Coboconk Wastewater System

2024 Annual Wastewater Performance Report

Wastewater System Works Number: 120002353

Wastewater System Operating Authorities: City of Kawartha Lakes and Ontario Clean Water Agency

Reporting Period: January 1st – December 31st, 2024

OCWA

ONTARIO CLEAN WATER AGENCY
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Annual Wastewater Performance Report

City of Kawartha Lakes

Kawartha Lakes
Jump In

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2024 Annual Wastewater System Performance Report

Executive Summary

The Coboconk Sewage Lagoon is a dual lagoon system with continuous phosphorus removal and seasonal effluent discharges with a Rated Capacity of 421 m^3/day and is located in Coboconk, Ontario. The entire system is comprised of four pumping stations within the collection system and two waste stabilization ponds. The facility is owned by the City of Kawartha Lakes with the lagoon system and sewage pumping stations operated by Ontario Clean Water Agency and the remaining collection system operated by City staff. The treatment system is operated in accordance with Environmental Compliance Approval (ECA) #9527-AHVRDY issued March 17, 2017 and the collection system is operated in accordance with the Consolidated Linear Infrastructure Environmental Compliance Approval #141-W601 issued June 20, 2023. The wastewater system is classified as a Class I Wastewater Treatment and Class I Wastewater Collection subsystems under O. Reg. 129/04.

The two (2) cell waste stabilization pond is located on Lot numbers 19 and 20 in the former Township of Bexley, each cell approximately 50 m wide by 450 m long with a maximum liquid depth of 1.8 m, providing a combined storage volume of 83,700 m^3 and total mean liquid depth area of 5 ha for approximately 182 days minimum retention period, including inlet and outlet structures with associated pipes, appurtenances and an outfall sewer to Gull River. The Lagoon Pumping Station (SPS #4) is equipped with pumps and discharges into the outfall forcemain to the Gull River. The discharge window in the Spring is April 1 to May 31, and in the fall is November 1 to December 31.

The Coboconk wastewater collection system consists of a series of gravity sewers, three pumping stations and associated forcemains directing raw sewage to the lagoons.

South Water Street Pumping Station (SPS #1), Water Street Pumping Station (SPS #2) and Main Street Pumping Station (SPS #3) all collect sewage within the collection system to be directed towards the sewage lagoons. Main St. SPS also includes a standby diesel generator and a continuous phosphorus removal system.

The City of Kawartha Lakes and Ontario Clean Water Agency prepares a report summarizing system operation and performance for every municipal wastewater system annually. This report has been prepared to satisfy the reporting requirements within Environmental Compliance Approval (ECA) #9527-AHVRDY and Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA) #141-W601. Unless otherwise noted within this report, the Coboconk Sewage

Works complies with all requirements of the regulating authorities and the approvals it operates under.

The annual reports will be available to residents at the City of Kawartha Lakes Public Works Administration Office by appointment and the City's website. Notification that the reports are available free of charge will be made on the City of Kawartha Lakes website. The City of Kawartha Lakes Public Works Administration Office is located at 322 Kent Street West in Lindsay, Ontario.

Reporting Requirements – Wastewater Treatment Plant

In accordance with the amended ECA #9527-AHVRDY, Section 11(5) – REPORTING, the owner shall prepare a performance report on a calendar basis and submit to the Ministry of Environment, Conservation and Parks by March 31 of the calendar year following the period being reported upon.

Section 11(5) – REPORTING

The performance report is required to contain the following:

a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;
b) a summary and interpretation of all effluent plume monitoring data and effluent discharge impact assessment to Gull River;
c) tabulation of calculated un-ionized ammonia concentrations in final effluent, based on Total Ammonia Nitrogen concentrations, temperature and pH of final effluent;
d) tabulation of daily flow rates and monthly volumes including average daily flows for discharge periods reported;
e) a summary of all Bypass, spill or abnormal discharge events;
f) an overview of the sludge disposal program, including tabulation of quantity and quality of sludge and the disposal areas used for each sludge source during the reporting period, together with an outline of the proposed sludge handling method and disposal areas to be utilized over the next reporting period;
g) a description of any operating problems encountered and corrective actions taken;
h) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6;
i) a summary of any complaints received during the reporting period and any steps taken to address the complaints;
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;
k) a report summarizing all modifications completed as a result of Schedule B, Section 3; and
l) any other information the Water Supervisor requires from time to time;

During the reporting period of 2024, the Ontario Clean Water Agency (OCWA) operated the Coboconk Sewage Lagoons on behalf of the Corporation of the City of Kawartha Lakes. OCWA's goals have remained consistent during this period and remain consistent with the following priorities:

- provide quality assurance, safety and environmental compliance of facility operations;
- assist our clients in achieving compliance;
- provide advise on up-to-date technology in Operations and Maintenance service delivery.

This report will show that the Ontario Clean Water Agency has made every attempt to achieve its goals through its operational performance. This performance was enhanced through the use of an electronic process data collection database, an electronic maintenance and work order database, an electronic operational excellence database, a training program focused on providing the right skills to staff – also captured and tracked by the use of an electronic database and a multi-skilled, flexible workforce.

This report will show that the requirements of the facility ECA including effluent monitoring, effluent plume monitoring and reporting requirements were consistently met and that effluent quality was consistently within ECA requirements.

Summary of Monitoring Data to Limits and Objectives

(a) Attached as **Appendix I** is a copy of the 2024 Performance Assessment Report (PAR) and as **Appendix II** is the Lagoon Discharge Report. The reports summarize flows and monitoring data for 2024. The following table summarizes the effluent parameters with limits and 2024 effluent results for each discharge.

Table 1. Coboconk Sewage Lagoons – Effluent Compliance Limits – 2024 Discharges

Effluent Parameter (Column 1)	Concentration* (Column 2)	Concentration (mg/L)	Compliant (Y/N)	Waste Loading**	Waste Loading (Kg/d)	Compliant (Y/N)
Spring April 18 - Apr 23						
$CBOD_5$	25.0 (average per discharge)	4.0	Y	231.0	26.2	Y
Total Suspended Solids	25.0 (average per discharge)	9	Y	231.0	59.0	Y

Effluent Parameter (Column 1)	Concentration* (Column 2)	Concentration (mg/L)	Compliant (Y/N)	Waste Loading**	Waste Loading (Kg/d)	Compliant (Y/N)
Total Phosphorus	0.5 (average per discharge)	0.06	Y	4.62	0.42	Y
Total Ammonia Nitrogen Spring (April 1 – May 31)	15.0 (daily limit)	3.8 3.8 3.6	Y Y Y	139.0	21.3 32.1 8.0	Y Y Y
Hydrogen Sulphide	0.1 (daily limit)	<0.02 <0.02 <0.02	Y Y Y	0.92	0.11 0.17 0.04	Y Y Y
pH	6.0 to 9.5 at all times	8.2 8.0 8.3	Y Y Y	-	-	-
Fall Nov 14 – Nov 19						
$CBOD_5$	25.0 (average per discharge)	4	Y	231.0	25.0	Y
Total Suspended Solids	25.0 (average per discharge)	13.3	Y	231.0	83.4	Y
Total Phosphorus	0.5 (average per discharge)	0.04	Y	4.62	0.27	Y
Total Ammonia Nitrogen Fall (Nov 1 – Dec 31)	8.0 (daily limit)	1.9 1.7 6.9	Y Y Y	74.0	10.9 14.1 8.5	Y Y Y
Hydrogen Sulphide	0.1 (daily limit)	<0.02 <0.02 <0.02	Y Y Y	0.92	0.12 0.17 0.02	Y Y Y
pH	6.0 to 9.5 at all times	7.6 7.5 8.1	Y Y Y	-	-	-
Fall Dec 17 – Dec 19						

Effluent Parameter (Column 1)	Concentration* (Column 2)	Concentration (mg/L)	Compliant (Y/N)	Waste Loading**	Waste Loading (Kg/d)	Compliant (Y/N)
$CBOD_5$	25.0 (average per discharge)	7.0	Y	231.0	45.8	Y
Total Suspended Solids	25.0 (average per discharge)	5.5	Y	231.0	36.0	Y
Total Phosphorus	0.5 (average per discharge)	0.03	Y	4.62	0.20	Y
Total Ammonia Nitrogen Fall (Nov 1 – Dec 31)	8.0 (daily limit)	8.0 7.2	Y Y	74.0	35.6 38.3	Y Y
Hydrogen Sulphide	0.1 (daily limit)	<0.02 <0.02	Y Y	0.92	0.09 0.11	Y Y
pH	6.0 to 9.5 at all times	7.9 7.8	Y Y	-	-	-

*mg/L unless otherwise indicated

**Kg/d unless otherwise indicated

Note: For the purposes of determining compliance with and enforcing subsection (1):

a) The Seasonal Average Concentration of $CBOD_5$, Total Suspended Solids and Phosphorus named in Column 1 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of subsection (1).

b) The Seasonal Average Loading of $CBOD_5$, Total Suspended Solids and Phosphorus named in Column 1 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of subsection (1).

c) The Daily Concentration of Total Ammonia Nitrogen and Hydrogen Sulphide named in Column 1 of subsection (1) shall not exceed the corresponding maximum waste loading set out in Column 3 of subsection (1).

d) The pH of the effluent shall be maintained within the limits outlined in subsection (1), at all times.

The ECA requires one grab sample to be collected on the first day of a discharge, every third calendar day of the discharge and on the last day of the discharge. The discharge windows are April 1 to May 31 which is the Spring Discharge, and November 1 to December 31 which is the Fall Discharge. Each window allows a maximum period of 14 days at a discharge flow rate not exceeding 9,245 m^3/day.

The results in Table 1 show that the effluent concentrations and waste loadings of $CBOD_5$, Total Suspended Solids, Total Phosphorus, Total Ammonia Nitrogen and Hydrogen Sulphide were in compliance with the ECA. The pH of the effluent was maintained within the limits and compliant at all times.

Additionally, ECA Effluent Limits, (3) states "…*the monthly Geometric Mean Density of E. Coli does not exceed 200 organisms per 100 milliliters of effluent discharged…*"

Many wastewater treatment facilities must test for and report results using a 'Geometric Mean' (average) of all the test results obtained during a specific reporting period. The geometric mean calculation is different than a normal arithmetic mean (average) calculation and is considered to be a more accurate calculation. A geometric mean, unlike an arithmetic mean, tends to dampen the effect of very high or low values which might bias the mean if a straight average (arithmetic mean) were calculated.

Table 2 provides monthly geometric mean density values of E. coli in the Coboconk Lagoon effluent for each month that a discharge occurred in 2024.

Table 2. Coboconk Sewage Lagoons – Effluent E. coli Results for 2024 (org/100 mL)

Seasonal Discharge Month	April	May	November	December
Monthly Geometric Mean Density of E. coli	3.17	0	2.00	1.41
Compliant with Limit of 200 org/100 mL (Y/N)	Y	Y	Y	Y

Total Kjeldhal Nitrogen (TKN) was also sampled in the effluent and results ranged from 2.2 mg/L – 8.0 mg/L in 2024.

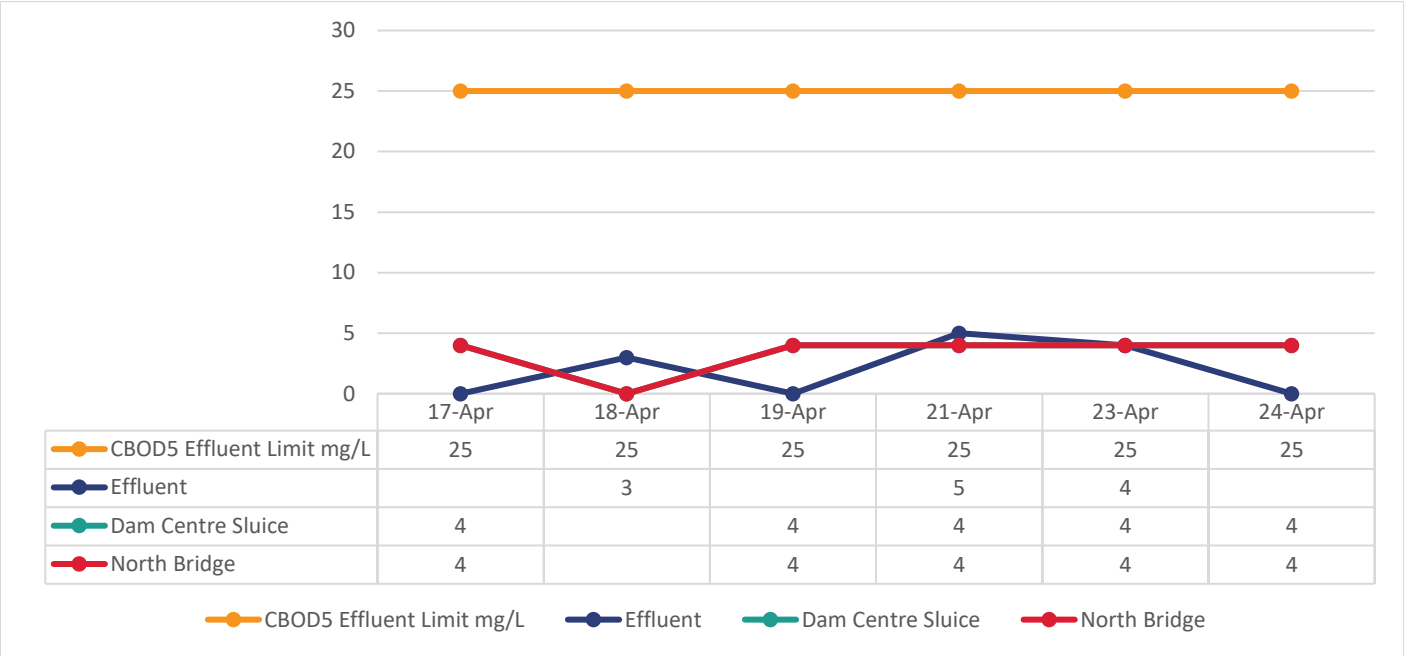
Effluent Plume Monitoring Program

(b) An Effluent Plume Monitoring Program is conducted during each seasonal discharge period to assess the dilution effect of the sewage effluent discharged to the Gull River. Samples are collected from the North Bridge and Dam Centre Sluice and analyzed for $CBOD_5$, Total Suspended Solids (TSS), Total Phosphorus (TP), Total Ammonia Nitrogen (TAN), Total Kjeldahl Nitrogen (TKN), Hydrogen Sulphide, pH and Temperature. The ECA requires a grab sample be collected one day prior to the seasonal effluent discharge period, every other day during the effluent discharge period, and one day following the end of the seasonal discharge period.

