



SEAFORTH WASTEWATER TREATMENT PLANT

Works # 110001177

2024 ANNUAL REPORT OF OPERATIONS

Managed, Operated and Maintained by:

Jacobs

March 4, 2025

Ontario Ministry of Environment, Conservation and Parks
101 17th St. East,
Owen Sound, Ontario
N4K 0A5

MECP District Manager,

On behalf of the Corporation of the Municipality of Huron East, OMI (Jacobs) is pleased to submit to you the annual compliance report for the Seaforth Wastewater Treatment Plant. Please feel free to contact the undersigned if you have any questions regarding this report.

Respectfully Submitted,

Christopher Toulouse


Jacobs - Project Manager

cc: Barry Mills, Director of Public Works, Municipality of Huron East
Shawn Bromley, Operations Manager, Municipality of Huron East
Joe Bloomfield, Area Manager, Jacobs

Table of Contents

A	<i>A summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 6, including an overview of the success and adequacy of the Works.</i>	4
B	<i>A description of any operating problems encountered, and corrective actions taken.</i>	8
C	<i>A summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works.</i>	8
D	<i>A summary of any effluent quality assurance or control measures undertaken in the reporting period.</i>	8
E	<i>A summary of the calibration and maintenance carried out on all effluent monitoring equipment.</i>	9
F	<i>A summary of efforts made, and results achieved in meeting the Effluent Objectives of Condition 5.</i>	9
G	<i>A tabulation of the volume of sludge generated, 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.</i>	9
H	<i>A summary of any complaints received, and any steps taken to address the complaints.</i>	9
I	<i>A summary of all Bypass, spill or abnormal discharge events.</i>	10
J	<i>A copy of Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification.</i>	10
K	<i>A report summarizing all modifications completed as a result of Schedule B, Section 3.</i>	10
L	<i>Any other information the Water Supervisor requires from time to time.</i>	11
	Appendix A.	12
	Appendix B.	18
	Appendix C.	24

Introduction:

The Seaforth Wastewater Treatment Plant (WWTP) was constructed between the 1960's and 1993. It is classified as a Level 2 Treatment plant and Level 2 Collection system.

OMI (Jacobs) is the Operating Authority for the treatment plant and pump station on behalf of The Corporation of the Municipality of Huron East. The Municipality operates the remainder of the collections system.

The plant has a design capacity of 2,400 m³/day and a peak capacity of 10,800 m³/day. The total annual effluent flow for 2024 was 580,844m³, with an average daily flow of 1,587.01 m³/day or 66.13% of capacity.

The treatment plant operates under ECA # 5131-A7ERV4 issued February 25, 2016.

The current WWTP is an extended aeration activated sludge plant which consists of a grit removal system, bar screen, surface aerated aeration, secondary clarification, and UV disinfection. The works also consists of a 3-cell lagoon system (Sutton Design) with one cell being dedicated as a biosolids holding lagoon.

The WWTP has an on-site back-up power generator that operates the plant during an emergency power outage.

Pump Stations & Collection System:

The Seaforth Main sanitary pumping station is located at 35 Oak St. Sewage is gravity feed through the collection system to Main Pumping Station, which then pumps flow approximately 1750 m to the WWTP via twinned 250mm force-mains.

The Main Pump station is checked five days a week and has alarm monitoring capabilities 24-hours/day. Pump run time hours are documented during the daily checks.

OMI (Jacobs) operates and maintains the pump station, while the Municipality operates the collection system.

SECTION A

A summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 6, including an overview of the success and adequacy of the Works.

The Treated Effluent is discharged to the Bayfield River via the Crozier Drain. The Effluent sampling point is located downstream of the UV system and upstream of the effluent V-Notch weir.

In accordance with Section 5, 6 and 8, a 24-hour composite sample of the Final Effluent is collected weekly and analyzed by SGS Laboratories for the parameters: CBOD₅, TSS, Total Phosphorous and TAN. A weekly grab sample is also collected and analyzed for E-coli by SGS Laboratories. The onsite operator completes analysis of pH, temperature, reactive phosphorous, H₂S and dissolved oxygen.

A grab sample of the Influent sewage is collected weekly and analyzed by SGS Laboratories for the parameters: BOD₅, TSS, TKN and TP in accordance with Section 8 of the ECA. The onsite operators routinely collect a grab sample monitoring for pH and temperature.

The monthly Lab Data Sheets for the reporting year can be found in Appendix A.

Figure 1: Effluent Objectives and Limits

Effluent Parameter	Effluent Design Objective	Effluent Concentration Limits	Effluent Loading Limits
CBOD ₅	8 mg/L	12 mg/L	28.5 kg/d
Total Suspended Solids	10 mg/L	15 mg/L	36.0 kg/d
Total Phosphorous	0.6 mg/L	0.8 mg/L	1.9 kg/d
Total Ammonia Nitrogen	2.0 mg/L	2.0 mg/L (June to Sept) 4.0 mg/L (Oct to May)	4.8 kg/d (June to Sept) 9.6 kg/d (Oct to May)
E-coli	100 organisms per 100 mL	100 organisms per 100 mL	
pH	6.5 – 9.5 inclusive	6.5 – 9.5 inclusive	

Figure 2: Effluent Monthly/Yearly Concentrations

2024 MONTHLY/YEARLY AVERAGE RESULTS

Seaforth W.W.T.P.

Operations Number: 110001177

YEAR: 2024

Operating Authority: Jacobs

Municipality of Huron East

	Raw Influent				Final Effluent								
	BOD ₅ mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD ₅ mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH ₃ mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H ₂ S mg/L	pH	D.O.
January	101	82	17.6	1.65	3.4	5.6	0.28	0.28	1.44	13	0.006	7.56	13.01
February	135	105	22.3	2.07	4.3	7.5	0.26	0.23	1.59	12	0.007	7.64	16.48
March	93	137	16.8	1.66	3.5	4.8	0.30	0.13	0.90	4	0.007	7.65	10.64
April	95	119	18.2	1.84	3.5	4.0	0.30	0.10	0.73	8	0.004	7.59	10.33
May	112	128	21.1	2.20	2.4	5.0	0.59	0.10	0.59	9	0.003	7.36	10.08
June	115	127	31.3	3.24	2.3	3.5	0.54	0.20	2.01	4	0.003	7.77	7.57
July	123	126	28.0	2.79	2.2	4.8	0.49	0.10	2.47	3	0.006	7.74	7.20
August	169	179	34.6	3.86	2.3	4.0	0.49	0.10	2.43	7	0.002	7.65	8.11
September	156	134	36.2	4.00	2.8	4.5	0.53	0.10	0.60	8	0.004	7.20	7.89
October	203	335	44.4	5.81	2.0	4.6	0.42	0.10	1.89	17	0.003	7.80	8.23
November	154	146	45.6	4.77	2.0	4.0	0.43	0.10	1.55	19	0.002	7.68	9.36
December	74	80	20.7	2.11	2.0	3.2	0.40	0.10	0.88	20	0.003	7.52	9.55
Min	74.0	79.8	16.8	1.7	2.0	3.2	0.26	0.10	0.59	3	0.002	7.20	7.20
Max	203.4	334.8	45.6	5.8	4.3	7.5	0.59	0.28	2.47	20	0.007	7.80	16.48
Yearly Average	127.5	141.2	28.1	3.0	2.7	4.6	0.42	0.14	1.42	10	0.004	7.60	9.87

Figure 3: Effluent Flow Tabulation

JACOBS OMI Seaforth WWTP 2024 EFFLUENT FLOW REPORTS													
DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	2457	3714	2191	2183	1653	1253	1,090	2355	919	828	611	733	m³/d
2	2223	3795	2,368	2044	1598	1345	1,085	1615	868	733	748	818	m³/d
3	2040	3652	2336	2103	1753	1542	1,085	1393	914	796	748	765	m³/d
4	1872	3427	2348	1965	1648	1332	1,097	1242	860	747	748	768	m³/d
5	1739	3259	2262	1827	1620	1254	1,085	1166	808	731	790	762	m³/d
6	1666	2977	2178	1737	1496	1447	1,064	1354	874	726	733	769	m³/d
7	1665	2778	2047	1657	1286	1298	1,024	1150	882	763	546	780	m³/d
8	1571	2819	1969	1637	1594	1254	1,027	1219	879	660	773	859	m³/d
9	1512	3073	2415	1609	1510	1430	1,036	1112	885	681	758	1058	m³/d
10	3060	3469	2904	1572	1463	1372	1,272	1187	842	660	758	1434	m³/d
11	3333	3096	2793	1479	1456	1245	2,609	1121	827	677	758	1498	m³/d
12	3858	2841	2609	2484	1678	1183	1,854	1070	829	731	758	1356	m³/d
13	4062	2595	2464	3572	1553	1201	1590	1062	801	689	554	1184	m³/d
14	4141	2494	2221	3270	1525	1398	1,441	1009	820	726	737	1063	m³/d
15	3779	2378	3457	2931	1492	101	1,479	992	831	701	717	1111	m³/d
16	3544	2344	3323	2506	1316	58	1,837	984	864	685	754	1216	m³/d
17	3246	2269	3019	2222	1349	327	1,912	976	800	654	754	2522	m³/d
18	3043	2217	2677	2876	1418	1183	1,575	1191	810	672	754	2214	m³/d
19	2908	2183	2459	2655	1294	1877	1,403	1206	782	693	680	1649	m³/d
20	2746	2151	2401	2390	1239	1378	1,324	1155	793	695	736	1853	m³/d
21	2642	2130	2239	2203	1365	1491	1,287	1041	791	488	1,080	1463	m³/d
22	2577	2256	2133	2055	1297	1312	1,243	937	768	459	716	1281	m³/d
23	2484	2250	2150	1929	1191	1386	1,194	977	886	726	785	1318	m³/d
24	2458	2169	2087	1855	1097	1395	1,180	965	793	726	840	1263	m³/d
25	3088	2180	2163	1703	1129	1208	1,161	942	890	601	836	1189	m³/d
26	4094	2321	2393	1604	1138	1249	1,111	920	755	669	797	1117	m³/d
27	4932	2117	2990	1627	1459	1211	1,110	927	761	669	776	1132	m³/d
28	4442	2331	2929	1697	1848	1110	1,072	1118	804	669	904	1359	m³/d
29	4159	2277	2686	1674	1621	1162	1,116	984	795	736	747	1950	m³/d
30	3987		2438	1841	1414	1158	1,202	939	828	458	744	3325	m³/d
31	3712		2302		1317		2,355	987		1017		3317	m³/d
TOTAL	93,040	77,562	76,951	62,907	44,817	36,160	41,920	35,296	24,959	21,466	22,640	43,126	m³/d
MIN.	1512	2117	1969	1479	1097	58	1024	920	755	458	546	733	m³/d
MAX.	4932	3795	3457	3572	1848	1877	2609	2355	919	1017	1080	3325	m³/d
AVG.	3001.29	2674.55	2482.29	2096.90	1445.71	1205.33	1352.26	1138.58	831.97	692.45	754.67	1391.16	m³/d
% Cap	125.05%	111.44%	103.43%	87.37%	60.24%	50.22%	56.34%	47.44%	34.67%	28.85%	31.44%	57.97%	
Yearly Average:				1587.01	m³/d	Yearly Total:				580,844	m³		
Design Capacity:				2,400	m³/d								
% of Design Capacity:				66.13%									

