,457.85
Raw TKN (mg/l)	17.80	6.90	9.80	13.70	16.40	27.30	29.20	12.50	12.50	12.90	17.40	23.30	17.85	17.85
Raw TKN Loading (Kg/day)	76.33	41.26	67.29	89.41	88.47	130.57	95.06	102.25	44.27	58.37	71.42	106.00	970.68	970.68
Raw NH3 (mg/l)	14.40	5.00	7.70	12.60	14.70	17.90	23.40	27.40	4.20	12.40	16.80	17.00	14.92	14.92
Raw NH3 Loading (Kg/day)	61.75	6.90	52.87	82.23	79.30	86.56	81.48	95.94	34.36	56.11	68.96	77.34	763.79	763.79
Raw TP (mg/l)	1.47	0.71	0.99	1.44	1.24	2.26	2.47	3.11	0.94	1.39	1.62	2.86	1.71	1.71
Raw TP Loading (Kg/day)	6.30	4.25	6.80	9.40	6.69	10.93	8.60	10.89	3.33	6.29	6.65	13.01	93.13	93.13
Raw pH (SU)	7.49	7.83	7.82	7.80	7.64	7.90	7.72	7.95	7.83	7.70	7.60	7.81	7.76	7.76
EFFLUENT PARAMETERS														
Final BOD (mg/l)	2.25	2.75	2.80	2.00	2.50	2.00	2.00	2.00	2.00	2.00	3.00	2.25	2.31	2.31
Final CBOD Loading (Kg/day)	9.65	16.44	19.23	13.05	13.49	9.67	6.96	7.00	7.08	9.05	12.31	10.24	134.18	21.56
Final TSS (mg/l)	3.50	6.75	4.20	4.25	3.50	5.00	3.00	3.00	6.00	2.75	2.80	8.25	4.37	4.37
Final TSS Loading (Kg/day)	15.01	40.36	28.84	27.74	18.88	24.18	10.45	10.50	21.25	12.44	11.49	37.53	258.67	41.86
Final TKN (mg/l)	1.70	1.00	0.98	1.05	1.10	0.80	1.68	0.72	1.20	0.93	0.94	0.55	1.04	1.04
Final TKN Loading (Kg/day)	7.29	5.98	6.73	6.85	5.93	3.87	5.83	2.52	4.25	4.19	3.86	2.50	59.80	9.36
Final NH3 (mg/l)	0.40	0.53	0.32	0.80	0.45	0.10	0.10	0.10	0.10	0.10	0.14	0.10	0.26	0.26
Final NH3 Loading (Kg/day)	1.72	3.14	2.20	5.22	2.43	0.48	0.35	0.35	0.35	0.45	0.57	0.45	17.72	17.72
Final Unionized Ammonia (ug/l)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Final TP (mg/l)	0.34	0.42	0.29	0.24	0.32	0.47	0.41	0.40	0.35	0.32	0.29	0.44	0.36	0.36
Final TP Loading (Kg/day)	1.45	2.53	1.99	1.53	1.74	2.25	1.41	1.39	1.25	1.43	1.17	1.98	20.12	3.23
Final pH (SU)	7.92	7.85	7.95	7.90	7.89	7.90	8.10	8.03	8.00	7.92	7.85	7.92	7.94	7.94
Final Nitrite (mg/l)	0.04	0.07	0.13	0.46	0.20	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.09	0.09
Final Nitrate (mg/l)	13.63	12.87	10.66	9.33	12.00	15.24	18.15	16.26	15.53	15.58	16.24	16.13	14.32	14.32
Bacteria E.Coli (cfu/100ml)	29	36	7	2	1	3	10	7	5	10	45	41	16	16
Sludge Hauled (Loads)	7.0	5.0	6.0	5.0	8.0	8.0	8.0	7.0	5.0	1.0	8.0	6.0	74.0	6.17
Sludge Hauled (Tonnes)	106.52	81.58	104.01	75.93	125.06	116.37	113.51	104.73	72.92	17.50	112.32	89.07	1,119.52	93.29

*Final Unionized Ammonia numbers shown in Monthly report are not correct and not used. Averages are taken from weekly final effluent results analyses as shown in Table 2.4.2 | 2022 Final Effluent Weekly Sample Results

APPENDIX “B”

2022 CALIBRATION CERTIFICATE

EFFLUENT FLOW METER

In 2022 ICONIX was scheduled to complete Flow Meter Calibrations for all of the Veolia Huron Hub. It was quite a chore to ensure that ICONIX had completed all of the Calibrations requested as they were also experiencing technically proficient labour shortages and then eventually came to the decision to cease offering Flow Meter Calibration services all together in a letter dated September 9, 2022. The Goderich WWTP Flow Meter did not get Calibrated when originally scheduled with the rest of the Flow Meters in Goderich but I was able to have it completed. The technician completed the Calibration on Sept 13, 2022 and applied a sticker on the Milltronics unit for the V-Notch Weir that was Calibrated. No Certificate of Calibration was ever issued or received from ICONIX despite numerous attempts by Veolia staff to acquire them.

ICONIX Letter Included here



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September 9, 2022

To Our Valued Customers

RE: Flow Meter Services

ICONIX Waterworks LP has recently made the business decision to discontinue flow meter verification services nationally to allow our team to focus on the core product offerings that bring the most value to our customers and partners. Please plan accordingly for your future service requirements.

We appreciate your loyalty and support over the years and look forward to doing business with you in a different capacity moving forward.

Please feel free to contact me with any questions or if additional information is required.

Regards,

Cal Reaume, P.Eng.
Sales Manager, Municipal & Environmental