A Spring discharge occurred April 17-24, 2024. Fall discharges occurred November 13-20, 2024 and December 16-20, 2024. Results for the effluent, North Bridge and Center Sluice Dam are presented in the following graphs and tables for each Effluent Plume Monitoring parameter.

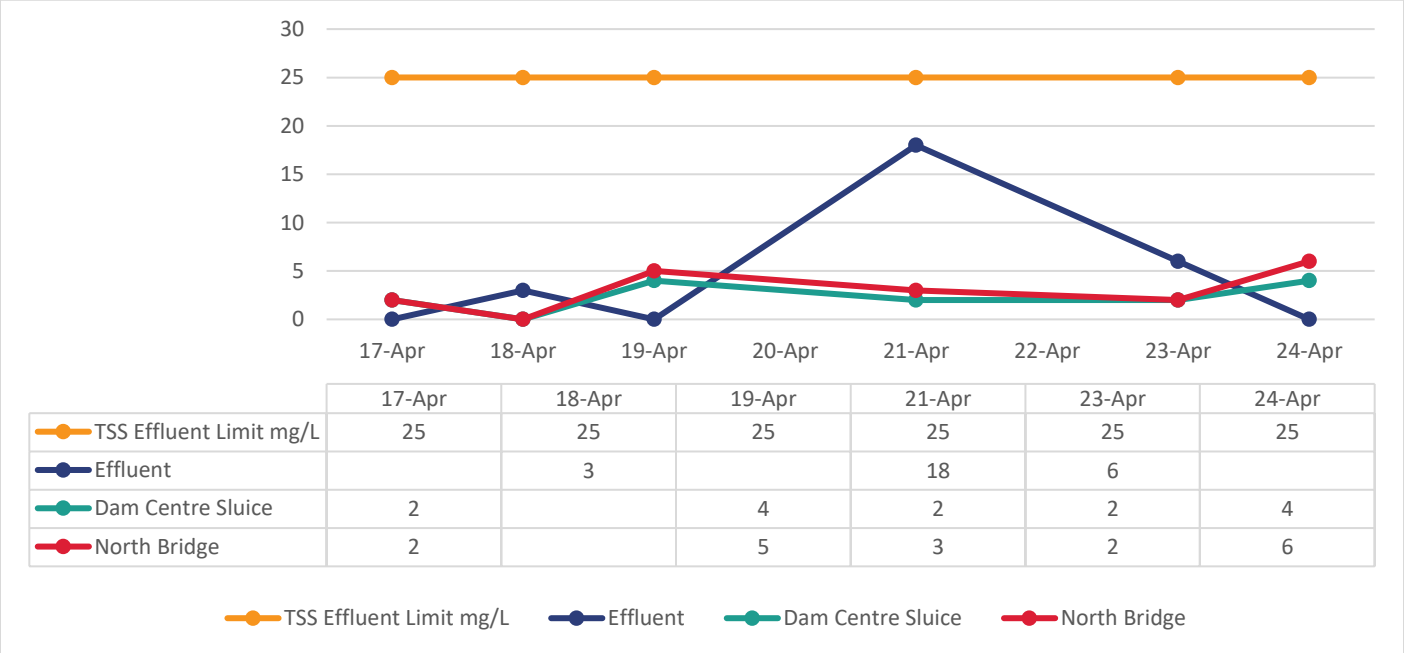
Spring Discharge – April 17 – 24, 2024

Graph 1. $CBOD_5$



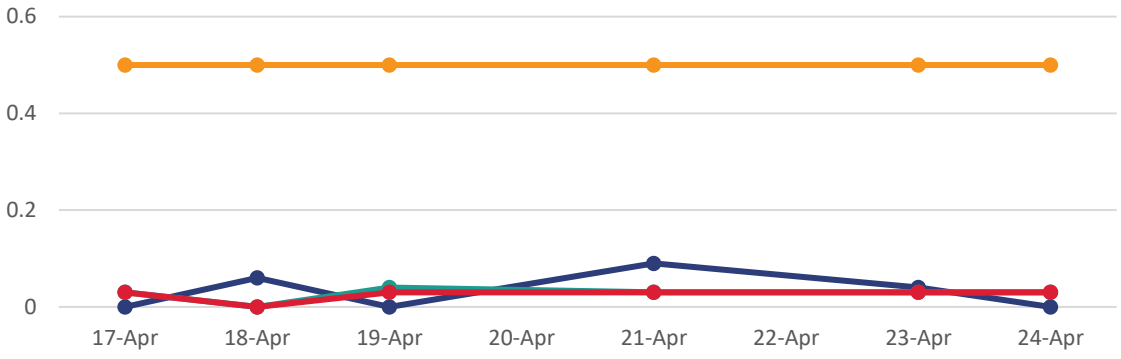
	17-Apr	18-Apr	19-Apr	21-Apr	23-Apr	24-Apr
CBOD5 Effluent Limit mg/L	25	25	25	25	25	25
Effluent		3		5	4	
Dam Centre Sluice	4		4	4	4	4
North Bridge	4		4	4	4	4

Graph 2. Total Suspended Solids



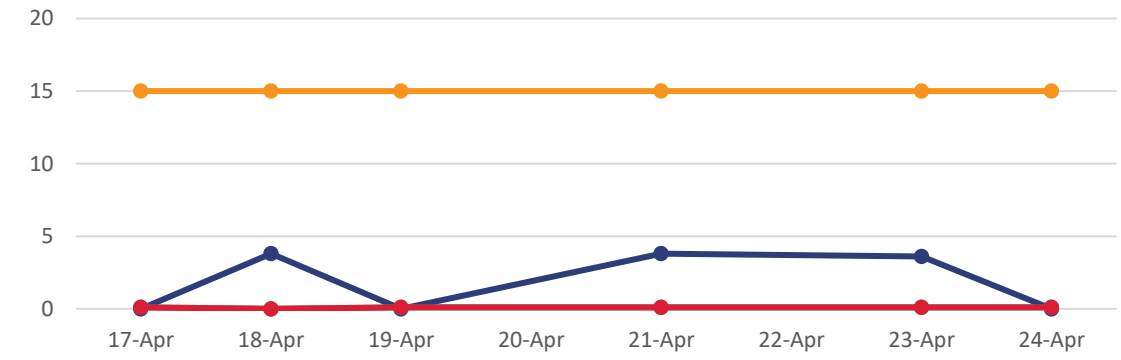
	17-Apr	18-Apr	19-Apr	21-Apr	23-Apr	24-Apr
TSS Effluent Limit mg/L	25	25	25	25	25	25
Effluent		3		18	6	
Dam Centre Sluice	2		4	2	2	4
North Bridge	2		5	3	2	6

Graph 3. Total Phosphorus



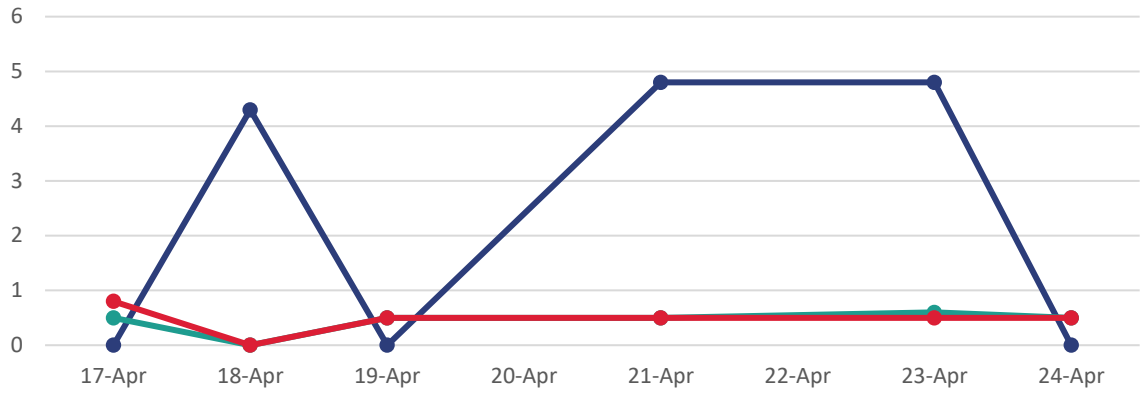
	17-Apr	18-Apr	19-Apr	21-Apr	23-Apr	24-Apr
TP Effluent Limit mg/L	0.5	0.5	0.5	0.5	0.5	0.5
Effluent		0.06		0.09	0.04	
Dam Centre Sluice	0.03		0.04	0.03	0.03	0.03
North Bridge	0.03		0.03	0.03	0.03	0.03

Graph 4. Total Ammonia Nitrogen



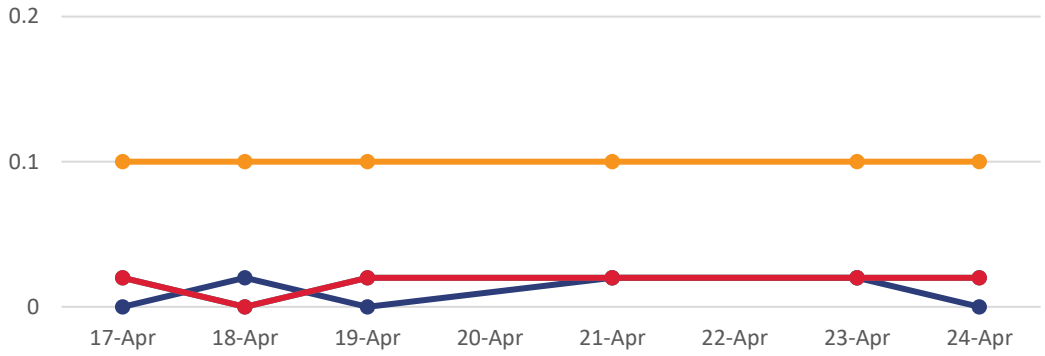
	17-Apr	18-Apr	19-Apr	21-Apr	23-Apr	24-Apr
TAN Effluent Limit mg/L	15	15	15	15	15	15
Effluent		3.8		3.8	3.6	
Dam Centre Sluice	0.1		0.1	0.1	0.1	0.1
North Bridge	0.1		0.1	0.1	0.1	0.1

Graph 5. Total Kjeldahl Nitrogen



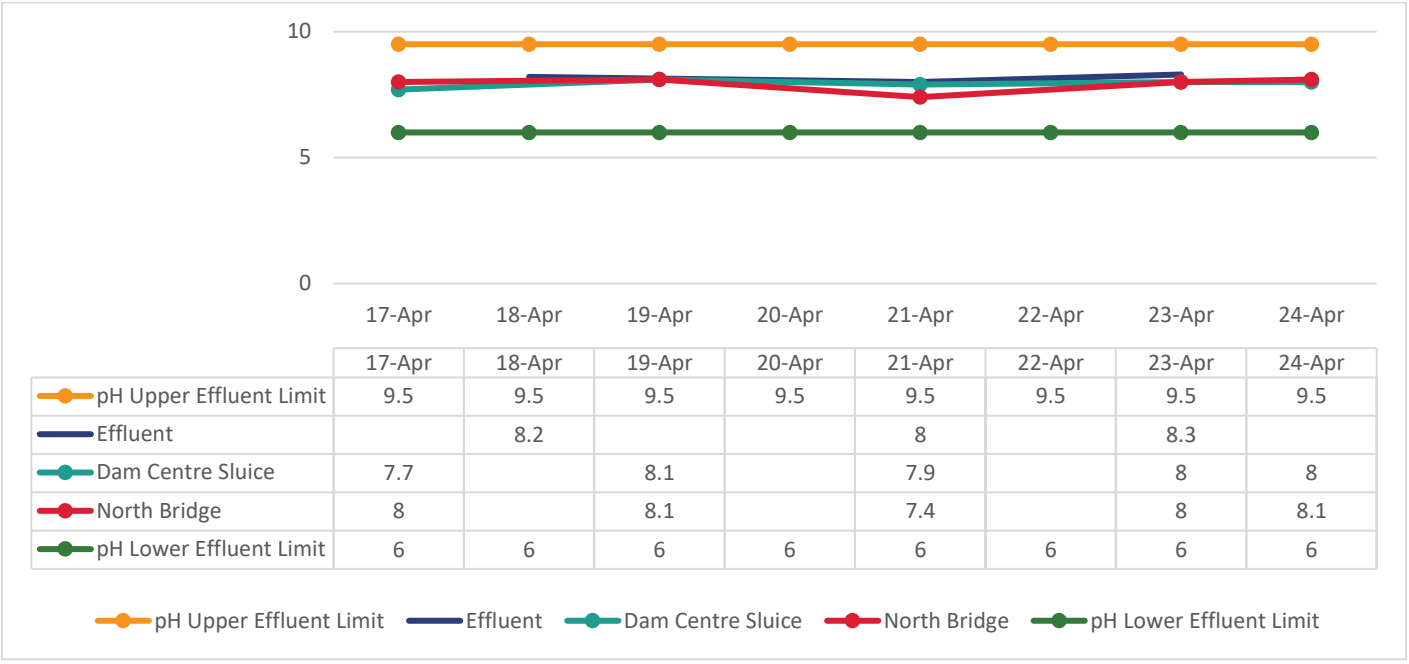
	17-Apr	18-Apr	19-Apr	21-Apr	23-Apr	24-Apr
Effluent		4.3		4.8	4.8	
Dam Centre Sluice	0.5		0.5	0.5	0.6	0.5
North Bridge	0.8		0.5	0.5	0.5	0.5