Figure 4: Effluent TP Comparison to Objective/Limit

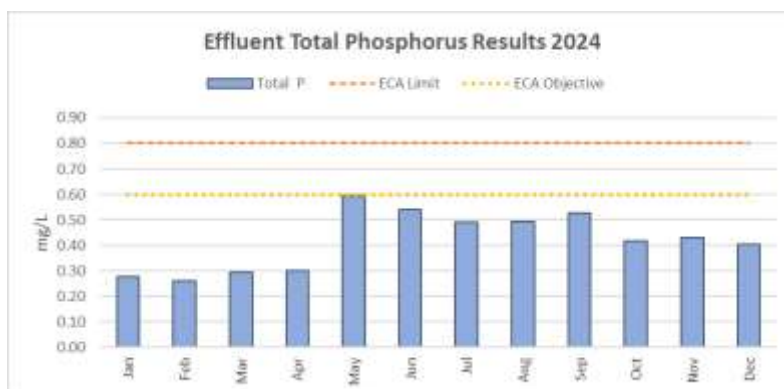


Figure 5: Effluent CBOD5 and TSS Comparison to Limit

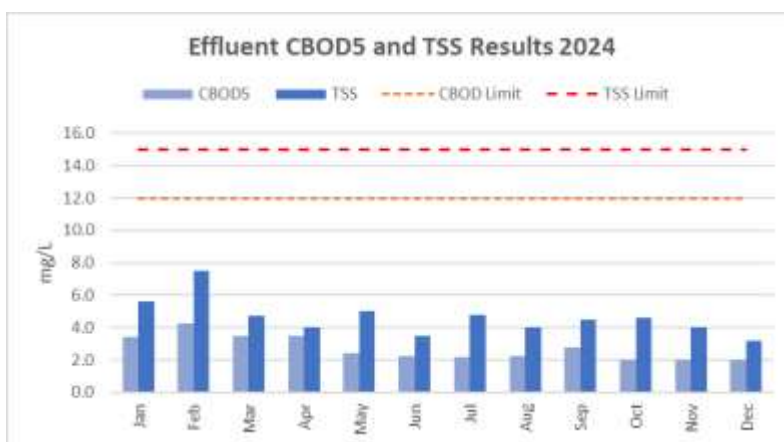


Figure 6: Effluent T.S.S and T.P. Removal Efficiency

Removal Efficiency					
Influent T.S.S. mg/L	Final T.S.S. mg/L	Removal Efficiency %	Influent Total P mg/L	Final Total P mg/L	Removal Efficiency %
82	5.60	93.17	1.65	0.28	83.19
105	7.50	92.86	2.07	0.26	87.30
137	4.75	96.52	1.66	0.30	82.26
119	4.00	96.63	1.84	0.30	83.72
128	5.00	96.08	2.20	0.59	73.00
127	3.50	97.23	3.24	0.54	83.33
126	4.80	96.19	2.79	0.49	82.34
179	4.00	97.76	3.86	0.49	87.22
134	4.50	96.64	4.00	0.53	86.80
335	4.60	98.63	5.81	0.42	92.84
146	4.00	97.26	4.77	0.43	90.99
80	3.20	95.99	2.11	0.40	80.87
	Min	92.86		Min	73.00
	Max	98.63		Max	92.84
	Average	96.25		Average	84.49

The Seaforth WWTP was successful overall with its TP, BOD and TSS removals for the reporting year. All Objectives were met throughout the year.

SECTION B

A summary of all operating issues encountered, and corrective actions taken.

The Seaforth WWTP did experience 63 days in which the effluent flows were above the Design Capacity but below the Rated Peak Capacity as outlined in the ECA due to above average snow melt, rainfalls and severe storms. Operations staff was able to minimize the number of bypasses by manually operating and monitoring the facility. No noticeable impact had occurred to the Effluent quality during these times.

SECTION C

A summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works.

Jacobs utilizes a computerized maintenance management system (CMMS) to track preventative and corrective maintenance activities. Preventative maintenance activities are carried out on a regular basis predetermined by the allocation and issuance of work orders including but not limited to equipment greasing, oil changes, and equipment inspections. The predetermined activities help to ensure optimal performance of the Works equipment and ensure the availability of equipment in emergency situations.

On July 3rd, 2024, CT Environmental was onsite at the Main SPS to preform annual cleaning. The SPS had its wet well pumped and cleaned to remove debris and grease build up to protect the structure and the equipment.

SECTION D

A summary of any effluent quality assurance or control measures undertaken.

The final effluent quality determines the efficiency of the treatment facility and if the standards set out in Section 5, 6 and 8 of the ECA are being met. The effluent quality is monitored on a regular basis by the Operating Authority for both legal and operational requirements. Proper sampling techniques and analysis are utilized to ensure that the Seaforth WWTP is operating efficiently and without impact to the environment. All records of process data are kept onsite at the Seaforth WWTP, and electronic copies made available in the case of an emergency. The Operating Authority continues to improve upon the Standard Operating Procedures set out to ensure the integrity of the facility is maintained.

SECTION E

A summary of the calibration and maintenance carried out on all effluent monitoring equipment.

The annual flow meter calibrations were completed on July 18th and 19th, 2024, by Pierce Services and Solutions Inc. All calibration sheets are kept at the Seaforth WWTP, and electronic copies kept as a backup. A copy of the reporting years calibration sheets can be found in Appendix C of this report.

The pH meter and probe used at the Seaforth WWTP undergoes a regular calibration and calibration verification as per manufacturer specifications. All data is recorded and kept onsite.

SECTION F

A summary of efforts made, and results achieved in meeting the Effluent Objectives of Condition 5.

The Seaforth WWTP was able to meet all Effluent Objectives listed in Section 5 of the ECA. Operations and the Municipality continue to work together to improve upon the operating standards expected by the Ministry. The Operating Authority has continued to improve upon its Control and Operating Strategies.

SECTION G

A tabulation of the volume of sludge generated, 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.

Waste activated sludge (WAS) is stored in a lagoon cell with a total volume of 70,300 m³. For the year 2025, it is anticipated that the volume of sludge and concentrations produced will remain the same as previous years with little new development occurring.

No contents of the lagoon were removed in the reporting year for land application.

SECTION H

A summary of any complaints received, and any steps taken to address the complaints.

No complaints were received regarding the Seaforth WWTP for the 2024 reporting year and no sanitary backups were reported to the Municipality or Operating Authority.

SECTION I

A summary of all Bypass, spill or abnormal discharge events.

There were 2 Bypass / Spills reported during the 2024 reporting year.

On January 26th, 2024, the Seaforth Oak St Pump Station experienced an abnormally high flow event caused by rain and snow melt. The Event was sampled upon alarm notification and samples sent to SGS for analysis. A total overflow volume of 380 m3 was recorded going to Silver Creek. All applicable parties were notified of the event, with a reference number 1-4M8P4L.

On July 10th, 2024, the Seaforth Oak St Pump Station experienced higher-than-normal flows while a pump failure had occurred. The Event was sampled upon alarm notification and samples sent to SGS for analysis. A total overflow volume of 702m3 was recorded going to Silver Creek. All applicable parties were notified of the event, with a reference number 1-8TEU8E.

