

Ingleside Wastewater System

Waterworks # 120000140

Annual Report

Prepared For: Township of South Stormont

Reporting Period of January 1st – December 31st 2024

Issued: March 20th, 2025

Revision: 0

Operating Authority:



This report has been prepared to meet the requirements set out in:

Document	Document #	Issue Date	Issue Number
Facility ECA	8524-5JFP5F	February 2003	N/A
ECA for Municipal Sewage Collection System	186-W601	February 2, 2023	1.0

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1 Revision History

Date	Rev#	Revisions	Revised By
March 20, 2025	0	Annual Report Issued	Selena Shane, PCT

2 Operations and Compliance Reliability Indices

Compliance Event	# of Events
Ministry of Environment Inspections	No MECP inspections in 2024.
Ministry of Labour Inspections	No MOL inspections in 2024.
Non-Compliance	There was 1 non-compliances reported in 2024.
Community Complaints	There was 4 community complaints in 2024.
Spills	No spills reported in 2024.
Overflows	No overflow events in 2024.
Bypass	No bypass events in 2024.

3 Process Description

The Ingleside wastewater treatment system operates as a gravity-fed sanitary sewage collection network. Wastewater is conveyed through this system to a pumping station, which then transfers the flow to the wastewater treatment facility.

The wastewater treatment plant is classified as a Class III wastewater treatment system, owned by the Township of South Stormont and operated by Ontario Clean Water Agency. The Ingleside sanitary sewage collection system, classified as a Class II system, is owned and operated by the Township of South Stormont. Wastewater is pumped to the treatment plant via the plant’s pumping station, which is equipped with three submersible pumps.

The Ingleside treatment facility utilizes an extended aeration process to treat incoming wastewater. Key treatment stages include:

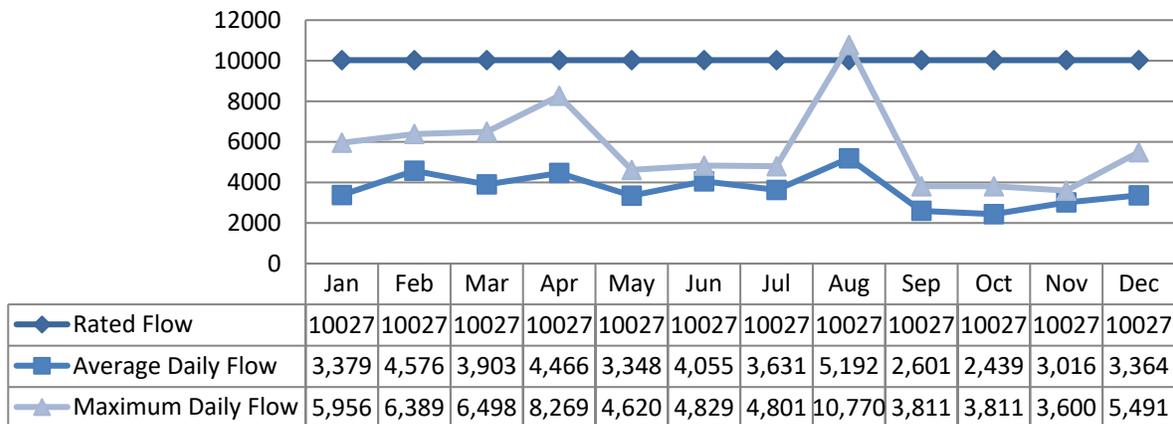
- **Screening:** Removal of large debris from raw influent.
- **Grit Removal:** Separation of heavy inorganic materials such as sand and gravel.
- **Aeration:** Biological treatment to break down organic matter.
- **Chemically Assisted Flocculation and Sedimentation:** Addition of coagulants to enhance the removal of suspended solids and phosphorus.

- Secondary Clarification & Sludge Handling:** Two secondary clarifiers separate treated effluent from solids. A scum chamber located between the two clarifiers houses a submersible scum pump for recirculating and mixing scum, with periodic transfers to the aerobic digester. Additionally, three centrifugal waste activated sludge (WAS) pumps draw sludge from the clarifiers’ sludge collection chambers, discharging it either back to the aeration tanks for process control or to the aerobic digester for further treatment.
- Chlorination:** Disinfection of treated effluent to eliminate harmful pathogens.
- Effluent Discharge:** Treated wastewater is discharged into the river in compliance with regulatory standards. This system ensures effective wastewater management and environmental protection for the Township of South Stormont.

4 Treatment Flows

The hydraulic flows reaching the treatment facility in 2024 averaged 3,842 m³/day, which represents 95% of the 4,045 m³/day design.