Graph 6. Hydrogen Sulphide



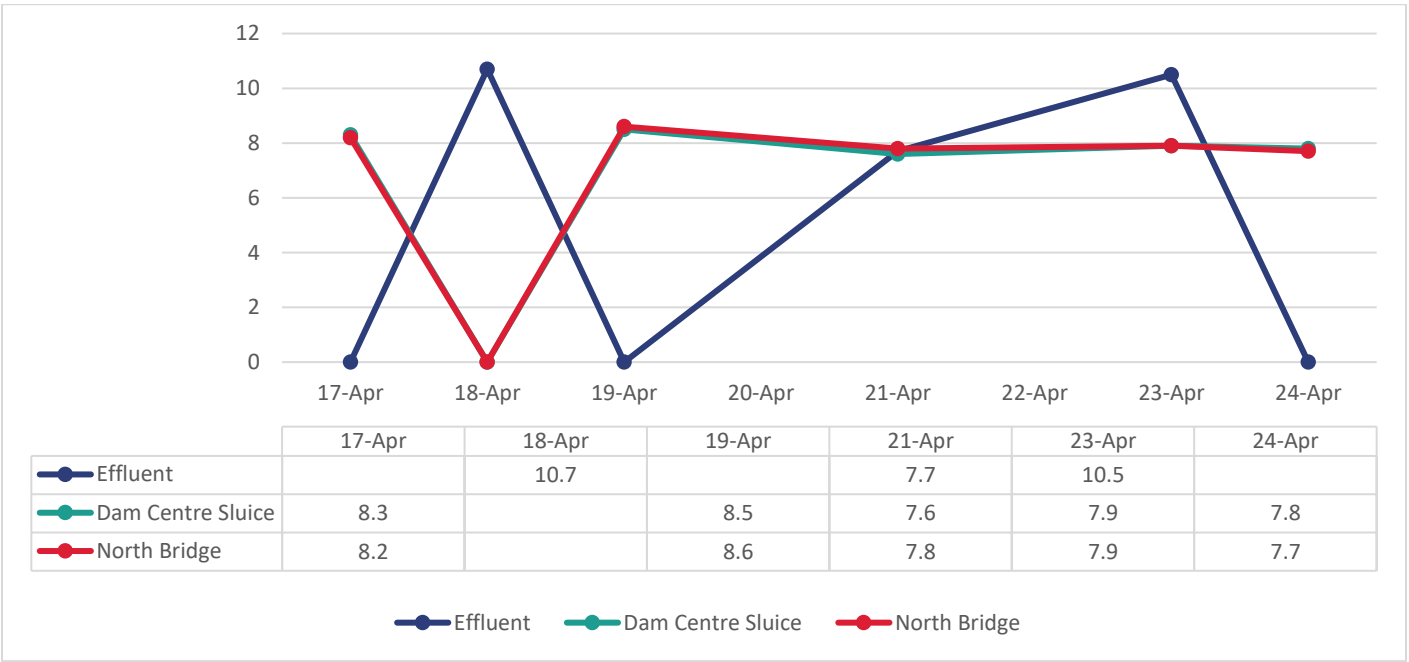
	17-Apr	18-Apr	19-Apr	21-Apr	23-Apr	24-Apr
Hydrogen Sulphide Limit mg/L	0.1	0.1	0.1	0.1	0.1	0.1
Effluent		0.02		0.02	0.02	
Dam Centre Sluice	0.02		0.02	0.02	0.02	0.02
North Bridge	0.02		0.02	0.02	0.02	0.02

Graph 7. pH



	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr
pH Upper Effluent Limit	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
Effluent		8.2			8		8.3	
Dam Centre Sluice	7.7		8.1		7.9		8	8
North Bridge	8		8.1		7.4		8	8.1
pH Lower Effluent Limit	6	6	6	6	6	6	6	6

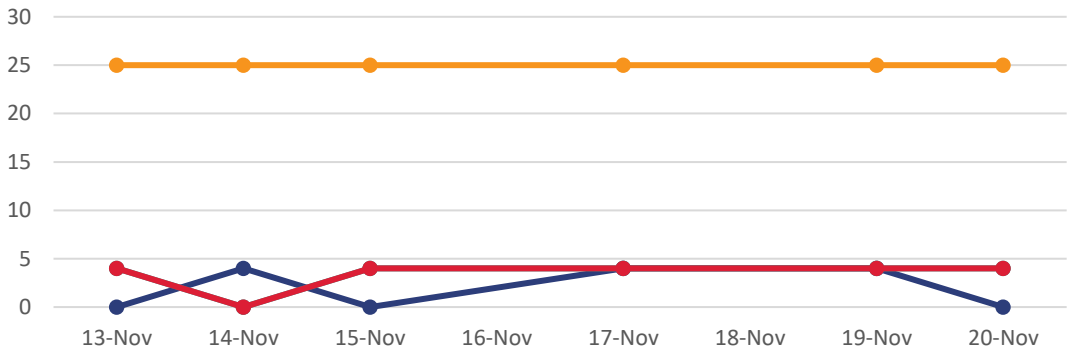
Graph 8. Temperature



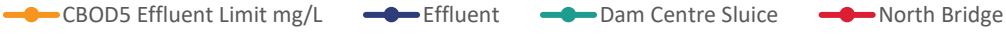
	17-Apr	18-Apr	19-Apr	21-Apr	23-Apr	24-Apr
Effluent		10.7		7.7	10.5	
Dam Centre Sluice	8.3		8.5	7.6	7.9	7.8
North Bridge	8.2		8.6	7.8	7.9	7.7

Fall Discharge – November 13 - 20, 2024

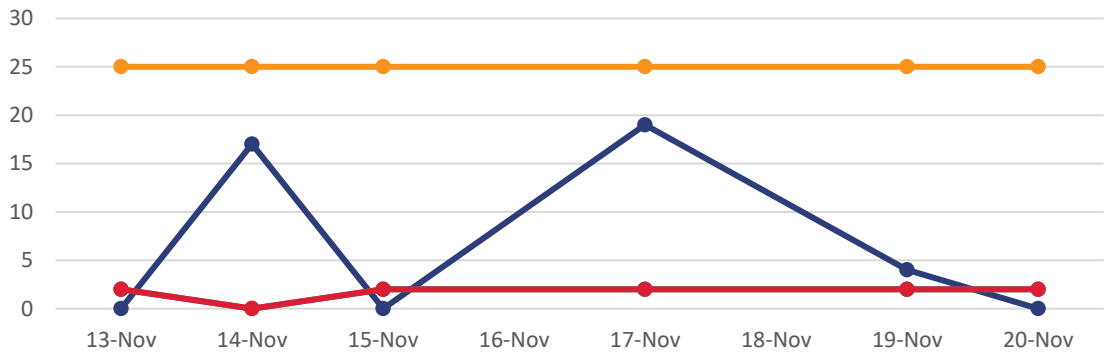
Graph 9. $CBOD_5$



	13-Nov	14-Nov	15-Nov	17-Nov	19-Nov	20-Nov
CBOD5 Effluent Limit mg/L	25	25	25	25	25	25
Effluent		4		4	4	
Dam Centre Sluice	4		4	4	4	4
North Bridge	4		4	4	4	4

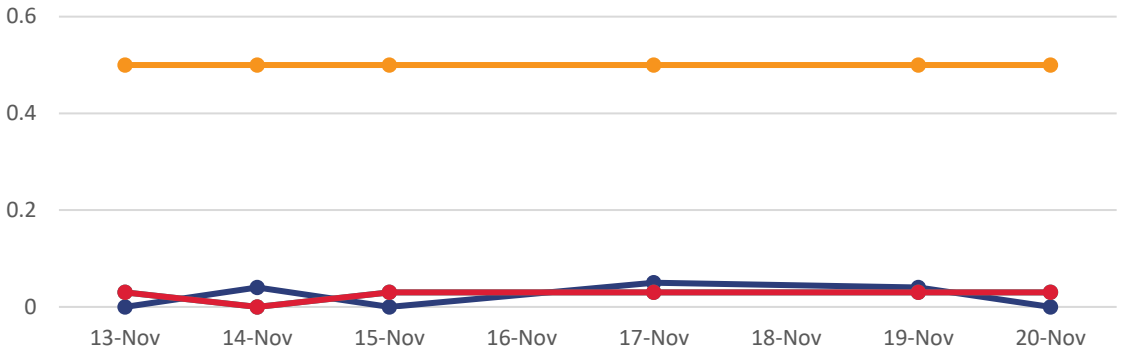


Graph 10. Total Suspended Solids



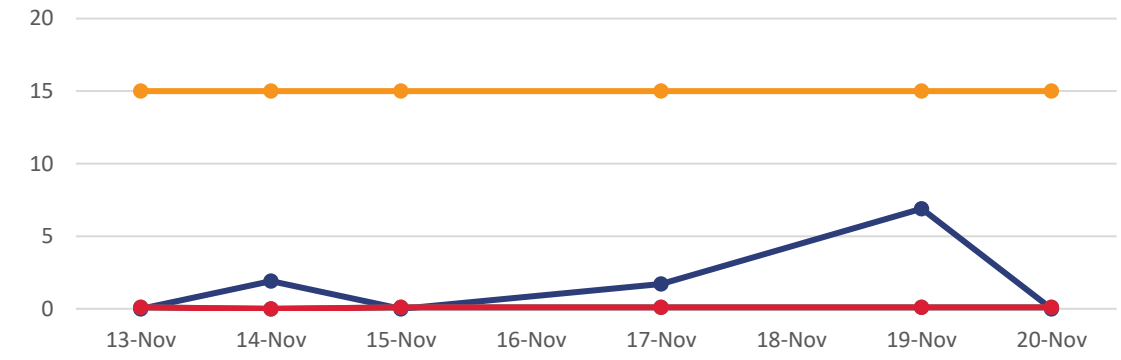
	13-Nov	14-Nov	15-Nov	17-Nov	19-Nov	20-Nov
TSS Effluent Limit mg/L	25	25	25	25	25	25
Effluent		17		19	4	
Dam Centre Sluice	2		2	2	2	2
North Bridge	2		2	2	2	2

Graph 11. Total Phosphorus



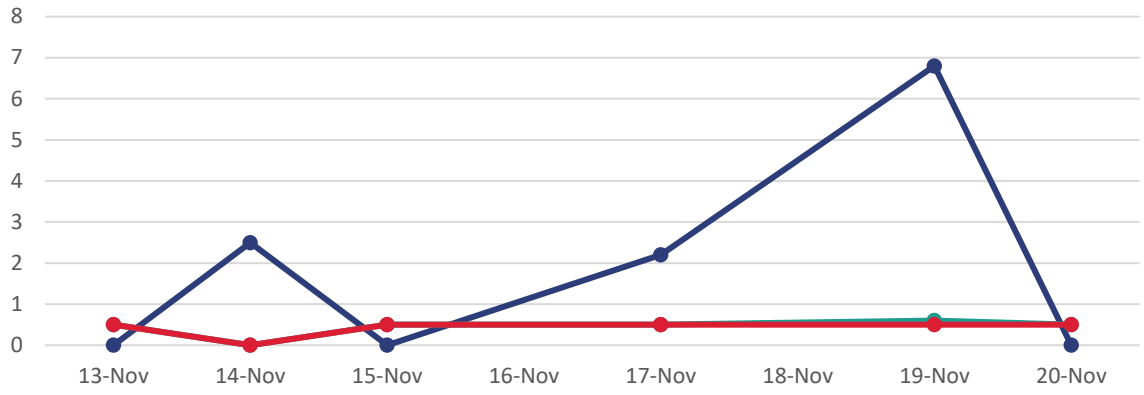
	13-Nov	14-Nov	15-Nov	17-Nov	19-Nov	20-Nov
TP Effluent Limit mg/L	0.5	0.5	0.5	0.5	0.5	0.5
Effluent		0.04		0.05	0.04	
Dam Centre Sluice	0.03		0.03	0.03	0.03	0.03
North Bridge	0.03		0.03	0.03	0.03	0.03

Graph 12. Total Ammonia Nitrogen



	13-Nov	14-Nov	15-Nov	17-Nov	19-Nov	20-Nov
TAN Effluent Limit mg/L	15	15	15	15	15	15
Effluent		1.9		1.7	6.9	
Dam Centre Sluice	0.1		0.1	0.1	0.1	0.1
North Bridge	0.1		0.1	0.1	0.1	0.1