2024

Seaforth Sewage Pump Station
Operating Number 110001177
Operating Authority: Jacobs
Municipality of Huron East

Bypass Events

YEAR 2024

ANALYST SGS

Date	Time/Volume of Event				Notification		Sampled			Results of Analyst					
Day Month	Start	Finish	Duration Hrs Mins	Volume M3	Yes	No	Yes	No		CBOD5 mg/L	S. S. mg/L	Total P mg/L	Total NH3 mg/L	E-Coli Per 100ml	pH
1	26-Jan 10:39	26-Jan 17:15	7 Hrs 36 Mins	380	x		x		start	24	31	0.54	2.8	128000	7.35
									end	56	100	0.57	2.6	190000	7.46
2	10-Jul 17:05	10-Jul 21:25	4 hrs 20min	702	x		x		start	101.0	141.0	0.59	3.50	109000	7.46
									end	36.0	65.0	1.21	12.60	123000	7.60

SECTION J

A copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification.

No Notices of Modifications were submitted to the Water Supervisor during the reporting year.

SECTION K

A report summarizing all modifications completed as a result of Schedule B, Section 3.

There is nothing to report for the 2024 reporting year.

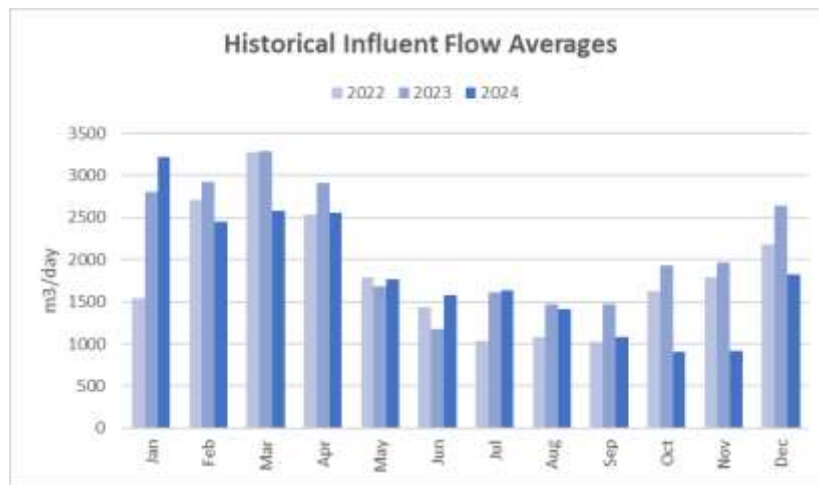
SECTION L

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

Historically the influent flow rates increase during storms/heavy rain events and during the spring snow melting/run-off. The Operating Authority and the Municipality of Huron-East continue to work together to identify areas of concern as it relates to infiltration/inflow to the sanitary collection system. In the reporting year, the system was flushed, and CCTV inspections occurred in range with the allowable budget set out by the Municipality.

For the reporting year, effluent flow vs precipitation amount comparisons were graphed to visually show infiltration/inflow indicators. These graphs can be found in Appendix B of this report.

Figure X: Historical Influent Flow Averages



APPENDIX A

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: January
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeration mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 2-Jan	3291	3246	83	76	15.7	1.53	2.0	3.0	0.23	0.10	0.85	2	0.006	7.71	11.98		
2 9-Jan	2815	2990	145	110	23.9	2.71	2.0	6.0	0.42	0.10	0.51	16	0.003	7.51	12.02		
3 16-Jan	2794	2824	102	77	16.7	1.23	6.0	7.0	0.27	0.30	0.83	18	0.006	7.36	13.82		
4 23-Jan	2866	3198	130	102	21.7	2.07	4.0	8.0	0.31	0.70	3.83	26	0.006	7.62	13.55		
5 30-Jan	2659	2890	45	45	10.1	0.73	3.0	4.0	0.16	0.20	1.18	28	0.008	7.62	13.66		
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			5	5	5	5	5	5	5	5	5	5	5	5	5		
Monthly Average mg/L			101	82	17.6	1.65	3.4	5.6	0.28	0.28	1.44	13.3	0.006	7.56	13.01		
Monthly Average kg/d							10.20	16.81	0.83	0.84							

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: February
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeration mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 6-Feb	2944	2942	79	77	19.0	1.63	5.0	9.0	0.32	0.50	4.06	4	0.005	7.74	17.92		
2 13-Feb	2926	3032	107	84	19.6	1.73	4.0	6.0	0.27	0.10	0.52	30	0.009	7.57	17.03		
3 20-Feb	3299	3308	229	153	25.9	2.43	4.0	8.0	0.20	0.20	1.19	38	0.009	7.67	13.05		
4 27-Feb	3178	3269	124	106	24.8	2.48	4.0	7.0	0.26	0.10	0.58	4	0.005	7.58	17.92		
5																	
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			4	4	4	4	4	4	4	4	4	4	4	4	4		
Monthly Average mg/L			135	105	22.3	2.07	4.3	7.5	0.26	0.23	1.59	11.6	0.007	7.64	16.48		
Monthly Average kg/d							11.37	20.06	0.70	0.60							

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: March
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeratoion mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 5-Mar	3008	3205	105	102	26.2	2.44	2.0	7.0	0.23	0.20	1.35	2	0.004	7.58	10.62		
2 12-Mar	2891	3044	89	167	14.1	1.32	4.0	3.0	0.35	0.10	0.72	2	0.008	7.64	9.88		
3 19-Mar	2947	3085	67	81	17.2	1.58	4.0	2.0	0.31	0.10	0.62	2	0.008	7.64	10.35		
4 26-Mar	3241	3313	112	196	9.6	1.31	4.0	7.0	0.29	0.10	0.89	32	0.008	7.72	11.69		
5																	
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			4	4	4	4	4	4	4	4	4	4	4	4	4		
Monthly Average mg/L			93	137	16.8	1.66	3.5	4.8	0.30	0.13	0.90	4.0	0.007	7.65	10.64		
Monthly Average kg/d							8.69	11.79	0.73	0.31							

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: April
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeration mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 2-Apr	3457	3779	107	156	19.9	2.16	4.0	5.0	0.30	0.10	0.82	34	0.005	7.68	11.60		
2 9-Apr	3320	3740	134	138	25.4	2.45	3.0	4.0	0.34	0.10	0.92	2	0.008	7.66	9.78		
3 16-Apr	3321	3446	63	71	11.4	1.21	3.0	2.0	0.26	0.10	0.60	4	0.000	7.51	10.28		
4 23-Apr	2849	3040	76	110	16.0	1.55	4.0	5.0	0.30	0.10	0.57	14	0.002	7.50	9.67		
5																	
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			4	4	4	4	4	4	4	4	4	4	4	4	4		
Monthly Average mg/L			95	119	18.2	1.84	3.5	4.0	0.30	0.10	0.73	7.9	0.004	7.59	10.33		
Monthly Average kg/d							7.34	8.39	0.63	0.21							

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: May
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeratoion mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 1-May	4452	4451	78	110	16.0	1.55	4.0	5.0	0.30	0.10		14	0.003		8.72		
2 7-May	2858	3366	88	92	19.6	1.99	2.0	2.0	0.59	0.10	0.42	2	0.005	7.26	10.62		
3 14-May	3188	2886	89	177	21.2	2.52	2.0	5.0	0.52	0.10	0.88	10	0.004	7.56	10.16		
4 21-May	3307	3125	233	138	28.0	3.02	2.0	9.0	0.77	0.10	0.51	46	0.004	7.32	10.77		
5 28-May	2870	3238	74	121	20.5	1.92	2.0	4.0	0.79	0.10	0.53	6	0.001	7.30	10.11		
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			5	5	5	5	5	5	5	5	5	5	5	5	5		
Monthly Average mg/L			112	128	21.1	2.20	2.4	5.0	0.59	0.10	0.59	9.5	0.003	7.36	10.08		
Monthly Average kg/d							3.47	7.23	0.86	0.14							

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: June
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeratoion mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 4-Jun	2910	3125	126	182	28.2	3.34	2.0	5.0	0.57	0.10	1.29	4	0.008	7.64	8.15		
2 11-Jun	2876	3327	115	120	30.4	2.97	2.0	2.0	0.53	0.10	1.49	32	0.000	7.72	8.34		
3 18-Jun	2774	3048	120	116	32.3	3.43	3.0	4.0	0.50	0.50	3.20	2	0.000	7.90	6.89		
4 25-Jun	3022	3319	98	88	34.1	3.22	2.0	3.0	0.56	0.10	2.04	1	0.004	7.80	6.88		
5																	
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			5	5	5	5	5	5	5	5	5	5	5	5	5		
Monthly Average mg/L			115	127	31.3	3.24	2.3	3.5	0.54	0.20	2.01	4.0	0.003	7.77	7.57		
Monthly Average kg/d							2.71	4.22	0.65	0.24							

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: July
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeratoion mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 2-Jul	2745	2982	120	132	35.0	3.41	2.0	5.0	0.49	0.10	0.67	4	0.024	7.30	8.51		
2 8-Jul	3118	3446	128	60	36.8	3.31	2.0	8.0	0.70	0.10	1.24	2	0.001	7.50	9.11		
3 16-Jul	3058	3338	193	297	18.2	2.59	2.0	5.0	0.52	0.10	2.39	2	0.002	7.80	6.92		
4 23-Jul	3215	3422	117	82	30.0	2.75	3.0	3.0	0.38	0.10	4.52	2	0.001	8.10	8.07		
5 30-Jul	4802	4815	56	59	20.2	1.87	2.0	3.0	0.37	0.10	3.55	6	0.001	8.00	3.41		
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			5	5	5	5	5	5	5	5	5	5	5	5	5		
Monthly Average mg/L			123	126	28.0	2.79	2.2	4.8	0.49	0.10	2.47	2.9	0.006	7.74	7.20		
Monthly Average kg/d							2.97	6.49	0.67	0.14							