4.1 Raw Flow (m³/d)

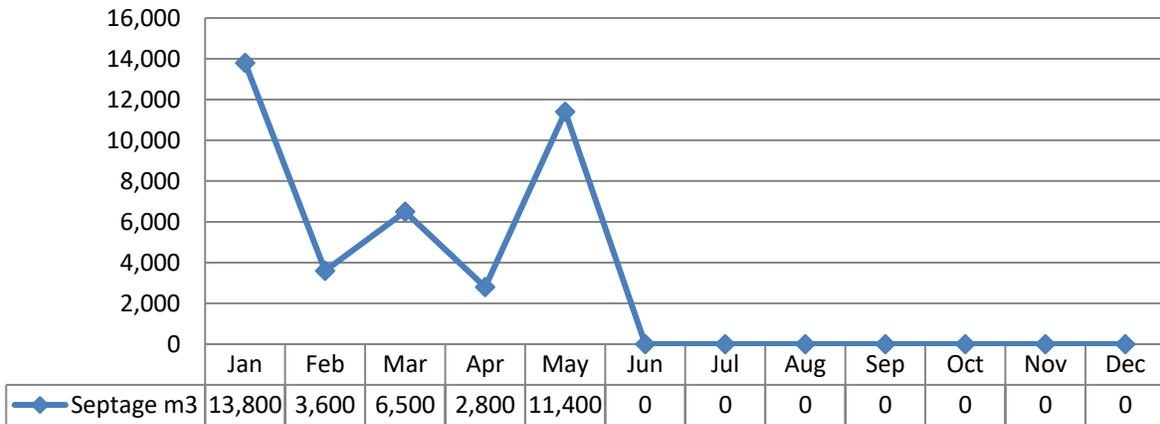


4.2 Effluent Flow

A total of 1,528,217 m³ of effluent was discharged from Ingleside’s WWTP in 2024.

4.3 Imported Waste/Sewage

The Septage was accepted until June 2024.

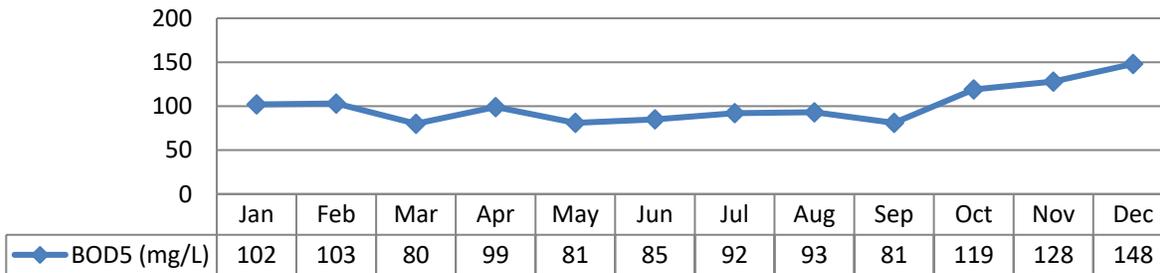


5 Raw Sewage Quality

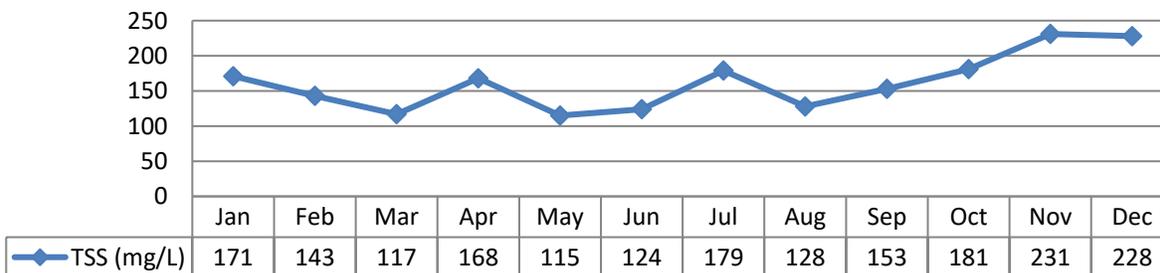
Current year minimum, maximum and averages are available in Appendix A – Performance Assessment Report.

5.1 Influent Trending

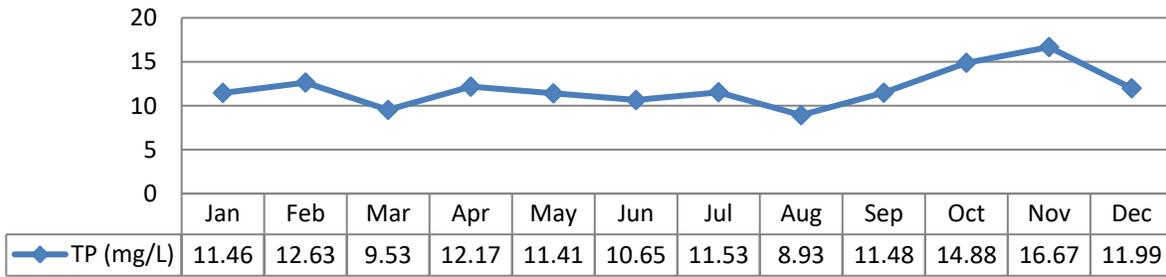
5.1.1 BOD5 (mg/L)