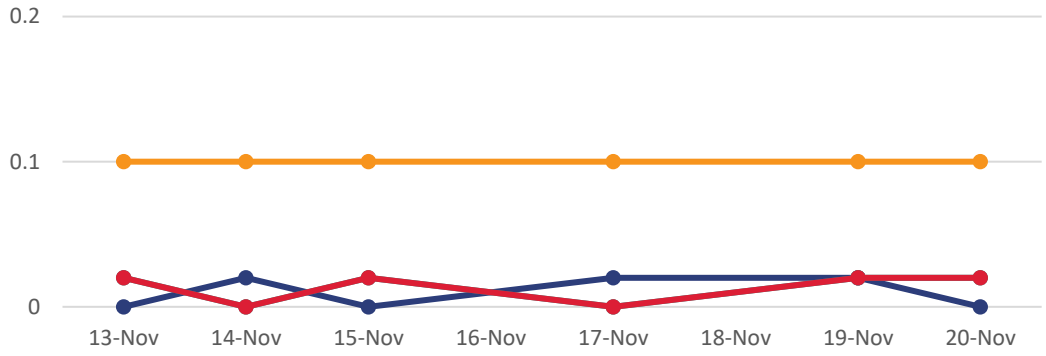
Graph 13. Total Kjeldahl Nitrogen



	13-Nov	14-Nov	15-Nov	17-Nov	19-Nov	20-Nov
Effluent		2.5		2.2	6.8	
Dam Centre Sluice	0.5		0.5	0.5	0.6	0.5
North Bridge	0.5		0.5	0.5	0.5	0.5

Effluent Dam Centre Sluice North Bridge

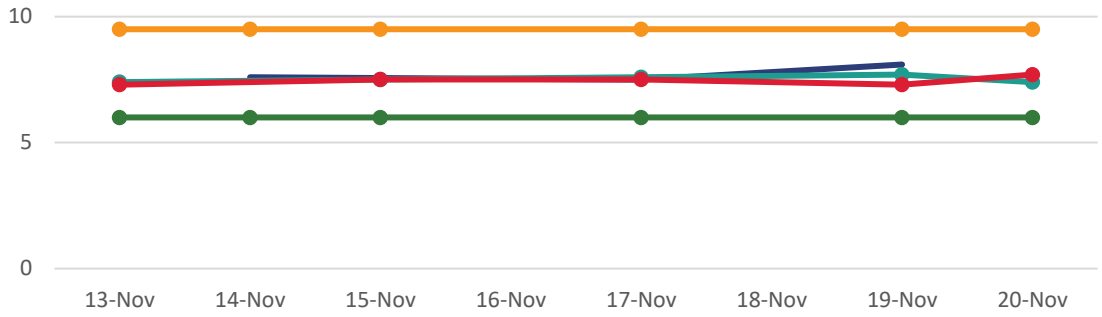
Graph 14. Hydrogen Sulphide



	13-Nov	14-Nov	15-Nov	17-Nov	19-Nov	20-Nov
Hydrogen Sulphide Limit mg/L	0.1	0.1	0.1	0.1	0.1	0.1
Effluent		0.02		0.02	0.02	
Dam Centre Sluice	0.02		0.02		0.02	0.02
North Bridge	0.02		0.02		0.02	0.02

Hydrogen Sulphide Limit mg/L Effluent Dam Centre Sluice North Bridge

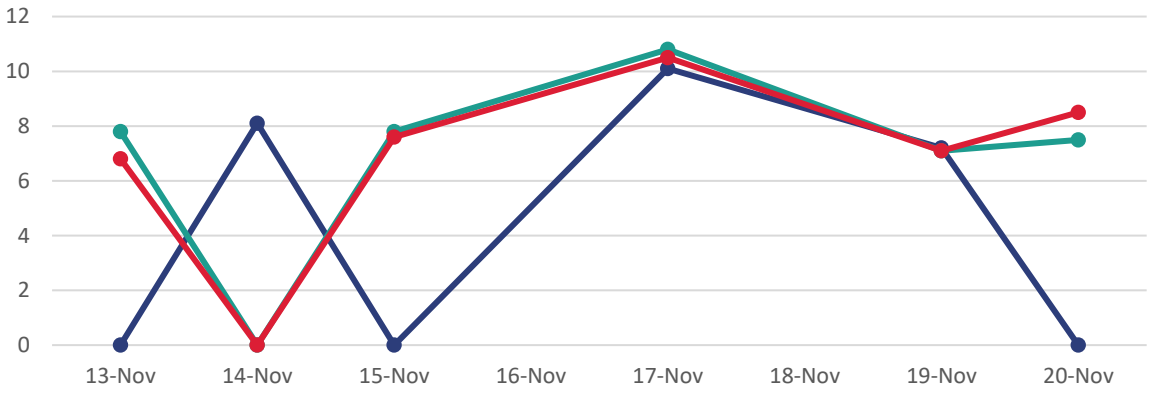
Graph 15. pH



	13-Nov	14-Nov	15-Nov	17-Nov	19-Nov	20-Nov
pH Upper Effluent Limit	9.5	9.5	9.5	9.5	9.5	9.5
Effluent		7.6		7.5	8.1	
Dam Centre Sluice	7.4		7.5	7.6	7.7	7.4
North Bridge	7.3		7.5	7.5	7.3	7.7
pH Lower Effluent Limit	6	6	6	6	6	6

pH Upper Effluent Limit — Effluent — Dam Centre Sluice — North Bridge — pH Lower Effluent Limit

Graph 16. Temperature

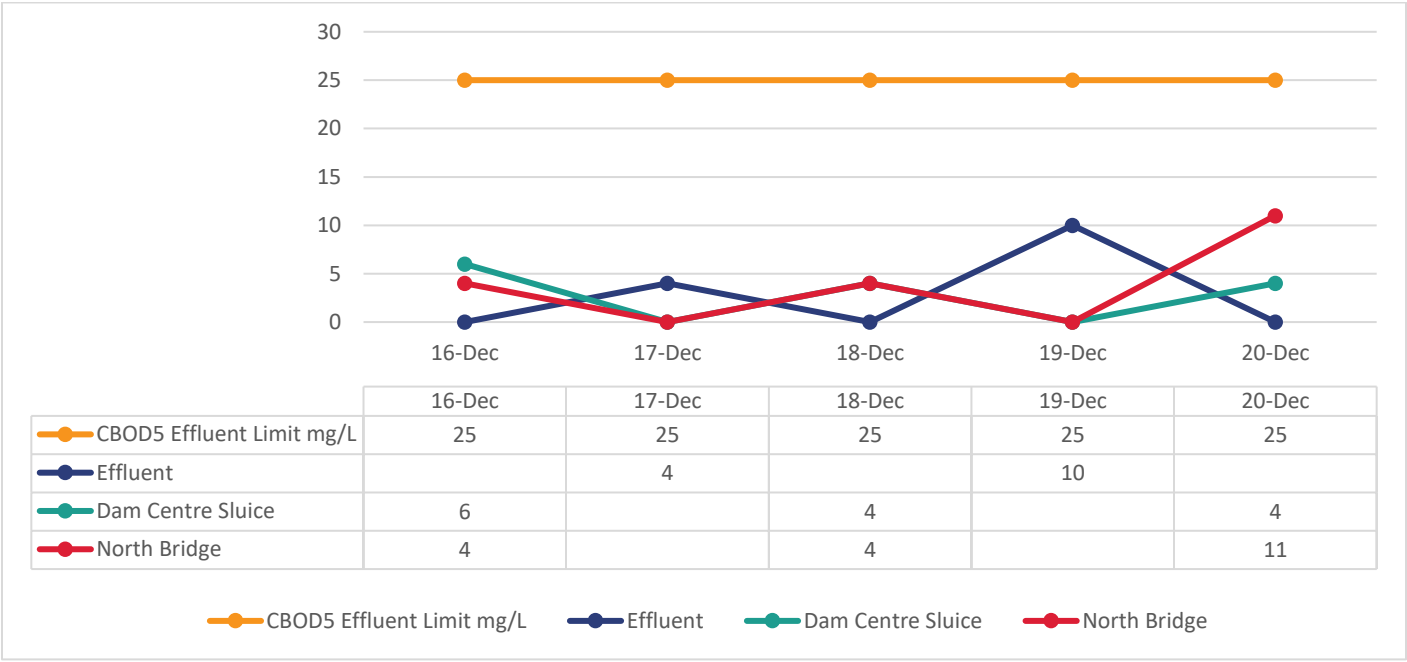


	13-Nov	14-Nov	15-Nov	17-Nov	19-Nov	20-Nov
Effluent		8.1		10.1	7.2	
Dam Centre Sluice	7.8		7.8	10.8	7.1	7.5
North Bridge	6.8		7.6	10.5	7.1	8.5

Effluent — Dam Centre Sluice — North Bridge

Fall Discharge – December 16 – 20, 2024

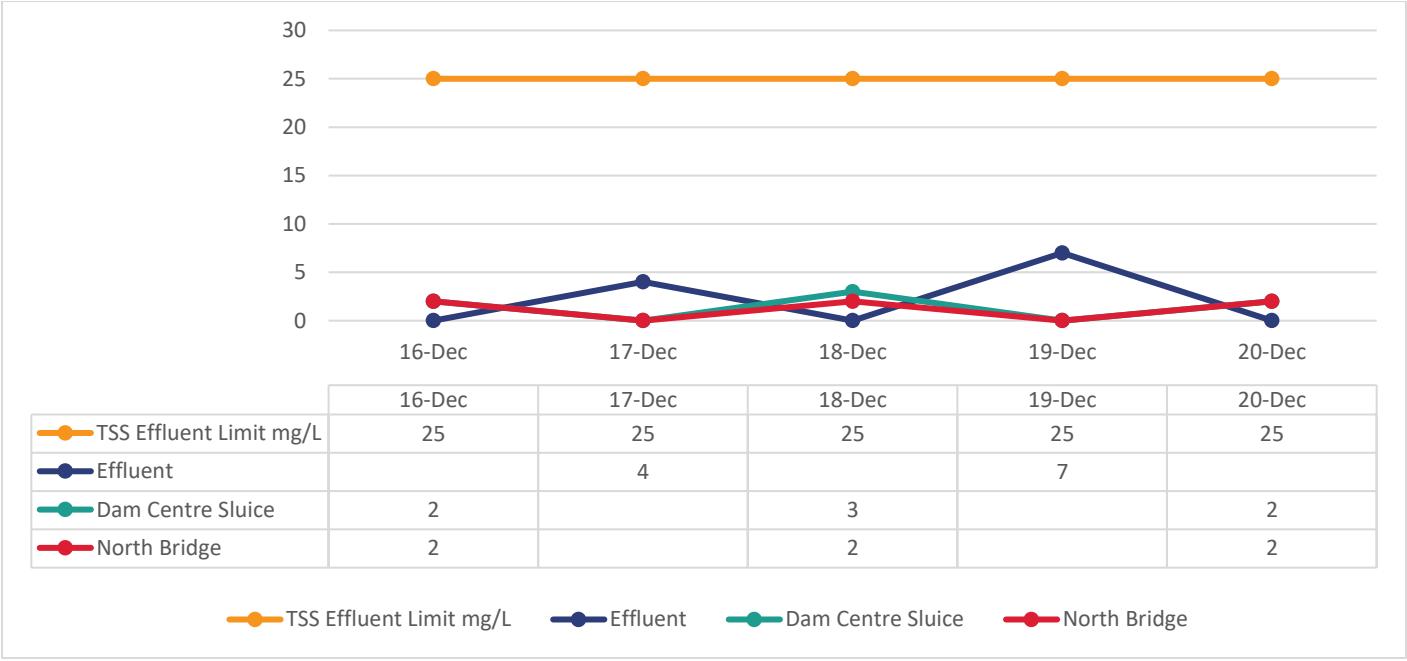
Graph 17. $CBOD_5$



	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
CBOD5 Effluent Limit mg/L	25	25	25	25	25
Effluent		4		10	
Dam Centre Sluice	6		4		4
North Bridge	4		4		11

CBOD5 Effluent Limit mg/L Effluent Dam Centre Sluice North Bridge

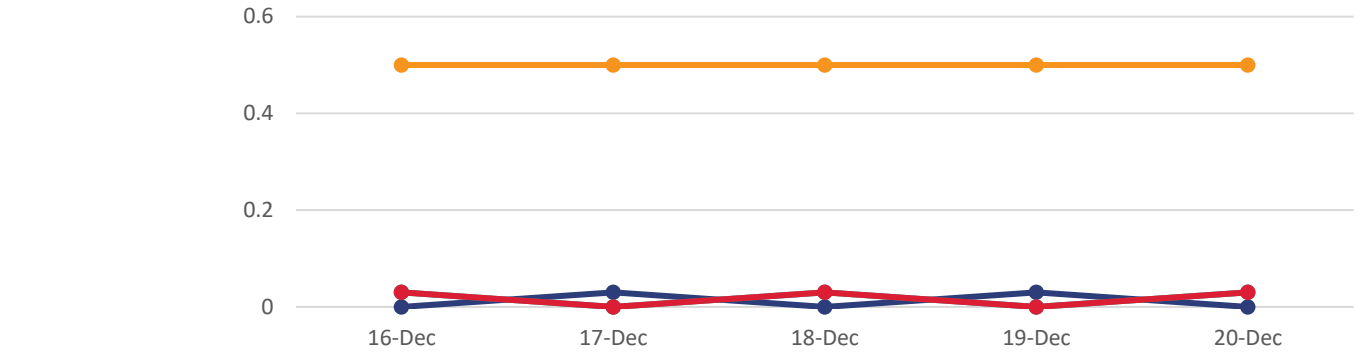
Graph 18. Total Suspended Solids



	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
TSS Effluent Limit mg/L	25	25	25	25	25
Effluent		4		7	
Dam Centre Sluice	2		3		2
North Bridge	2		2		2