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: August
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeratoion mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 6-Aug	2884	2903	307	366	32.0	4.51	3.0	2.0	0.35	0.10	2.62	14	0.001	8.00	8.33		
2 13-Aug	2419	2662	131	147	36.4	4.06	2.0	8.0	0.45	0.10	0.33	8	0.001	7.00	8.50		
3 20-Aug	2503	3091	86	41	31.2	2.99	2.0	4.0	0.56	0.10	0.83	4	0.003	7.40	8.00		
4 27-Aug	2537	2766	150	160	38.6	3.86	2.0	2.0	0.61	0.10	5.95	4	0.002	8.20	7.61		
5																	
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			5	5	5	5	5	5	5	5	5	5	5	5	5		
Monthly Average mg/L			169	179	34.6	3.86	2.3	4.0	0.49	0.10	2.43	6.5	0.002	7.65	8.11		
Monthly Average kg/d							2.56	4.55	0.56	0.11							

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: September
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeratoion mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 3-Sep	2652	3089	64	60	35.2	3.16	3.0	4.0	0.45	0.10	0.52	26	0.006	7.20	8.00		
2 10-Sep	2260	2896	105	126	24.2	2.83	2.0	5.0	0.45	0.10	0.31	4	0.003	7.00	8.66		
3 17-Sep	2275	2551	215	158	39.4	4.70	4.0	5.0	0.58	0.10	0.50	12	0.003	7.10	7.55		
4 24-Sep	2357	2969	241	191	46.1	5.30	2.0	4.0	0.63	0.10	1.08	4	0.002	7.50	7.36		
5																	
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			5	5	5	5	5	5	5	5	5	5	5	5	5		
Monthly Average mg/L			156	134	36.2	4.00	2.8	4.5	0.53	0.10	0.60	8.4	0.004	7.20	7.89		
Monthly Average kg/d							2.29	3.74	0.44	0.08							

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: October
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeratoion mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 1-Oct	1218	3002	205	169	52.5	5.10	2.0	6.0	0.62	0.10	1.74	22	0.000	7.70	8.09		
2 8-Oct	2669	3169	136	152	27.3	3.32	2.0	7.0	0.40	0.10	2.24	2	0.001	7.80	7.45		
3 15-Oct	3149	3461	225	142	46.5	4.14	2.0	4.0	0.38	0.10	1.53	4	0.006	7.80	8.09		
4 22-Oct	3244	3588	103	121	27.9	4.50	2.0	4.0	0.36	0.10	2.82	48	0.003	8.00	9.16		
5 29-Oct	3078	3456	348	1090	68.0	12.00	2.0	2.0	0.32	0.10	1.14	194	0.003	7.70	8.36		
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			5	5	5	5	5	5	5	5	5	5	5	5	5		
Monthly Average mg/L			203	335	44.4	5.81	2.0	4.6	0.42	0.10	1.89	17.5	0.003	7.80	8.23		
Monthly Average kg/d							1.38	3.19	0.29	0.07							

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

MONTH: November
YEAR: 2024
Analyst : SGS

	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeratoion mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 5-Nov	2720	2970	200	203	51.2	5.88	2.0	2.0	0.37	0.10	2.31	20	0.000	8.10	12.29		
2 12-Nov	3313	3709	185	202	45.7	5.19	2.0	7.0	0.49	0.10	1.31	2	0.003	7.00	6.13		
3 19-Nov	3429	3249	164	136	48.8	4.55	2.0	3.0	0.44	0.10	1.65	6	0.002	7.90	9.63		
4 26-Nov	3466	3845	67	42	36.5	3.47	2.0	4.0	0.42	0.10	0.92	560	0.004	7.70	9.38		
5																	
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			5	5	5	5	5	5	5	5	5	5	5	5	5		
Monthly Average mg/L			154	146	45.6	4.77	2.0	4.0	0.43	0.10	1.55	19.1	0.002	7.68	9.36		
Monthly Average kg/d							1.51	3.02	0.32	0.08							

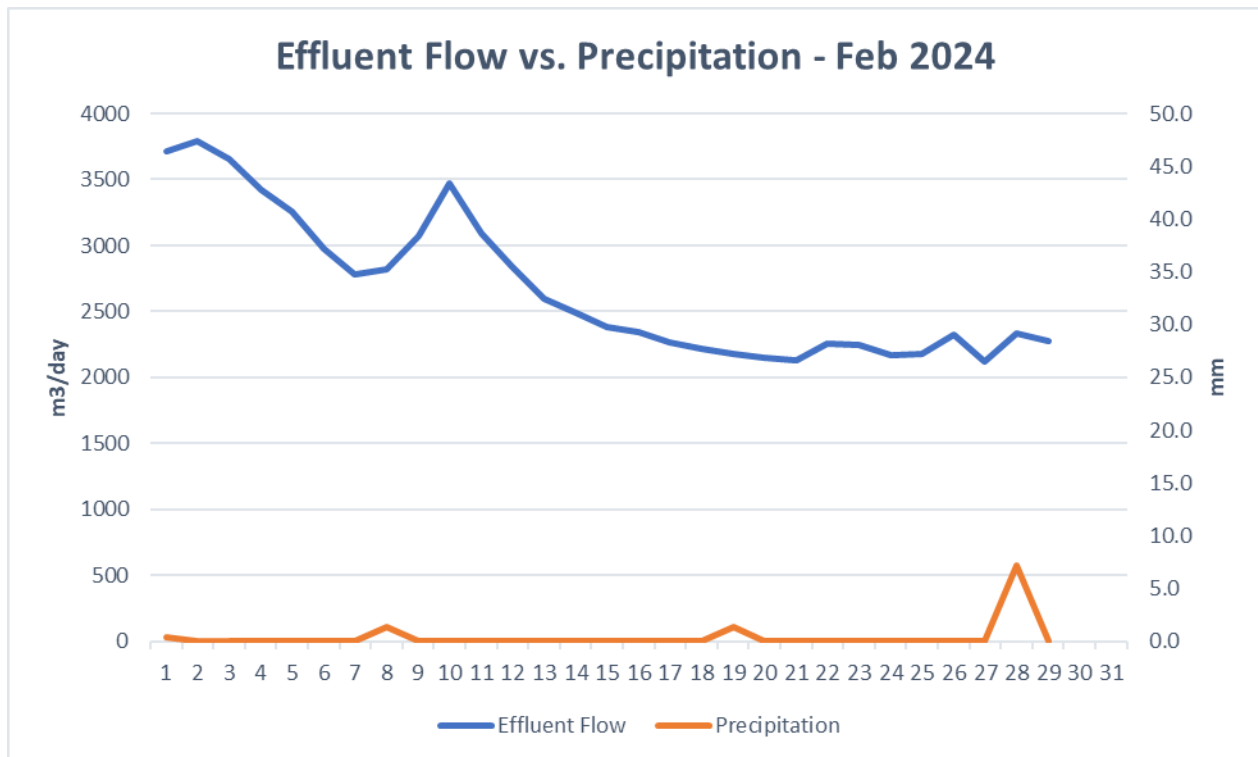
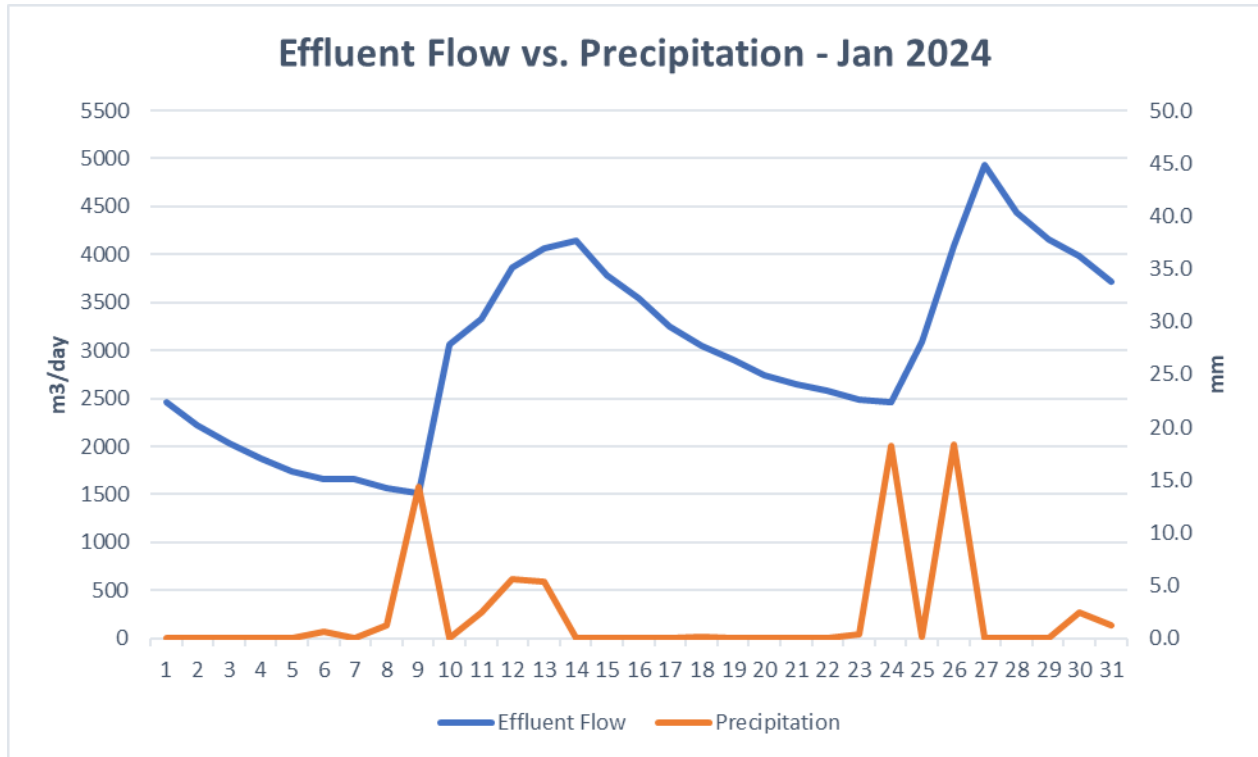
2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