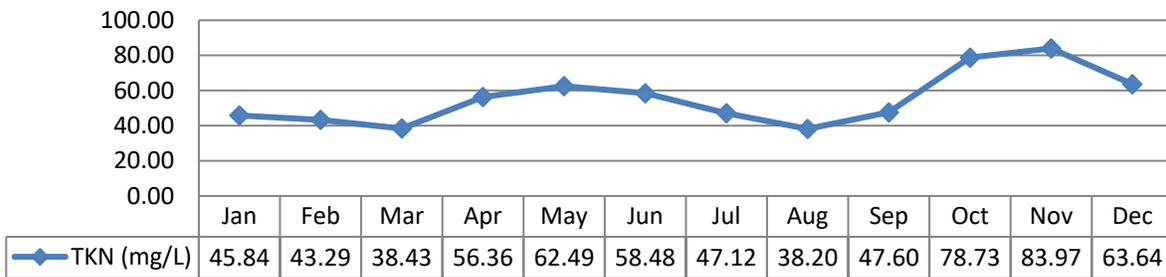
5.1.2 Total Suspended Solids (mg/L)



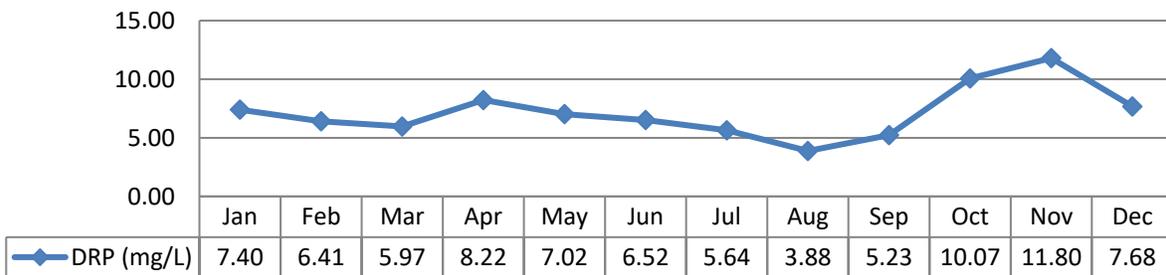
5.1.3 Total Phosphorus (mg/L)



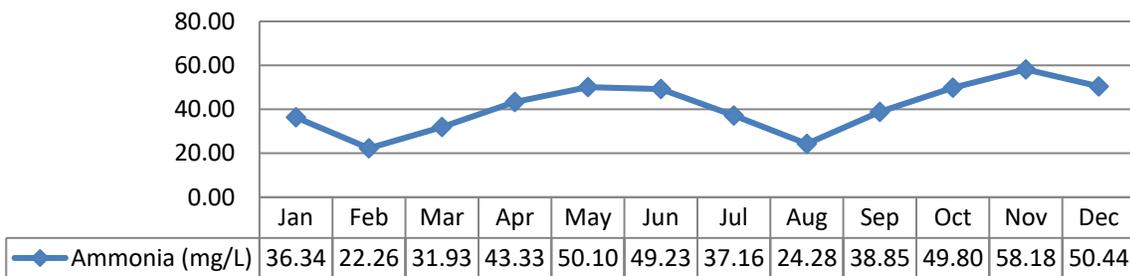
5.1.4 Total Kjeldahl Nitrogen (TKN) (mg/L)



5.1.5 Dissolved Reactive Phosphorus (DRP) (mg/L)



5.1.6 Ammonia (mg/L)



6 Effluent Quality

Effluent results from the WWTP for 2024 are tabulated below. Additional data can be found in the Performance Assessment Reports attached in Appendix A.

6.1 6.1 Effluent Quality Assurance and Control Measures Taken

This system is part of the Township of South Stormont. Operational Services are delivered by OCWA staff that live and work in the community. The systems are operated to meet compliance with applicable regulations. The system has comprehensive manuals detailing operations, maintenance, instrumentation, and emergency procedures. All procedures are treated as active documents and are updated as required. These documents are also part of OCWA's Quality & Environmental Management System.

The process is reviewed and maintained by certified operators. These operator's complete in-house rounds and testing to monitor the process. All Sampling and analysis follow approved methods and protocols for sampling, analysis and recording as specified in the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works", the Ministry's publication, "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" and the publication, "Standard Methods for the Examination of Water and Wastewater".