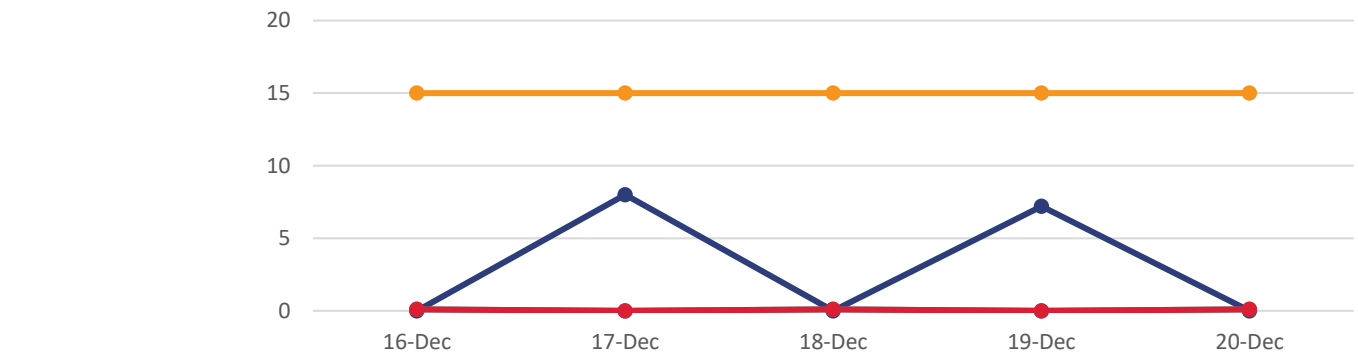
TSS Effluent Limit mg/L Effluent Dam Centre Sluice North Bridge

Graph 19. Total Phosphorus



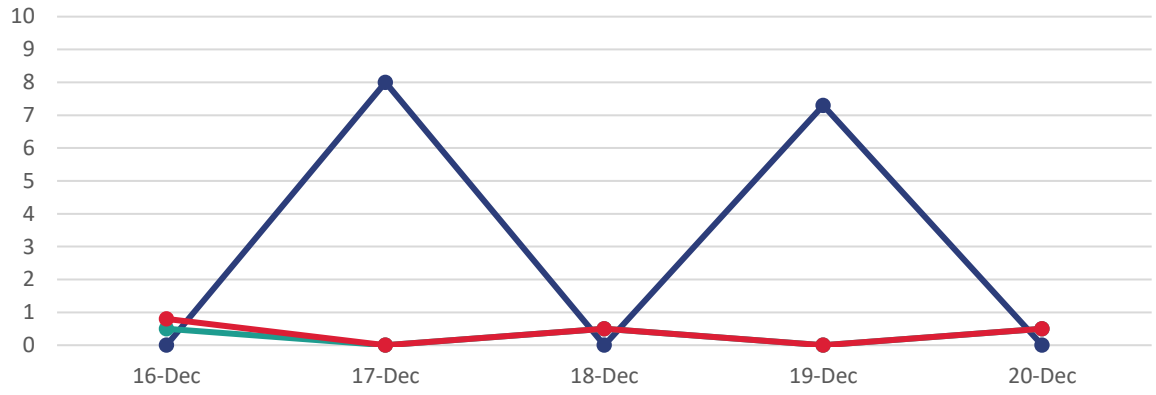
	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
TP Effluent Limit mg/L	0.5	0.5	0.5	0.5	0.5
Effluent		0.03		0.03	
Dam Centre Sluice	0.03		0.03		0.03
North Bridge	0.03		0.03		0.03

Graph 20. Total Ammonia Nitrogen



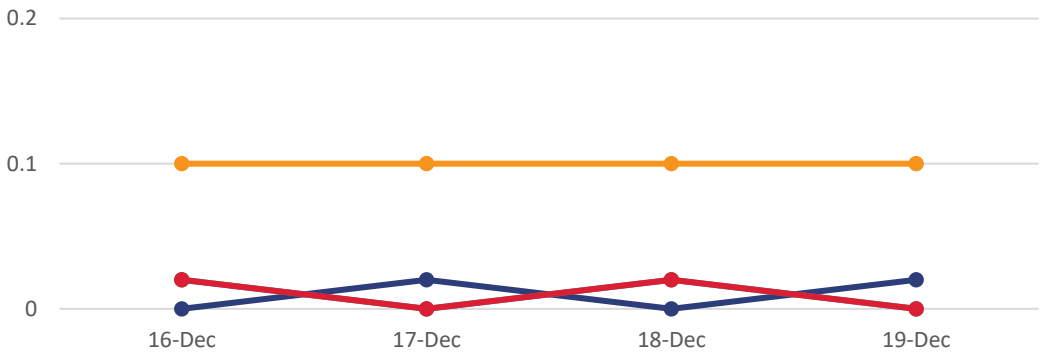
	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
TAN Effluent Limit mg/L	15	15	15	15	15
Effluent		8		7.2	
Dam Centre Sluice	0.1		0.1		0.1
North Bridge	0.1		0.1		0.1

Graph 21. Total Kjeldahl Nitrogen



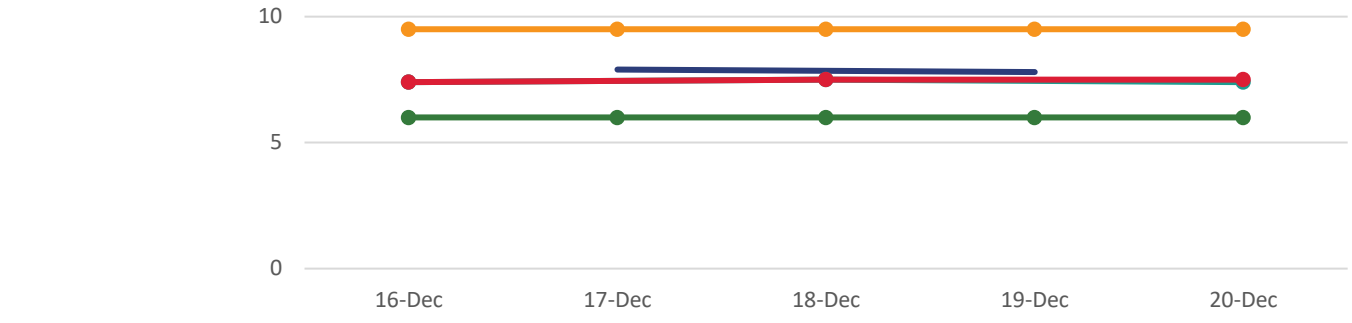
	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
Effluent		8		7.3	
Dam Centre Sluice	0.5		0.5		0.5
North Bridge	0.8		0.5		0.5

Graph 22. Hydrogen Sulphide



	16-Dec	17-Dec	18-Dec	19-Dec
Hydrogen Sulphide Limit mg/L	0.1	0.1	0.1	0.1
Effluent		0.02		0.02
Dam Centre Sluice	0.02		0.02	
North Bridge	0.02		0.02	

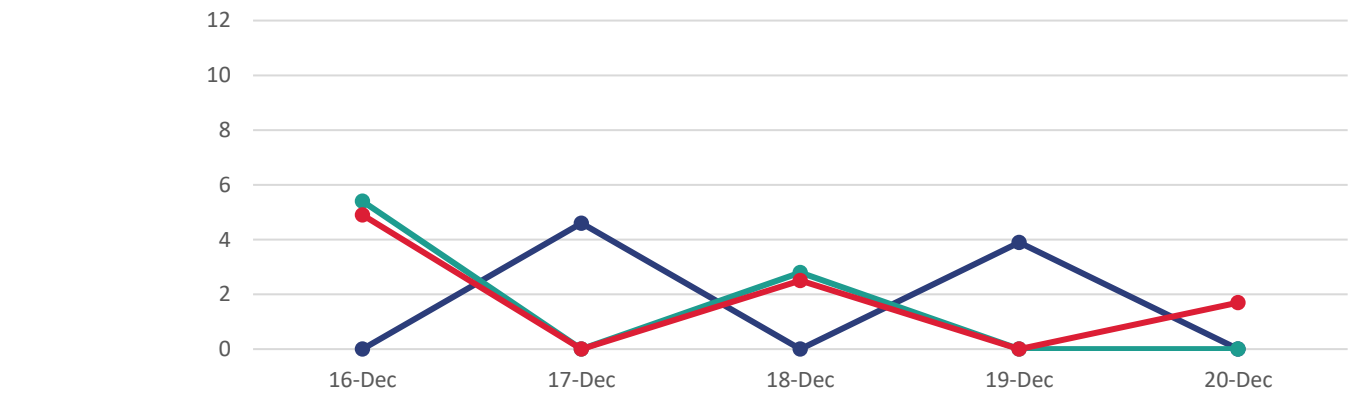
Graph 23. pH



	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
pH Upper Effluent Limit	9.5	9.5	9.5	9.5	9.5
Effluent		7.9		7.8	
Dam Centre Sluice	7.4		7.5		7.4
North Bridge	7.4		7.5		7.5
pH Lower Effluent Limit	6	6	6	6	6

pH Upper Effluent Limit — Effluent — Dam Centre Sluice — North Bridge — pH Lower Effluent Limit

Graph 24. Temperature



	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
Effluent		4.6		3.9	
Dam Centre Sluice	5.4		2.8		0
North Bridge	4.9		2.5		1.7

Effluent — Dam Centre Sluice — North Bridge

These results suggest that, for the parameters analyzed, the effluent discharges have had little to no impact on the water quality of the Gull River in 2024.

Un-ionized Ammonia Concentrations

(c) Condition 9(7) requires the temperature and pH of the effluent to be determined in the field at the time of sampling for Total Ammonia Nitrogen (TAN). The concentration of un-ionized ammonia shall be calculated using the TAN concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objective" dated July 1994, as amended, for ammonia (un-ionized). Table 3 provides a tabulation of the Coboconk Sewage Lagoon Effluent Un-ionized Ammonia Results for 2024.

Table 3. Coboconk Sewage Lagoons – Effluent Un-ionized Ammonia Results for 2024

Date	Total Ammonia Nitrogen (mg/L)	Field Temperature (°C)	Field pH	Un-ionized ammonia (mg/L)
04/18/24	3.8	10.7	8.2	0.105
04/21/24	3.8	7.7	8.0	0.064
04/23/24	3.6	10.5	8.3	0.125
11/14/24	1.9	8.1	7.6	0.012
11/17/24	1.7	10.1	7.5	0.010
11/19/24	6.9	7.2	8.1	0.114
12/17/24	8.0	4.6	7.9	0.068
12/19/24	7.2	3.9	7.8	0.054

Flows

(d) The facility is operated on a semi-annual discharge basis with effluent discharge commencing no earlier than April 1 or terminating not later than May 31 in spring (Spring Effluent Discharge Period) and not earlier than November 1 or terminating not later than December 31 in the fall (Fall Effluent Discharge Period). Each period is allowed a maximum of 14 days at a discharge flow rate not exceeding 9,245 m^3/day. Table 4 and 5 show the effluent discharges were compliant with the Spring and Fall Effluent Discharge Periods, number of discharge days and the discharge flow rate.

Table 4. Spring Effluent Discharge Period April 1 – May 31

Date	Flow Limit (m^3/day)	Flow (m^3/day)	Compliance (Y/N)	# Days / Discharge Limit	# of Days of Discharge	Compliant (Y/N)
04/18/24	9,245	5,609.4	Y	14	6	Y
04/19/24	9,245	8,073.0	Y	14	6	Y

Date	Flow Limit (m^3/day)	Flow (m^3/day)	Compliance (Y/N)	# Days / Discharge Limit	# of Days of Discharge	Compliant (Y/N)
04/20/24	9,245	8,258.3	Y	14	6	Y
04/21/24	9,245	8,457.5	Y	14	6	Y
04/22/24	9,245	6,746.5	Y	14	6	Y
04/23/24	9,245	2,213.3	Y	14	6	Y

Total volume of effluent discharged in the Spring of 2024 was 39,358.0 m^3.