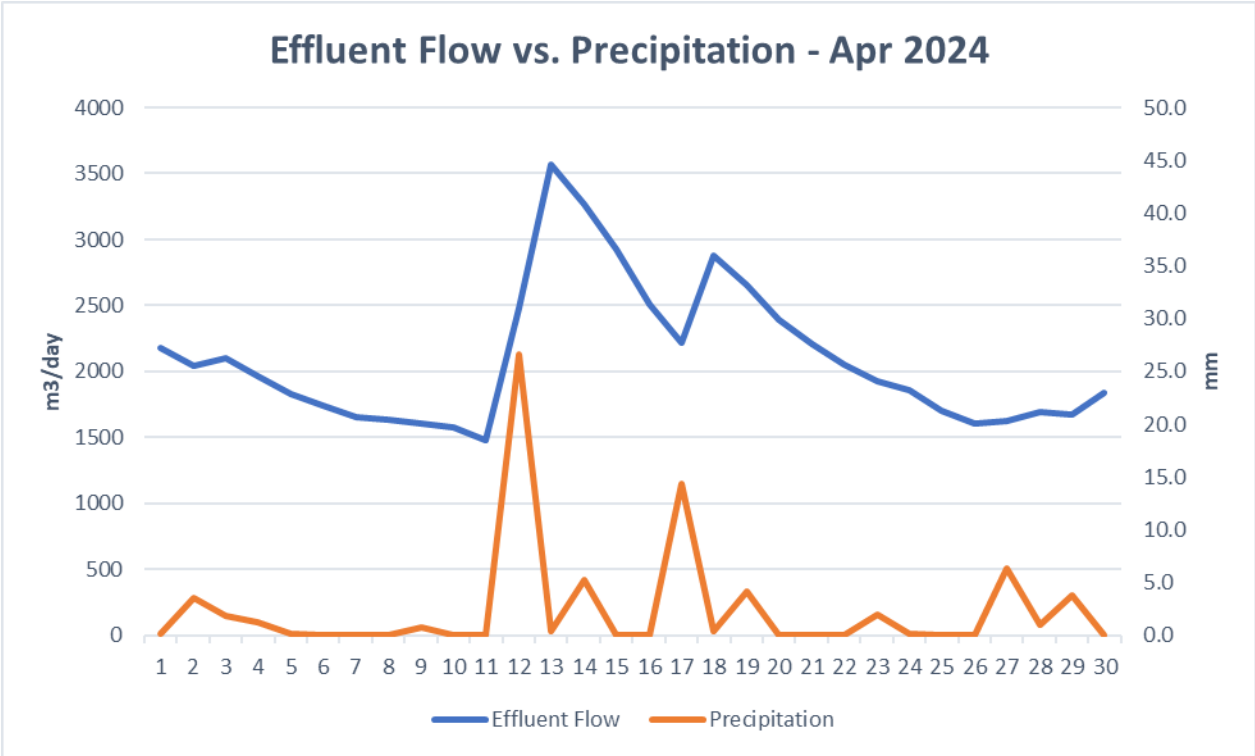
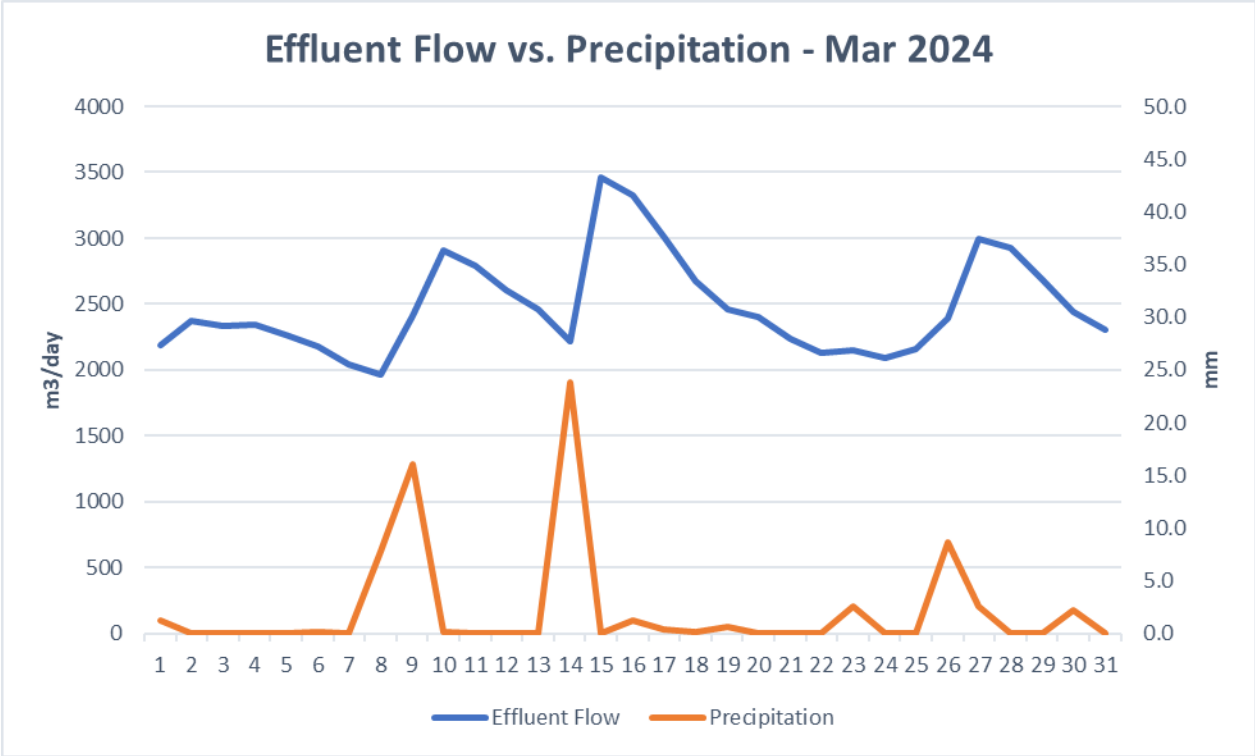
Seaforth W.W.T.P.
Operations Number: 110001177
Operating Authority: Jacobs
Municipality of Huron East

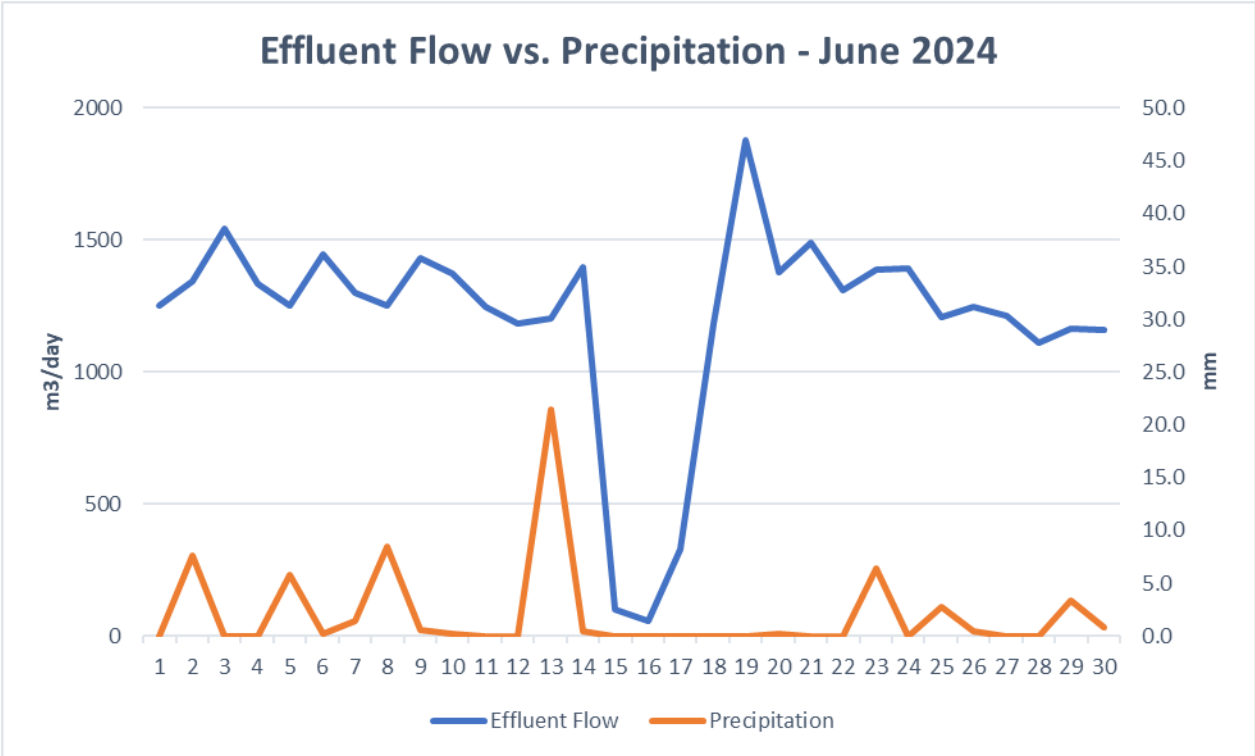
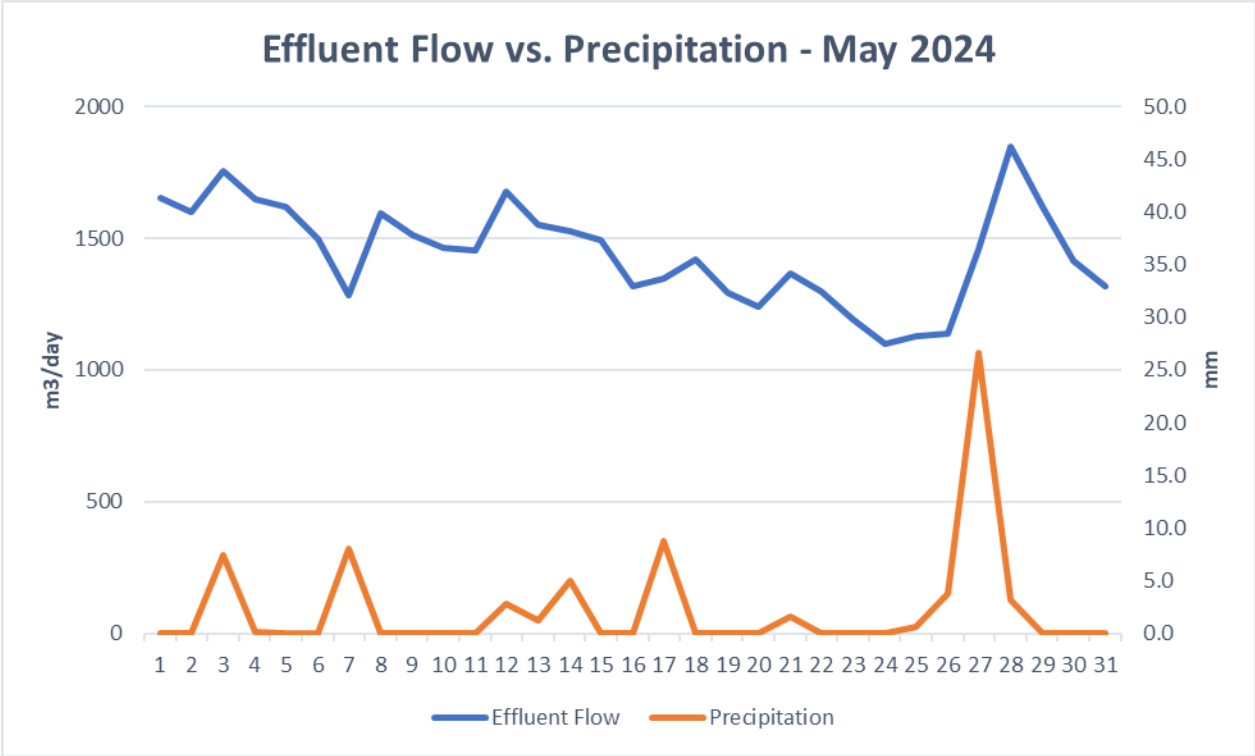
MONTH: December
YEAR: 2024
Analyst : SGS

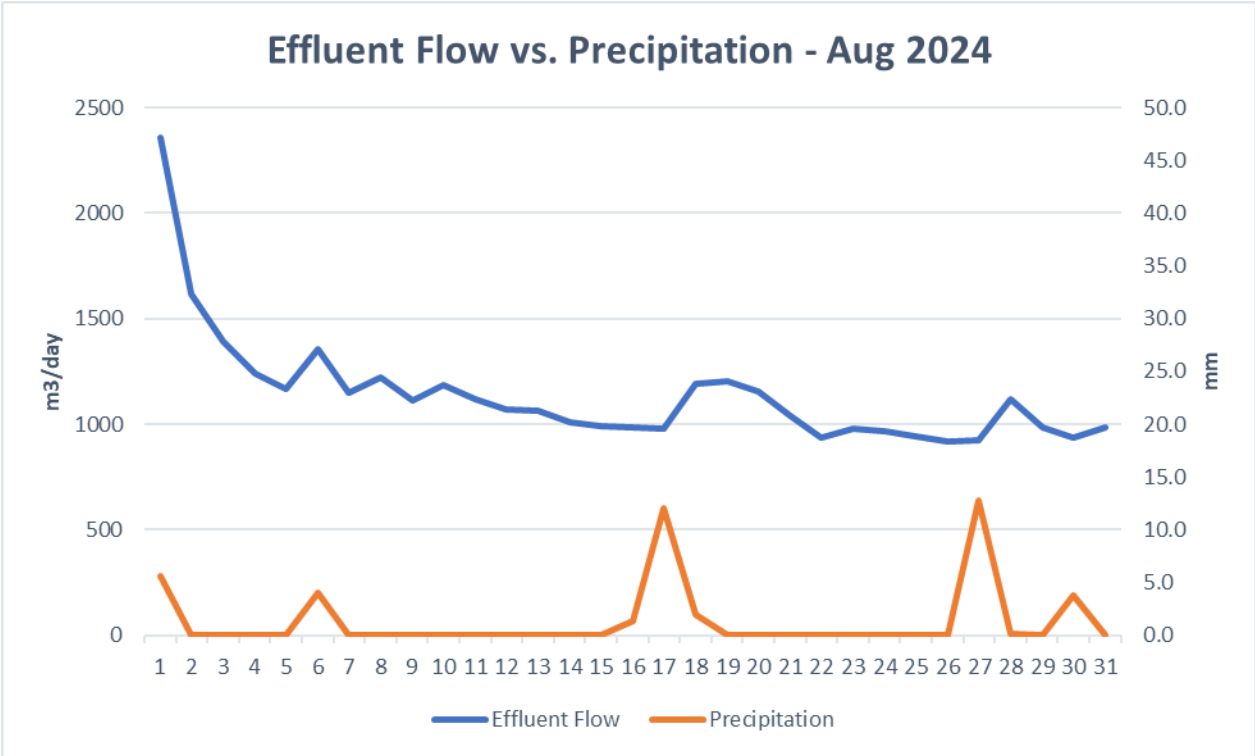
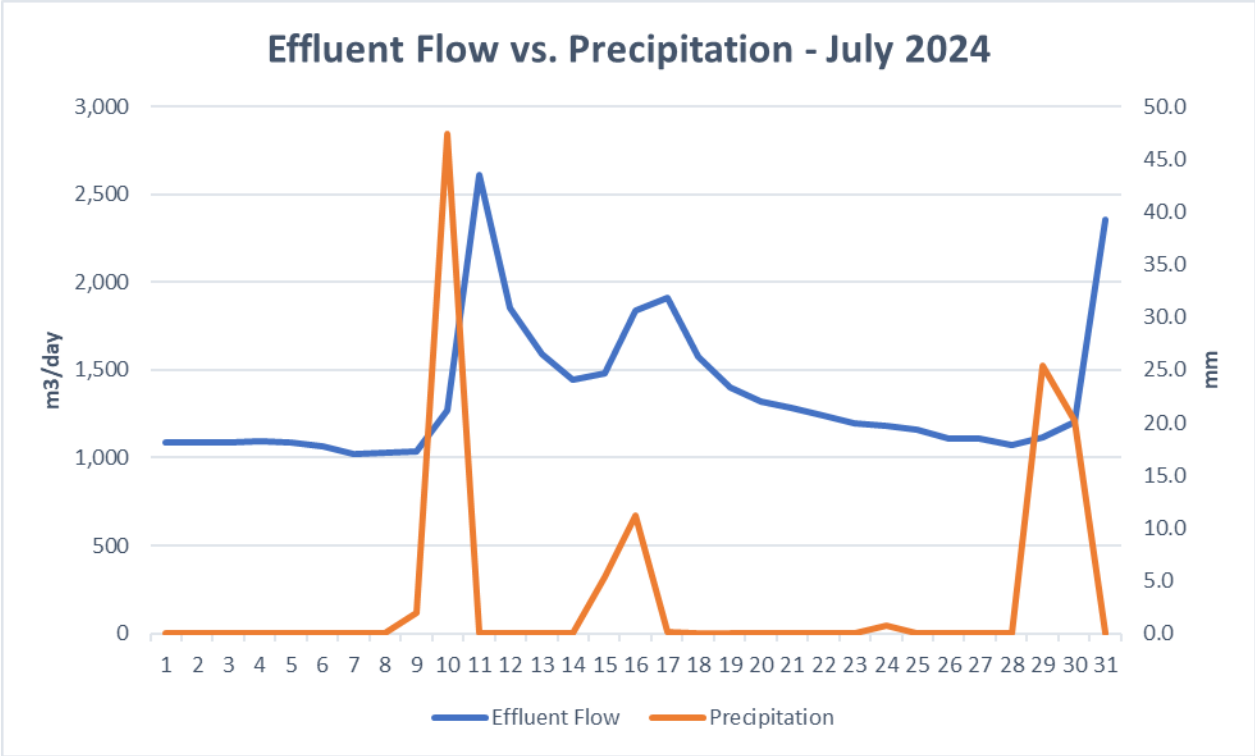
	MLSS		RAW INFLUENT				FINAL EFFLUENT									Lab Report Received	
Test # Date	East Aeration mg/L	West Aeratoion mg/L	BOD5 mg/L	T.S.S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	T.S.S. mg/L	Total P mg/L	Ammonia NH3 mg/L	Ammonia Free ug/L	E-Coli Per 100 mL	H2S mg/L	pH	D.O.	Date	Initial
1 3-Dec	3905	4230	151	174	40.5	4.28	2.0	3.0	0.36	0.10	1.23	10	0.000	7.90	10.71		
2 10-Dec	3892	4195	66	52	24.9	2.36	2.0	2.0	0.36	0.10	0.19	246	0.003	7.00	9.87		
3 17-Dec	3155	3242	99	96	8.6	1.36	2.0	2.0	0.45	0.10	1.44	24	0.003	7.90	9.98		
4 23-Dec	3480	3685	36	30	24.0	1.95	2.0	5.0	0.40	0.10	0.94	14	0.008	7.30	9.00		
5 30-Dec	2514	2520	18	47	5.4	0.61	2.0	4.0	0.45	0.10	0.60	4	0.000	7.50	8.18		
ECA Objectives							8	10	0.6	2.0		100-Geo		6.5-9.5			
ECA Limits							12	15	0.8	See Below		100-Geo		6.5-9.5			
Number of Tests			5	5	5	5	5	5	5	5	5	5	5	5	5		
Monthly Average mg/L			74	80	20.7	2.11	2.0	3.2	0.40	0.10	0.88	20.1	0.003	7.52	9.55		
Monthly Average kg/d							2.78	4.45	0.56	0.14							