Table 5. Fall Effluent Discharge Period November 1 – December 31

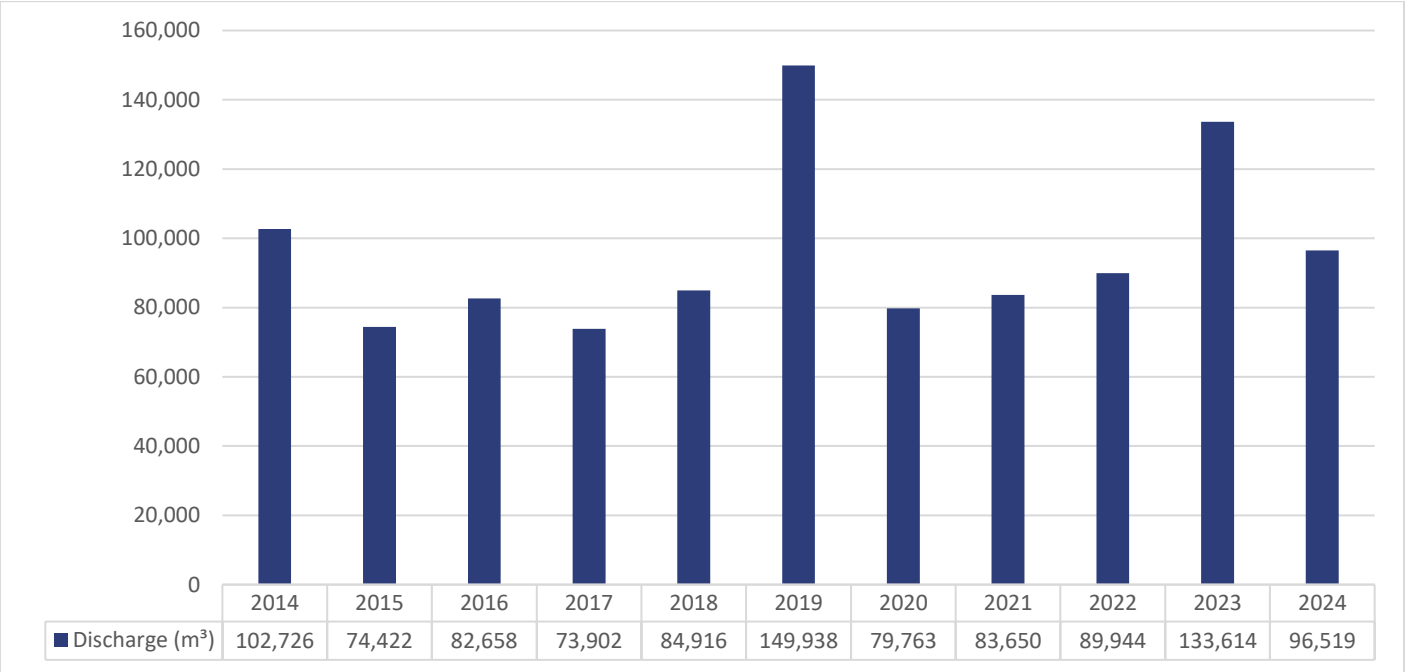
Date	Flow Limit (m^3/day)	Flow (m^3/day)	Compliance (Y/N)	# Days / Discharge Limit	# of Days of Discharge	Compliant (Y/N)
11/14/24	9,245	5,759.7	Y	14	6	Y
11/15/24	9,245	8,271.6	Y	14	6	Y
11/16/24	9,245	8,311.8	Y	14	6	Y
11/17/24	9,245	8,308.2	Y	14	6	Y
11/18/24	9,245	5,636.4	Y	14	6	Y
11/19/24	9,245	1,236.5	Y	14	6	Y
12/17/24	9,245	4,451.1	Y	14	3	Y
12/18/24	9,245	9,871.2	Y	14	3	Y
12/19/24	9,245	5,314.1	Y	14	3	Y

Total volume of effluent discharged in the Fall 2024 was 57,160.6 m^3.

The total volume of effluent discharged from the Coboconk Sewage Lagoons was 96,518.6 m^3.

The following chart provides the annual total discharge flow from the Coboconk Sewage Lagoons since 2014.

Graph 25. Annual Total Discharge Flow Comparison



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Discharge (m^3)	102,726	74,422	82,658	73,902	84,916	149,938	79,763	83,650	89,944	133,614	96,519

The total discharge effluent flows from the Coboconk Sewage Lagoons have been relatively consistent in recent years however, 2019 and 2023 experienced an increase. Weather conditions have an impact on the amount of effluent discharged each year. Evaporation due to high temperatures and strong winds can lower the volumes while heavy precipitation periods can increase the total effluent discharged.

By-pass, Spill or Abnormal Discharge Events

(e) A summary of By-pass, Spill or Abnormal Discharge Events

Bypasses
There were not any bypasses at the Coboconk Sewage Lagoons during 2024.

Spills
There were not any spills at the Coboconk Sewage Lagoons during 2024.

Overflows
There were not any overflows at the Coboconk Sewage Lagoons or pumping stations in 2024.

Abnormal Discharge Events
There were not any abnormal discharge events at the Coboconk Sewage Lagoons in 2024.

Refer to **Appendix V: Bypasses, Overflows, Spills or Abnormal Events** for copies of the quarterly Bypass and Overflow reports, and Notice of Exceedance submitted to the Ministry of Environment, Conservation and Parks.

Sludge

(f) There was no sludge removed from the Coboconk Lagoons in 2024.

Operational Challenges and Corrective Actions

(g) There were no operational challenges experienced at the Coboconk Lagoons in 2024.

Best Efforts to Achieve Design Objectives of Condition 6

(h) Table 6. Coboconk Sewage Lagoon Effluent Objectives summarizes the results for the parameters tested.

Table 6. Coboconk Sewage Lagoon – Effluent Objectives – 2024 Discharges

Effluent Parameter (Column 1)	Concentration Objective* (Column 2)	Concentration (mg/L)	Objective Met(Y/N)	Waste Loading**	Waste Loading (Kg/d)	Objective Met (Y/N)
Spring Apr 18 – Apr 23						
$CBOD_5$	15.0 (average per discharge)	4.0	Y	139.0	26.2	Y
Total Suspended Solids	20.0 (average per discharge)	9	Y	185.0	59.0	Y
Total Phosphorus	<0.5 (average per discharge)	0.06	Y	<4.62	0.42	Y
Total Ammonia Nitrogen Spring (April 1 – May 31)	10.0 (daily limit)	3.8 3.8 3.6	Y Y Y	92.5	21.3 32.1 8.0	Y Y Y

Effluent Parameter (Column 1)	Concentration Objective* (Column 2)	Concentration (mg/L)	Objective Met(Y/N)	Waste Loading**	Waste Loading (Kg/d)	Objective Met (Y/N)
Hydrogen Sulphide	Absent	<0.02 <0.02 <0.02	-	Absent	0.11 0.17 0.04	-
pH	6.5 to 8.5 at all times	8.2 8.0 8.3	Y Y Y	-	-	-
E. Coli	200 organisms/100 mL	2 0 16	Y Y Y	-	-	-
Fall Nov 14 – Nov 19						
$CBOD_5$	15.0 (average per discharge)	4	Y	139.0	25.0	Y
Total Suspended Solids	20.0 (average per discharge)	13.3	Y	185.0	83.4	Y
Total Phosphorus	<0.5 (average per discharge)	0.04	Y	<4.62	0.27	Y
Total Ammonia Nitrogen Fall (Nov 1 – Dec 31)	5.0 (daily)	1.9 1.7 6.9	Y Y Y	92.5	10.9 14.1 8.5	Y Y Y
Hydrogen Sulphide	Absent	<0.02 <0.02 <0.02	Y Y Y	Absent	0.12 0.17 0.02	Y Y Y
pH	6.5 to 8.5 at all times	7.6 7.5 8.1	Y Y Y	-	-	-
E. Coli	200 organisms/100 mL	2 2 2	Y Y Y	-	-	-
Fall Dec 17 – Dec 19						
$CBOD_5$	15.0 (average per discharge)	7.0	Y	139.0	45.8	Y
Total Suspended Solids	20.0 (average per discharge)	5.5	Y	185.0	36.0	Y

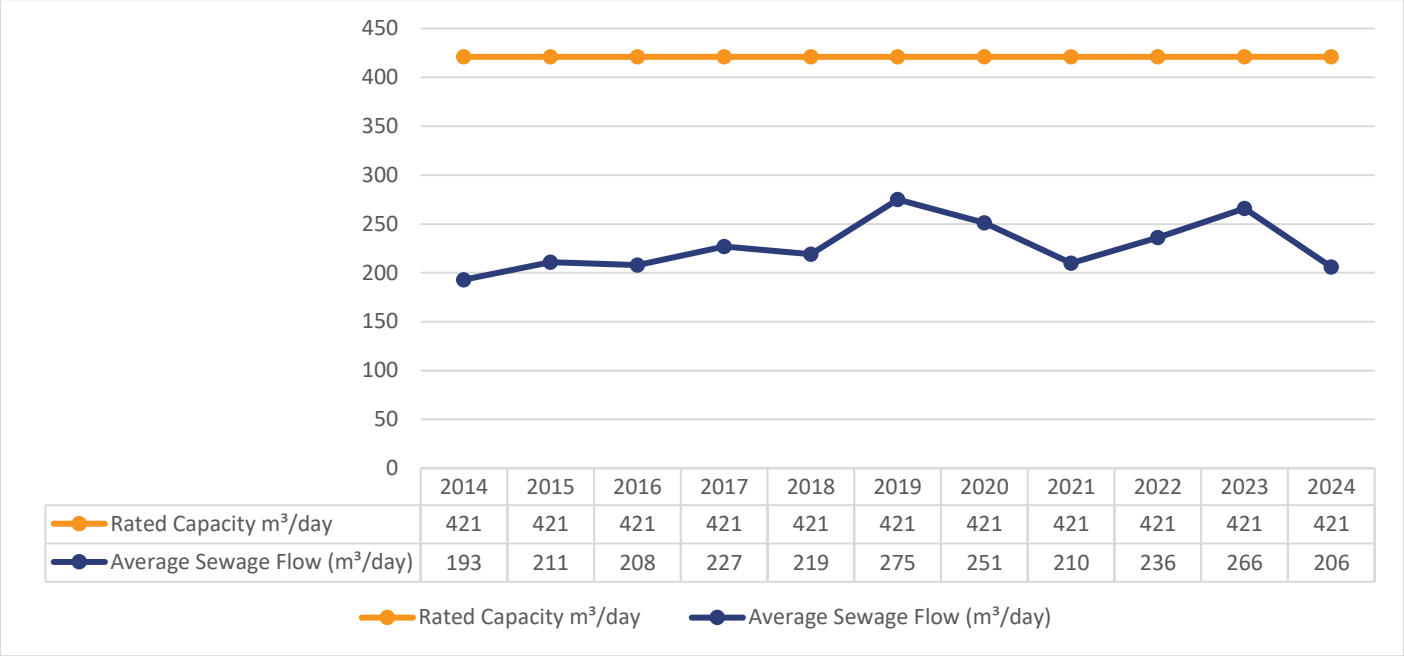
Effluent Parameter (Column 1)	Concentration Objective* (Column 2)	Concentration (mg/L)	Objective Met(Y/N)	Waste Loading**	Waste Loading (Kg/d)	Objective Met (Y/N)
Total Phosphorus	<0.5 (average per discharge)	0.03	Y	<4.62	0.20	Y
Total Ammonia Nitrogen Fall (Nov 1 – Dec 31)	5.0 (daily)	8.0 7.2	Y Y	92.5	35.6 38.3	Y Y
Hydrogen Sulphide	Absent	<0.02 <0.02	Y Y	Absent	0.09 0.11	-
pH	6.5 to 8.5 at all times	7.9 7.8	Y Y	-	-	-
E. Coli	200 organisms/100 mL	2 0	Y Y	-	-	-

Note: For the purpose of calculating loadings for hydrogen sulphide, a value of 0.02 mg/L was used; however, a result of < the laboratory's method detection limit is indicative of the possible absence of hydrogen sulphide.

Rated Capacity of 421 m^3/day is the Annual Average Daily Flow for which the Coboconk Sewage Lagoons is approved to handle sewage. The Average Daily Flow is determined by the cumulative total sewage flow into the plant. The total raw flow for 2024 was 75,401.93 m^3, resulting in a average daily flow of 206.02 m^3/day.

The following graph shows the lagoon has been operating within the Rated Capacity for the past ten years.

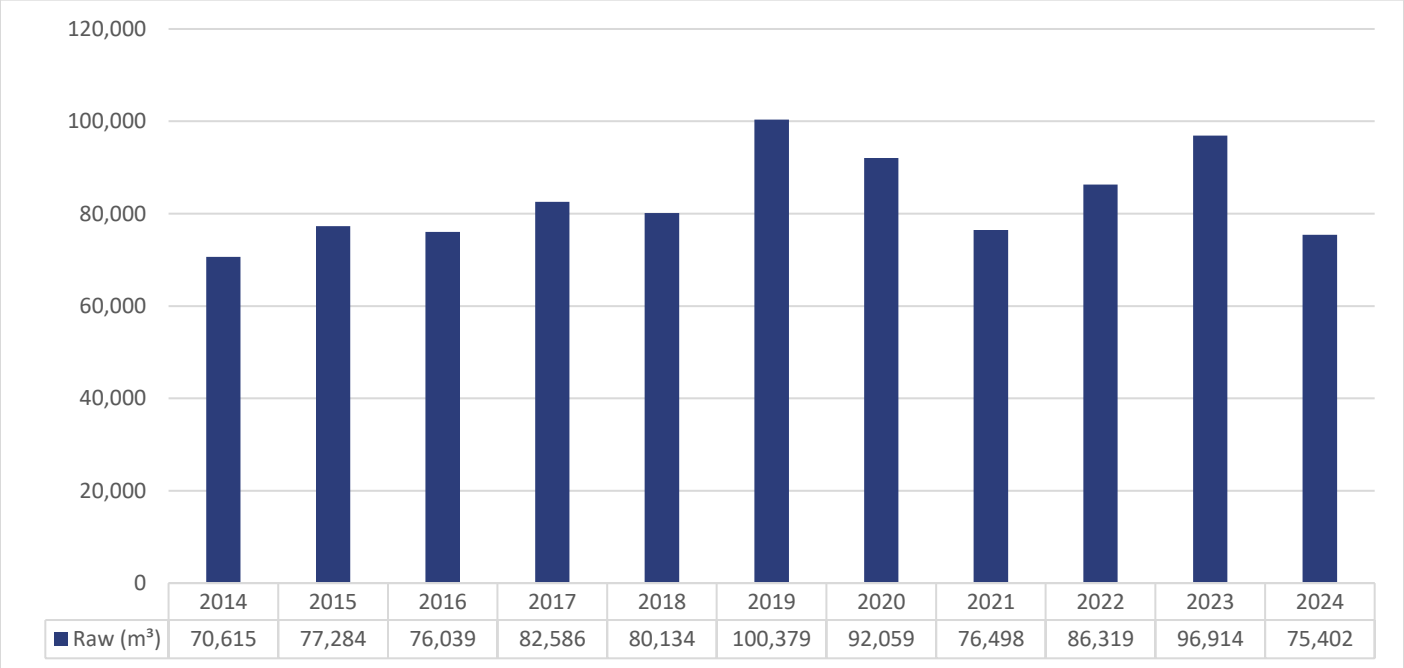
Graph 26. Average Sewage Flow and Rated Capacity Comparison



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Rated Capacity m³/day	421	421	421	421	421	421	421	421	421	421	421
Average Sewage Flow (m³/day)	193	211	208	227	219	275	251	210	236	266	206

Additionally, the following graph depicts total annual sewage flow since 2014 into the Coboconk Sewage Lagoons.