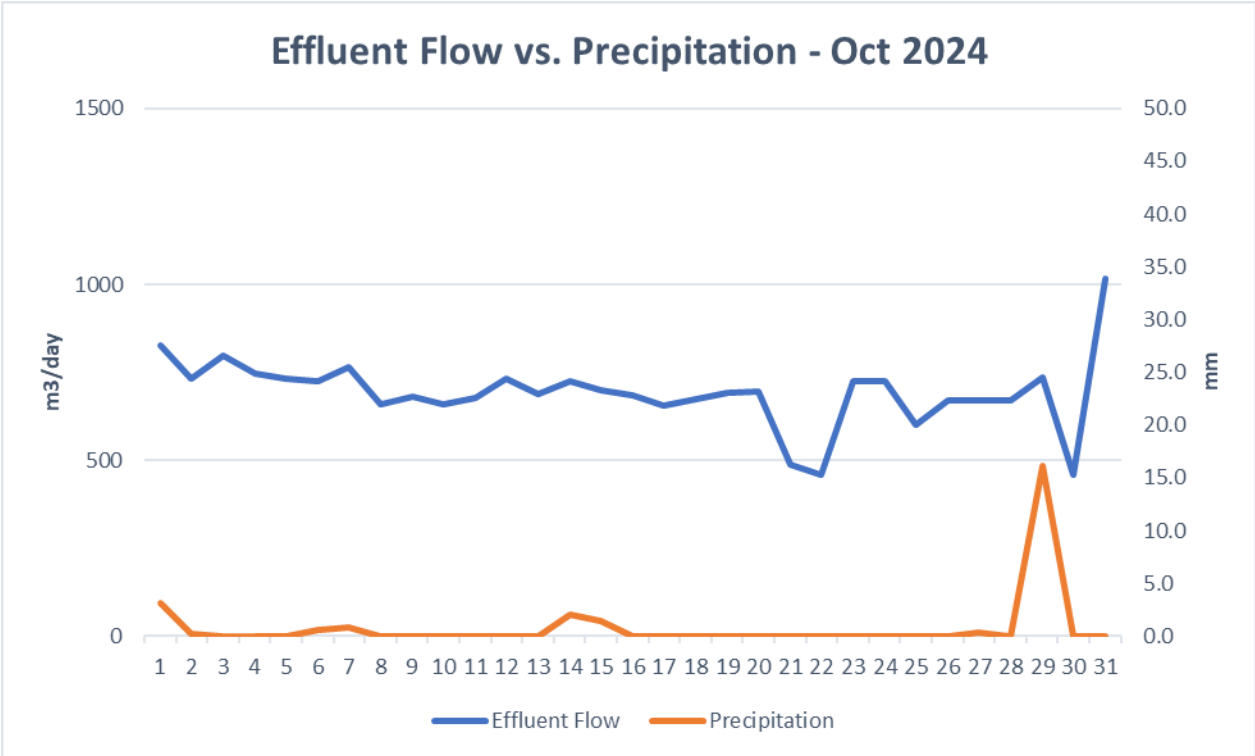
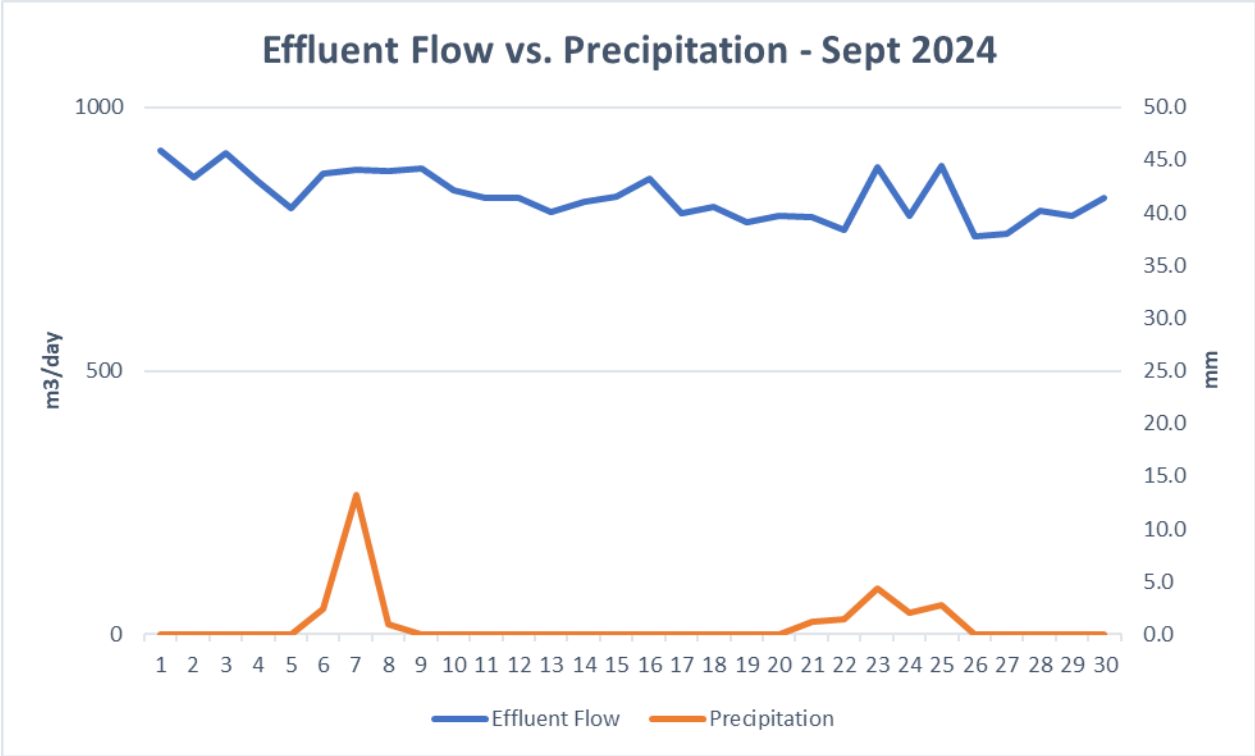
APPENDIX B