Graph 27. Annual Total Sewage Flow Comparison



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Raw (m³)	70,615	77,284	76,039	82,586	80,134	100,379	92,059	76,498	86,319	96,914	75,402

Effluent quality assurance is maintained in several ways. Laboratory samples are sent to accredited laboratory (SGS Lakefield) for analysis of all effluent parameters. Sampling calendars issued to the

operator denote frequency of sampling and these calendars are submitted to the Process Compliance Technician at the end of each month. Raw, effluent and effluent plume monitoring samples are collected as per the ECA and the results are reviewed on a regular basis to ensure compliance with site objectives and limits.

Work orders are scheduled through our asset maintenance management system to ensure preventative and corrective maintenance is completed and recorded by operations staff. A summary is attached as **Appendix III.** Flow meters are calibrated annually and the 2024 calibration reports are provided in **Appendix IV**.

OCWA conducts internal audits of facilities and develops Action Plans to ensure deficiencies are identified and corrected. OCWA has developed comprehensive manuals detailing operations, maintenance, instrumentation and emergency procedures. To ensure facilities are operated in compliance with applicable legal requirements, facility staff has access to a network of compliance and support professionals at the hub, regional and corporate level.

Continuous phosphorus removal is achieved with the dosing of aluminum sulphate. A summary of its use and dosing rates for 2024 is provided in Table 7.

Table 7. Coagulant Use and Dosing 2024

	Aluminum Sulphate (kg)	Aluminum Sulphate Average Dosage (mg/L)
January	1061.9	121.59
February	745.4	157.92
March	766.1	118.93
April	854.1	117.58
May	813.1	115.15
June	742.1	106.8
July	394.0	59.75
August	706.1	109.38
September	589.5	126.5
October	702.0	140.66
November	582.7	136.73
December	858.2	126.54

Some of the continuous efforts made to meet the Effluent Objectives of Condition 6 are as follows:

- Sampling effluent and raw as per the ECA.
- Routine inspection of the lagoons for berm stability, odours, and condition of cell contents.
- Ensuring that aluminum sulphate is being dosed.
- Calibration of the pH meter before use.
- Performing preventative maintenance activities in accordance with work order schedules.
- Monitoring treatment processes through review of lab results.
- Annual calibration of flow meters.

- Monitoring sludge depth.

Complaints

(i) A Site Inspection Report was developed by the City and put into use in 2018. Inspections are completed by operations staff and forwarded to the City when complaints are received. These reports are reviewed during the routine meetings held between the City and OCWA. No complaints were received in 2024.

Notice of Modifications to Sewage Works

(j) There were not any Notices of Modifications to Sewage Works initiated, worked on or completed in 2024.

Schedule B, Section 3 Modifications

(k) A summary of all modifications completed as a result of Schedule B, Section 3 are included in **Appendix III: Maintenance Summary**

Additional Request by Water Supervisor

(l) The Water Supervisor has not requested any additional information be included in this report.

Reporting Requirements – Wastewater Collection System

In accordance with the Consolidated Linear Infrastructure – Environmental Compliance Approval #141-W601 the owner shall prepare a performance report on a calendar basis and submit to the Ministry of Environment, Conservation and Parks by March 31 of the calendar year following the period being reported upon.

4.6 (a) a summary of all required monitoring data along with an interpretation of the data and any conclusions drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.

The Coboconk Sewage Collection System consists of works for the collection and transmission of sewage, consisting of 3.5 km of sanitary sewer piping, three sewage pumping stations that eventually discharges into the Coboconk Sewage Lagoons.

Raw Sewage flow data from pumping station number three is captured in **Appendix I** and section g of this report along with an interpretation of the data and any conclusions drawn from the data evaluation.

Aluminum Sulphate monthly use and average dosage is captured in Table 7. Coagulant Use and Dosing 2024. Continuous phosphorus removal was achieved with the dosing of aluminum sulphate.

4.6 (b) a summary of any operating problems encountered and corrective actions taken.

There were no significant operating problems encountered during reporting period.

4.6 (c) a summary of all calibration, maintenance, and repairs carried out on any major structure, equipment, apparatus, mechanisms, or thing forming part of the Municipal Sewage Collection System.

A regular scheduled calibration and maintenance program has been kept up to date as scheduled on a daily, weekly, semi-annual and annual basis. All equipment calibration and maintenance scheduling and standard procedures are provided by Maximo Computerized Maintenance System.

Attached is **Appendix III: Maintenance Summary**, a Work Order Summary report, showing all preventative and corrective maintenance activities performed at the Coboconk Sewage Lagoons, including the collection system, during 2024.

Attached is **Appendix IV: Calibration Report**, flow meters are calibrated annually.

4.6 (d) a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.

Complaints related to the Coboconk Sewage Collection System and steps taken to address the complaints for 2024 are summarized in section (i) above. There were no complaints received in 2024.

4.6 (e) a summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat.

There were no Alterations made to the Coboconk Sewage Collection System in 2024.

4.6 (f) a summary of all Collection System Overflow(s) and Spill(s) of Sewage, including:

i) Dates;

ii) Volumes and durations

iii) If applicable, loadings for total suspended solids, BOD, total phosphorus, and total Kjeldahl nitrogen, and sampling results for E. coli;

iv) Disinfection, if any; and

v) Any adverse impact(s) and any corrective actions, if applicable.

The Coboconk Sewage Collection system did not experience any collection system Overflows or Spills in 2024.

4.6 (g) a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:

i) A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted.

Annually manhole inspections are completed by City operations staff within the collection systems to identify any deficiencies that may result in excess flows increasing the risk of potential overflows. In an effort to reduce all excess flows, the City has an annual manhole rehabilitation program which includes but is not limited to grouting; moduloc replacement; and frame and cover replacements.

Operationally, where manholes are located in lower lying areas and are at risk of being submerged and contributing to inflow, rain bladders are installed to prevent excess water from entering the system, further reducing the risk of overflow.

During the 2024 reporting period there were not incidents of a bypass or overflow within the sanitary sewer system or the WWTP. There was no manhole rehabilitation performed in 2024.

ii) Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timeline.

The Coboconk Sewage Collection system does not contain combined sewers and therefore is not required to complete a Pollution Prevention and Control Plan (PPCP).

iii) An assessment of the effectiveness of each action taken.

None to report at this time.

iv) An assessment of the ability to meet Procedure F-5-1 or Procedure F-5-5 objectives (as applicable) and if able to meet the objectives, an overview of next steps and estimated timelines to meet the objectives.

N/A

v) Public reporting approach including proactive efforts

SOP WWC02 Wastewater Bypass/Overflow Notification Procedure has been developed and has been in practice since 2021, which clearly outlines all reporting protocols to both regulatory agencies and the public in various situations. This procedure was developed in consultation with Ontario Clean Water Agency, Ministry of Environment, Conservation and Parks and Ministry of Health.

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix I:
2024 Performance Assessment Report

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Re

From 1/1/2024 to 12/31

6078 COBOCONK WASTEWATER TREATMENT LAGOON 120002353

	1 / 2024	2/ 2024	3/ 2024	4/ 2024	5/ 2024	6/ 2024	7/ 2024
Flows							
Raw Flow: Total - Raw m³/d	6,975.60	6,231.50	8,141.09	7,309.60	7,101.60	5,981.40	6,376.20
Raw Flow: Avg - Raw m³/d	225.02	214.88	262.62	243.65	229.08	199.38	205.68
Raw Flow: Max - Raw m³/d	303.60	246.40	1,865.50	309.40	271.00	264.40	302.30
Raw Flow: Count - Raw m³/d	31.00	29.00	31.00	30.00	31.00	30.00	31.00
Eff. Flow: Total - Effluent m³/d	0.00	0.00	0.00	39,358.00	0.00	0.00	0.00
Eff. Flow: Avg - Effluent m³/d	0.00	0.00	0.00	6,559.67	0.00	0.00	0.00
Eff. Flow: Max - Effluent m³/d	0.00	0.00	0.00	8,457.50	0.00	0.00	0.00
Eff Flow: Count - Effluent m³/d	0.00	0.00	0.00	6.00	0.00	0.00	0.00
Biochemical Oxygen Demand: BOD5							
Raw: Avg BOD5 - Raw mg/L	< 40.00	41.00	142.00	60.00	65.00	86.00	190.00
Raw: # of samples of BOD5 - Raw mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total Suspended Solids: TSS							
Raw: Avg TSS - Raw mg/L	73.00	72.00	404.00	143.00	95.00	717.00	98.00
Raw: # of samples of TSS - Raw mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total Phosphorus: TP							
Raw: Avg TP - Raw mg/L	0.74	0.35	3.00	1.16	0.70	2.10	3.41 <
Raw: # of samples of TP - Raw mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nitrogen Series							
Raw: Avg TKN - Raw mg/L	8.20	4.50	32.80	11.30	8.40	14.40	30.70
Raw: # of samples of TKN - Raw mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Eff: Avg NO3-N - Effluent mg/L	0.00	0.00	0.00	0.23	0.00	0.00	0.00
Eff: Avg NO2-N - Effluent mg/L	0.00	0.00	0.00	0.08	0.00	0.00	0.00
Disinfection							
Eff: GMD E. Coli - Effluent cfu/100mL	0.00	0.00	0.00	3.17	0.00	0.00	0.00
Eff: # of samples of E. Coli - Effluent cfu/100mL	0.00	0.00	0.00	3.00	0.00	0.00	0.00

port Standard ECA

03/20/2025

L/2024

8/ 2024	9/ 2024	10/ 2024	11/ 2024	12/ 2024	<--Total-->	<--Avg-->	<--Max-->	<-Criteria->
6,510.10	4,670.64	4,091.60	5,528.80	6,483.80	75,401.93			0.00
210.00	155.69	131.99	184.29	209.15		206.02		421.00
322.75	169.14	157.30	1,375.75	250.20			1,865.50	0.00
31.00	30.00	31.00	30.00	31.00	366.00			0.00
0.00	0.00	0.00	37,185.42	19,693.00	96,236.42			0.00
0.00	0.00	0.00	7,437.08	6,564.33		6,874.03		
0.00	0.00	0.00	8,861.12	8,611.00			8,861.12	0.00
0.00	0.00	0.00	5.00	3.00	14.00			0.00
14.00	41.00	112.00	84.00	43.00		< 76.50	< 190.00	0.00
1.00	1.00	1.00	1.00	1.00	12.00			0.00
11.00	84.00	180.00	91.00	133.00		175.08	717.00	0.00
1.00	1.00	1.00	1.00	1.00	12.00			0.00
0.03	1.07	1.57	1.34	1.62		1.42	3.41	0.00
1.00	1.00	1.00	1.00	1.00	12.00			0.00
13.20	13.40	10.80	17.80	11.30		14.73	32.80	0.00
1.00	1.00	1.00	1.00	1.00	12.00			0.00
0.00	0.00	0.00	0.16	0.12		0.17	0.23	0.00
0.00	0.00	0.00 <	0.03 <	0.03		0.05	0.08	0.00
0.00	0.00	0.00	2.00	1.41				200.00
0.00	0.00	0.00	3.00	2.00	8.00			0.00

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Appendix II:
Lagoon Discharge Report

Lagoon Discharge Report: Spring April 2024

Facility Works Number: *120002353*
Facility Name: *COBOCONK SEWAGE LAGOONS*
Facility Owner: *Municipality: City of Kawartha Lakes*
Facility Classification: *Class 1 Wastewater Treatment*
Receiver: *Gull River* Discharge Start: Thursday April 18, 2024 Discharge Finish: Tuesday April 23, 2024

Date	Station	Flow (m3/day)	Carbonaceous Biochemical Oxygen Demand: CBOD5 (mg/L)	Total Suspended Solids: TSS (mg/L)	Total Phosphorus: TP (mg/L)	Total Ammonia Nitrogen: NH3 + NH4+ as N		pH	Temperature (°C)	Un-ionized Ammonia: NH3 (mg/L)	E. Coli: EC (cfu/100mL)	Hydrogen Sulphide: H2S		Total Kjeldhal Nitrogen: TKN (mg/L)
						(mg/L)	Daily Loading kg/day					(mg/L)	Daily Loading kg/day	
Spring Discharge														
04/18/24	Effluent	5,609.4	3	3	0.06	3.8	21.3	8.2	10.7	0.105	2	< 0.02	0.11	4.3
04/19/24	Effluent	8,073.0					0.0							
04/20/24	Effluent	8,258.3					0.0							
04/21/24	Effluent	8,457.5	5	18	0.09	3.8	32.1	8.0	7.7	0.064	0	< 0.02	0.17	4.8
04/22/24	Effluent	6,746.5					0.0							
04/23/24	Effluent	2,213.3	< 4	6	0.04	3.6	8.0	8.3	10.5	0.125	16	< 0.02	0.04	4.8
	Total	39,358.0												
	Average	6,559.7	< 4.0	9.0	0.06	3.7		8.2	9.6	0.098		< 0.02		4.6
	Average Loading		< 26.2	59.0	0.42									
	Limit - Concentration		25.0	25.0	0.50	15.0		6.0-9.5				0.1		4.7
	Limit - Loading		231.0	231.0	4.62		139.0						0.92	
04/17/24	Dam (Centre)		< 4	< 2	< 0.03	< 0.1		7.7	8.3	0.001		< 0.02		< 0.5
04/19/24	Dam (Centre)		< 4	4	0.04	< 0.1		8.1	8.5	0.002		< 0.02		< 0.5
04/21/24	Dam (Centre)		< 4	2	< 0.03	< 0.1		7.9	7.6	0.001		< 0.02		< 0.5
04/23/24	Dam (Centre)		< 4	< 2	< 0.03	< 0.1		8.0	7.9	0.001		< 0.02		0.6
04/24/24	Dam (Centre)		< 4	< 4	< 0.03	< 0.1		8.0	7.8	0.002		< 0.02		< 0.5
04/17/24	N Bridge		< 4	< 2	< 0.03	< 0.1		8.0	8.2	0.001		< 0.02		0.8
04/19/24	N Bridge		< 4	5	< 0.03	< 0.1		8.1	8.6	0.002		< 0.02		0.5
04/21/24	N Bridge		< 4	3	< 0.03	< 0.1		7.4	7.8	0.000		< 0.02		< 0.5
04/23/24	N Bridge		< 4	< 2	< 0.03	< 0.1		8.0	7.9	0.002		< 0.02		< 0.5
04/24/24	N Bridge		< 4	6	< 0.03	< 0.1		8.1	7.7	0.002		< 0.02		< 0.5

Notes: Average Loading of CBOD5, Total Suspended Solids and Total Phosphorus = the Average Concentration mulitiplied by the Average Daily Flow during a specified period of operation.
A grab sample shall be collected on the first and last day of an effluent discharge period as well as every three (3) calendar days during the effluent discharge period.
Hydrogen Sulphide results reported at laboratory's method detection limit. For the purpose of calculating Hydrogen Sulphide loadings, the laboratory's method detection limit is used. < the method detection limit is indicative of the possible absence of the parameter.

NOTES:

Date	Report
04/17/24	12788
04/23/24	13864
04/21/24	13801
04/21/24	13802

Flows	Reading	Volume (m3)
04/18/24	58,863.3	
04/19/24	67,277.4	8,414.123
04/20/24	75,673.7	8,396.300
04/21/24	84,165.2	8,491.500
04/22/24	92,073.2	7,908.000
04/23/24	98,221.2	6,148.000

April 21/24 - Effluent eColi was 0 cfu/100mL, used 1 in cell

Lagoon Discharge Report: Fall December 2024

Facility Works Number: *120002353*
Facility Name: *COBOCONK SEWAGE LAGOONS*
Facility Owner: *Municipality: City of Kawartha Lakes*
Facility Classification: *Class 1 Wastewater Treatment*
Receiver: *Gull River* Discharge Start: Tuesday December 17, 2024 Discharge Finish: Thursday December 19, 2024

Date	Station	Flow (m3/day)	Carbonaceous Biochemical Oxygen Demand: CBOD5 (mg/L)	Total Suspended Solids: TSS (mg/L)	Total Phosphorus: TP (mg/L)	Total Ammonia Nitrogen: NH3 + NH4+ as N (mg/L)	Total Ammonia Nitrogen: NH3 + NH4+ as N Daily Loading kg/day	pH	Temperature (^{o}C)	Un-ionized Ammonia: NH3 (mg/L)	E. Coli: EC (cfu/100mL)	Hydrogen Sulphide: H2S (mg/L)	Hydrogen Sulphide: H2S Daily Loading kg/day	Total Kjeldhal Nitrogen: TKN (mg/L)
Fall Discharge														
12/17/24	Effluent	4,451.1	< 4	4	< 0.03	8.0	35.6	7.9	4.6	0.068	2	< 0.02	0.09	8
12/18/24	Effluent	9,871.2												
12/19/24	Effluent	5,314.1	10	7	< 0.03	7.2	38.3	7.8	3.9	0.054	0	< 0.02	0.11	7.3
	Total	19,636.4												
	Average	6,545.5	7.0	5.5	0.03	7.6		7.8	4.3	0.061		< 0.02		7.7
	Average Loading		45.8	36.0	0.20									
	Limit - Concentration		25.0	25.0	0.50	15.0		6.0-9.5				0.1		7.7
	Limit - Loading		231.0	231.0	4.62		139.0						0.92	
12/16/24	Dam (Centre)		6	< 2	< 0.03	< 0.1		7.4	5.4	0.000		< 0.02		< 0.5
12/18/24	Dam (Centre)		< 4	3	< 0.03	< 0.1		7.5	2.8	0.000		< 0.02		< 0.5
12/20/24	Dam (Centre)		< 4	2	< 0.03	< 0.1		7.4	0.0	0.000				< 0.5
12/16/24	N Bridge		< 4	< 2	< 0.03	< 0.1		7.4	4.9	0.000		< 0.02		< 0.5
12/18/24	N Bridge		< 4	2	< 0.03	< 0.1		7.5	2.5	0.000		< 0.02		< 0.5
12/20/24	N Bridge		11	2	< 0.03	< 0.1		7.5	1.7	0.000				< 0.5

Notes: Average Loading of CBOD5, Total Suspended Solids and Total Phosphorus = the Average Concentration mulitiplied by the Average Daily Flow during a specified period of operation.
A grab sample shall be collected on the first and last day of an effluent discharge period as well as every three (3) calendar days during the effluent discharge period.
Hydrogen Sulphide results reported at laboratory's method detection limit. For the purpose of calculating Hydrogen Sulphide loadings, the laboratory's method detection limit

Lagoon Discharge Report: Fall November 2024

Facility Works Number: *120002353*
Facility Name: *COBOCONK SEWAGE LAGOONS*
Facility Owner: *Municipality: City of Kawartha Lakes*
Facility Classification: *Class 1 Wastewater Treatment*
Receiver: *Gull River* Discharge Start: Thursday November 14, 2024 Discharge Finish: Tuesday November 19, 2024

Date	Station	Flow (m3/day)	Carbonaceous Biochemical Oxygen Demand: CBOD5 (mg/L)	Total Suspended Solids: TSS (mg/L)	Total Phosphorus: TP (mg/L)	Total Ammonia Nitrogen: NH3 + NH4+ as N		pH	Temperature (^{o}C)	Un-ionized Ammonia: NH3 (mg/L)	E. Coli: EC (cfu/100mL)	Hydrogen Sulphide: H2S		Total Kjeldhal Nitrogen: TKN (mg/L)
						(mg/L)	Loading kg/day					(mg/L)	Loading kg/day	
Fall Discharge														
11/14/24	Effluent	5,759.7	4	17	0.04	1.9	10.9	7.6	8.1	0.012	2	< 0.02	0.12	2.5
11/15/24	Effluent	8,271.6												
11/16/24	Effluent	8,311.8												
11/17/24	Effluent	8,308.2	4	19	0.05	1.7	14.1	7.5	10.1	0.010	2	< 0.02	0.17	2.2
11/18/24	Effluent	5,636.4												
11/19/24	Effluent	1,236.5	4	4	0.04	6.9	8.5	8.1	7.2	0.114	2	< 0.02	0.02	6.8
	Total	37,524.2												
	Average	6,254.0	4.0	13.3	0.04	3.5		7.7	8.5	0.045		< 0.02		3.8
Average Loading			25.0	83.4	0.27									
Limit - Concentration			25.0	25.0	0.50	15.0		6.0-9.5				0.1		4.3
Limit - Loading			231.0	231.0	4.62		139.0						0.92	
11/13/24	Dam (Centre)		< 4	2	< 0.03	< 0.1		7.4	7.8	0.000		< 0.02		< 0.5
11/15/24	Dam (Centre)		< 4	< 2	< 0.03	< 0.1		7.5	7.8	0.001		< 0.02		< 0.5
11/17/24	Dam (Centre)		< 4	< 2	< 0.03	< 0.1		7.6	10.8	0.001				< 0.5
11/19/24	Dam (Centre)		< 4	< 2	< 0.03	< 0.1		7.7	7.1	0.001		< 0.02		0.6
11/20/24	Dam (Centre)		< 4	< 2	< 0.03	< 0.1		7.4	7.5	0.000		< 0.02		< 0.5
11/13/24	N Bridge		< 4	2	< 0.03	< 0.1		7.3	6.8	0.000		< 0.02		< 0.5
11/15/24	N Bridge		< 4	< 2	< 0.03	< 0.1		7.5	7.6	0.000		< 0.02		< 0.5

11/17/24	N Bridge		<	4	<	2	<	0.03	<	0.1		7.5	10.5	0.001					<	0.5
11/19/24	N Bridge		<	4	<	2	<	0.03	<	0.1		7.3	7.1	0.000		<	0.02		<	0.5
11/20/24	N Bridge		<	4		2	<	0.03	<	0.1		7.7	8.5	0.001		<	0.02		<	0.5

Notes: Average Loading of CBOD5, Total Suspended Solids and Total Phosphorus = the Average Concentration mulitiplied by the Average Daily Flow during a specified period of operation.

A grab sample shall be collected on the first and last day of an effluent discharge period as well as every three (3) calendar days during the effluent discharge period.

of the possible absence of the parameter.

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Appendix III:
WMS Work Order Summary

Work Order	Description	Location	Asset	Status	Work Type	Classification	Reported Date
2091986	DEFERRED, 6078, PS 2, Pump Station Rehabilitation	6078-SPS2-P-SE		CLIENT	CAP	REFURBISH/REPLACE	1/1/24 00:00:00
3108780	DEFERRED, 6078, Coboconk WWT, Eye Wash Stations, Replacement	6078-WWCO-F		CLOSE	CORR	HEALTH AND SAFETY	1/1/24 00:00:00
3291940	DEFERRED, 6078, Coboconk WWT, Air Compressor Replacement (CKL PO# 912345 OC)	6078-WWCO-P		CLOSE	CAP	REFURBISH/REPLACE	1/1/24 00:00:00
3664552	6078, PS 3, Heater Fan Motor, Replace	6078-SPS3-F-HV	0000168361	CLOSE	CORR	REFURBISH/REPLACE	1/1/24 00:00:00
3763034	6078, Coboconk WWT, UPS Battery, Replacement	6078-WWCO-F-PG-BACK	0000306104	CLOSE	CORR	REFURBISH/REPLACE	1/17/24 11:25:57
3851376	6078, Coboconk SPS 3, UPS Battery, Replacement	6078-SPS3-F	0000277658	CLOSE	CORR	REFURBISH/REPLACE	3/27/24 12:38:15
4234936	6078, Coboconk WWT, Compressor Air 02 and 04, Install	6078-WWCO-P		COMP	CORR	REFURBISH/REPLACE	11/4/24 11:01:27

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Appendix IV:
Flow Calibration Reports

Franklin Empire Inc,
550 Braidwood Ave.
Peterborough ON K9J 6X6, CANADA

Tel: (705) 745-1626
Fax: (705) 745-3493

OCWA Kawartha

2024 Calibrations Coboconk

CALIBRATION REPORT

Report No.: OCWA K24 12 inch

Date: 18-Apr-24

SITE:	Coboconk SPS3 Discharge	**SERVICE DATE:**	18-Apr-24
PROCESS AREA:	Meter chamber	**TECHNICIAN:**	M Manley
INSTR. TAG:	12 inch	**JOB REFERENCE:**	OCWA K24
MANUFACTURER:	Siemens		
MODEL:	FST-020		
SERIAL No.:	34253		
OCWA CODE:	0000192877		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	Flow Comparison	**Type or EGU:**	l/s	l/s
		Min:	0.00	0.00
		Max:	107.00	107.00

			Before Calibration		**After Calibration**	
Input	**Input %**	**Siemens**	**Display**	**%Error**	**Display**	**%Error**
Zero	NA					
Pump		93.0	92.5	-0.47%	92.5	-0.47%

Calibration Equipment			
Type:	Clamp-On Flow Meter	DMM	
Manufacturer:	Siemens	Fluke	
Model:	FUP 1010	Model 87	
Serial No.:	U20781	13440128	
Last Cal. Date:		Feb 16 2024	

Comments:
ALC 54 Aer 26
Pipe 13.2"
Wall thickness 0.31"
Ductile Iron
Reflect
Spacing 29 8.652

AS FOUND: PASS **AS LEFT:** PASS

CERTIFIED BY: 

CALIBRATION REPORT

Report No.: OCWA K24 FIT-101

Date: 18-Apr-24

SITE:	Coboconk SPS3, Raw Water	**SERVICE DATE:**	18-Apr-24
PROCESS AREA:	Meter chamber	**TECHNICIAN:**	M Manley
INSTR. TAG:	FIT-101	**JOB REFERENCE:**	OCWA K24
MANUFACTURER:	Greyline		
MODEL:	DFM 5.1		
SERIAL No.:	72681		
OCWA CODE:	0000306043		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	Flow Comparison	**Type or EGU:**	l/s	l/s
		Min:	0.00	0.00
		Max:	50.00	50.00

			Before Calibration		**After Calibration**	
Input	**Input %**	**Siemens**		**%Error**	**E&H**	**%Error**
Process Flow	39.80%	19.90	20.10	0.40%	20.10	0.40%
pump off		slightly negative	0.00		0.00	

Calibration Equipment			
Type:	Clamp-On Flow Meter	DMM	
Manufacturer:	Siemens	Fluke	
Model:	FUP 1010	Model 87	
Serial No.:	U20781	13440128	
Last Cal. Date:		February 25, 2022	

Comments: Cal factor 0.73

AS FOUND: PASS **AS LEFT:** PASS

CERTIFIED BY:

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix V:
Bypasses, Overflows, Spill or Abnormal Events