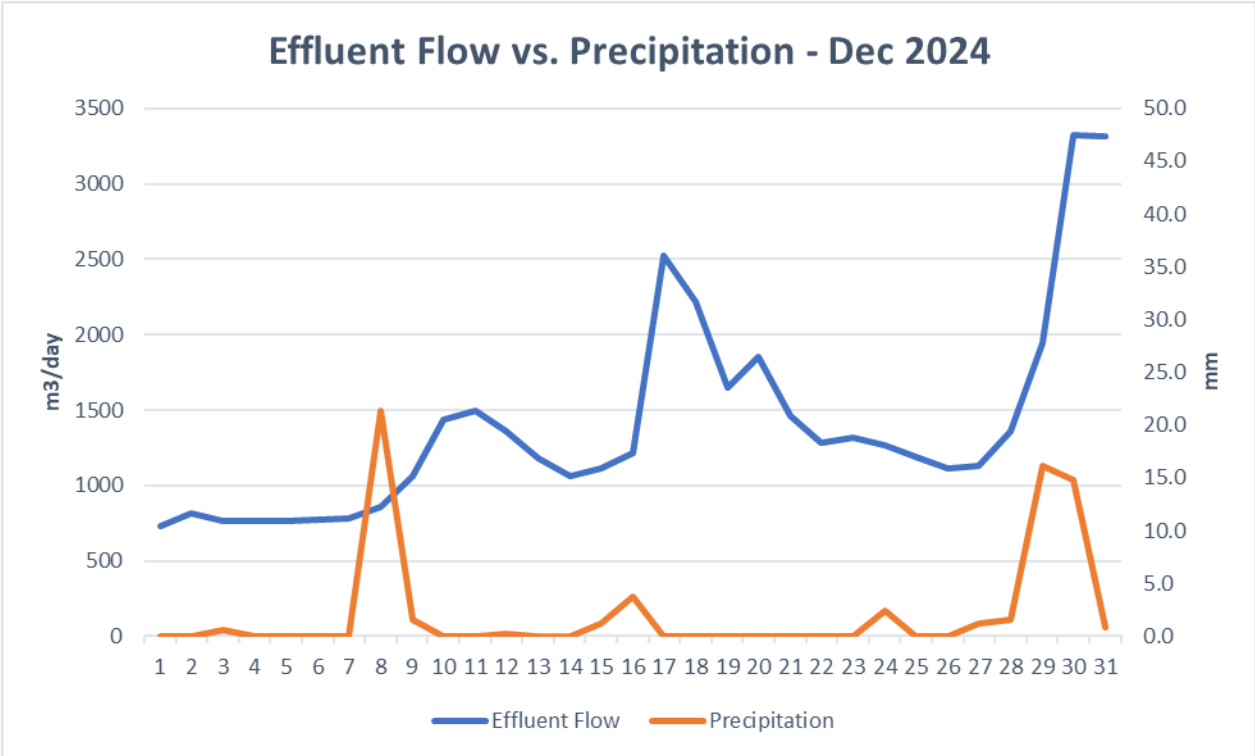
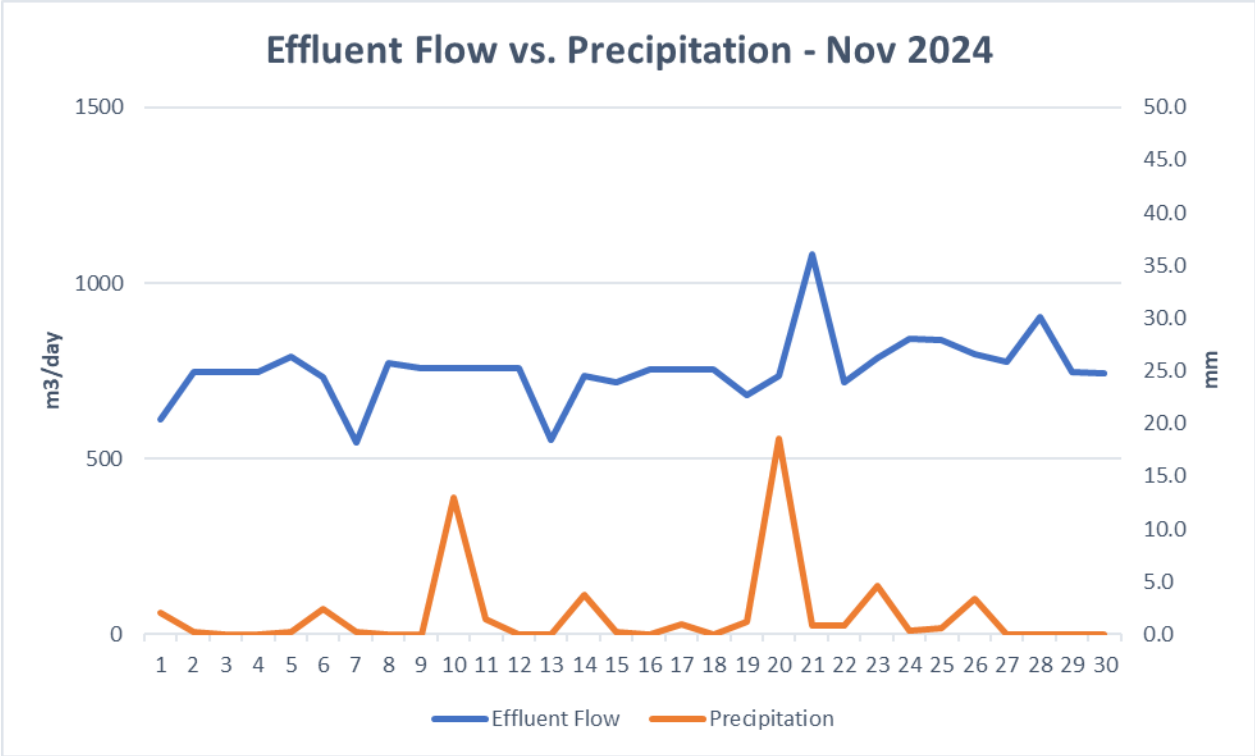












APPENDIX C

	Pierce Services & Solutions Inc.	45 Wilton Road Guelph, ON N1E 7L6
	Phone: 519.820.4853 Fax: 519.824.9402	
Flowmeter Report		
Verification: ☒ X Calibration: ☐		
Client: <u>Jacobs</u> Location: <u>Seaforth</u> Description: <u>Mag Meter</u> Date: <u>18-Jul-24</u> Manufacturer: <u>Endress Hauser</u> Checked By: <u>Greg Pierce</u> Model: <u>Promag</u> Serial No.: <u>H8019416000</u>		
Tag No.: <u>423</u> Range: <u>0-200 l/s</u>		
Input %	Input	As Found
	0.00 l/s	0.00 l/s
25%	50.00 l/s	49.98 l/s
100%	200 l/s	199.94 l/s
As Left P/F 0.00 l/s Pass 49.98 l/s Pass 194.94 l/s Pass		
Confirmed Run Mode: <u>X</u> Returned to service: <u>X</u>		
Service Comments:		
Flowmeter Information		
Assigned Number: <u>FIT 423</u>		
Flow Unit: <u>l/s</u>		
Meter Size: <u>6"</u>		
Pipe Material: <u>Cast</u>		
Flume/Weir Type: _____		
Flume/Weir Size: _____		
Range: <u>0 - 200.0 l/s</u>		
Comments:		
<u>Verification of Original Calibration</u>		
<u>No Errors or Warnings</u>		
<u>ELECTRICAL CALIBRATION AS PUMP NOT RUNNING</u>		
<u>METER TURNED OFF DUE TO EMPTY PIPE</u>		
Signature:  Greg Pierce, CCST		

FC_Seaforth_FIT 423_18-Jul-24



Pierce Services
& Solutions Inc.

45 Wilton Road
Guelph, ON N1E 7L6

Phone: 519.820.4853
Fax: 519.824.9402

Flowmeter Report

Verification: ☒

Calibration: ☐

Client: Jacobs
Description: Mag Meter
Manufacturer: Endress Hauser
Model: Promag

Location: Seaforth
Date: 18-Jul-24
Checked By: Greg Pierce
Serial No.: H8019316000

Tag No.: 422 Range: 0-200 l/s

Input %	Input	As Found	As Left	P/F
	0.00 l/s	0.00 l/s	0.00 l/s	Pass
2.5%	50.00 l/s	49.99 l/s	49.99 l/s	Pass
50%	100.00 l/s	99.98 l/s	99.98 l/s	Pass
100%	200.0 l/s	200.0 l/s	200.0 l/s	Pass
12%	22.71 l/s	22.71 l/s	22.71 l/s	Pass

Confirmed Run Mode: X

Returned to service: X

Service Comments:

Flowmeter Information

Assigned Number: FIT 422
Flow Unit: l/s
Meter Size: 10"
Pipe Material: Cast
Flume/Weir Type:
Flume/Weir Size:
Range: 0 - 200.0 l/s



Comments:

Verification of Original Calibration
No Errors or Warnings

Signature:

Greg Pierce, CCST

FC_Seaforth_FIT 422_18-Jul-24



Pierce Services
& Solutions Inc.

45 Wilton Road
Guelph, ON N1E 7L6

Phone: 519.820.4853
Fax: 519.824.9402

Flowmeter Report

Verification: ☒ X

Calibration: ☐

Client: Jacobs

Location: Seaforth Lagoon

Description: V notch Weir

Date: 19-Jul-24

Manufacturer: Siemens

Checked By: Greg Pierce

Model: 200

Serial No.:

Tag No.: FIT424 Range: 0-9999 m³/d

Input %	Theoretical	As Found	As Left	P/F
0%	0.00 m ³ /d	0.00 m ³ /d	0.00 m ³ /d	Pass
25%	13.04 m ³ /d	13.02 m ³ /d	13.02 m ³ /d	Pass
50%	73.64 m ³ /d	73.61 m ³ /d	73.61 m ³ /d	Pass
75%	202.48 m ³ /d	201.94 m ³ /d	201.94 m ³ /d	Pass
100%	416.59 m ³ /d	416.24 m ³ /d	416.24 m ³ /d	Pass

Confirmed Run Mode: X

Returned to service: X

Service Comments:

Flowmeter Information

Assigned Number: FIT 424

Flow Unit: m³/d

Meter Size: 6"

Pipe Material:

Flume/Weir Type: V Notch

Flume/Weir Size: 90

Range: 0 - 9999 m³/d

Comments:



Signature:

Greg Pierce, CCST

FC_Seaforth_FIT 424_19-Jul-24



Pierce Services
& Solutions Inc.

45 Wilton Road
Guelph, ON N1E 7L6

Phone: 519.820.4853
Fax: 519.824.9402

Instrument Report

Verification: ☒ X

Calibration: ☐

Client: Jacobs

Location: Seaforth

Description: DO Meter

Date: 19-Jul-24

Manufacturer: Hach

Checked By: Greg Pierce

Model: HQ40D

Serial No.: 171200004375

Input %	Input	As Found	As Left	P/F
	0 mg/l	0 mg/l	0 mg/l	Pass
	136 mg/l		100 mg/l	Pass
	7.89 mg/l	7.89 mg/l	7.89 mg/l	
100%	100%	98%	100%	

Confirmed Run Mode:

Returned to service: ☐

Service Comments:

Instrument Information

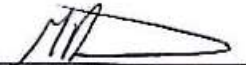
Assigned Number: 107

Measuring Range: 0- 20 mg/l

Application: Dissolved Oxygen



Comments:

Signature: 

Greg Pierce, CCST

IC_Seaforth_170723_107_2023