All final effluent samples collected during the reporting period to meet legislated sampling requirements are submitted to Caduceon Ottawa for analysis, with the exception of pH and temperature. Caduceon Ottawa has been deemed accredited by the Canadian Association for Laboratory Accreditation (CALA), meeting strict provincial guidelines including an extensive quality assurance/quality control program. By choosing this laboratory, OCWA is ensuring appropriate control measures are undertaken during sample analysis. The pH and temperature parameters are analyzed in the field at the time of sample collection by certified operators, to ensure accuracy and precision of the results obtained.

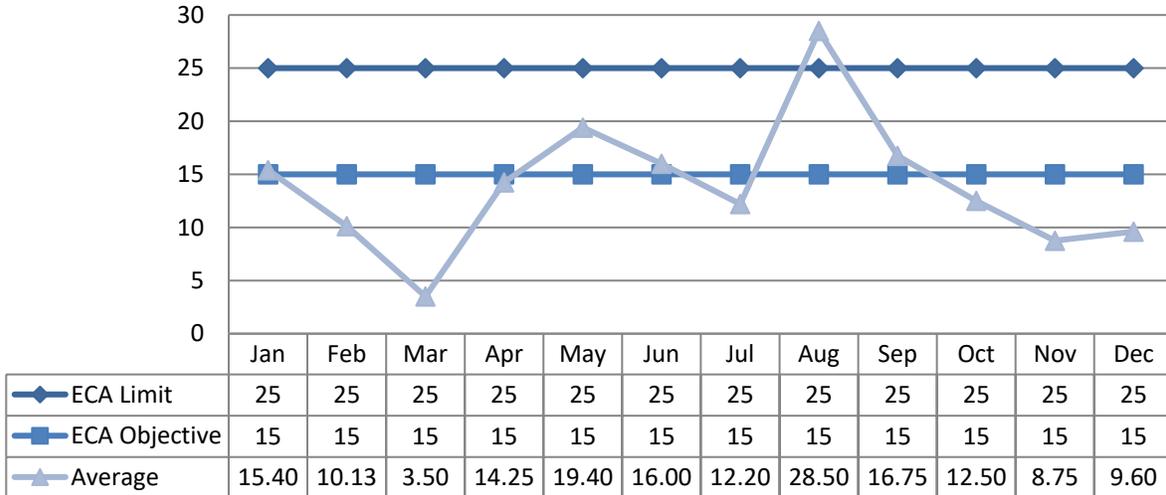
OCWA uses a data management system Process Data Management (PDM). This database program consolidates all operational data from a variety of sources including field data, online instrumentation, and electronic receipt of lab test results for reporting, tracking and analysis.

The operations team also has access to a network of operational compliance and process specialists to assist for emerging process issues. This aids in establishing additional control measures to ensure a quality effluent product.

Detailed individual sample results for both raw sewage and final effluent can be requested from the operating authority.

6.2 CBOD5 (mg/L)

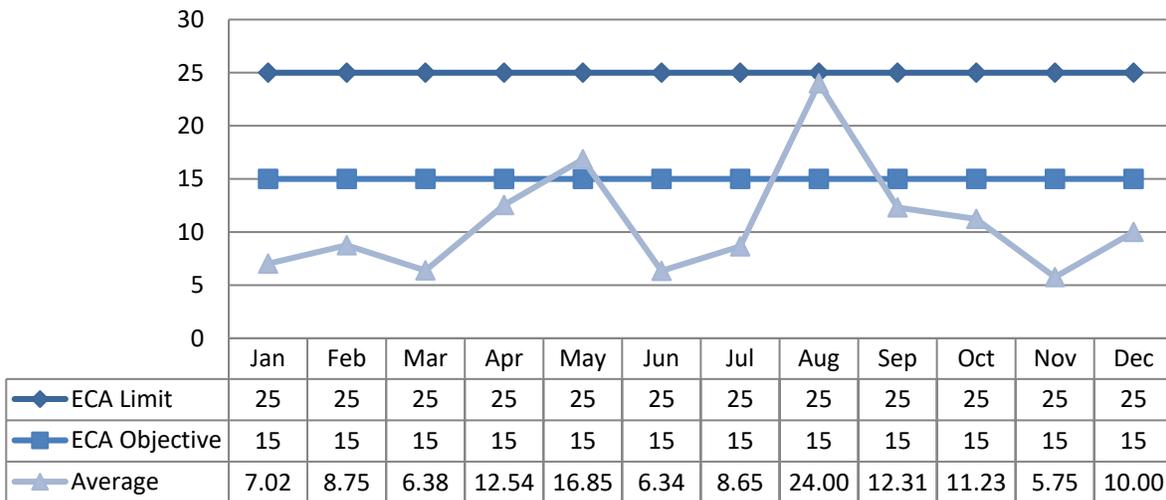
6.2.1 Concentration (mg/L)



6.3 Total Suspended Solids (mg/L)

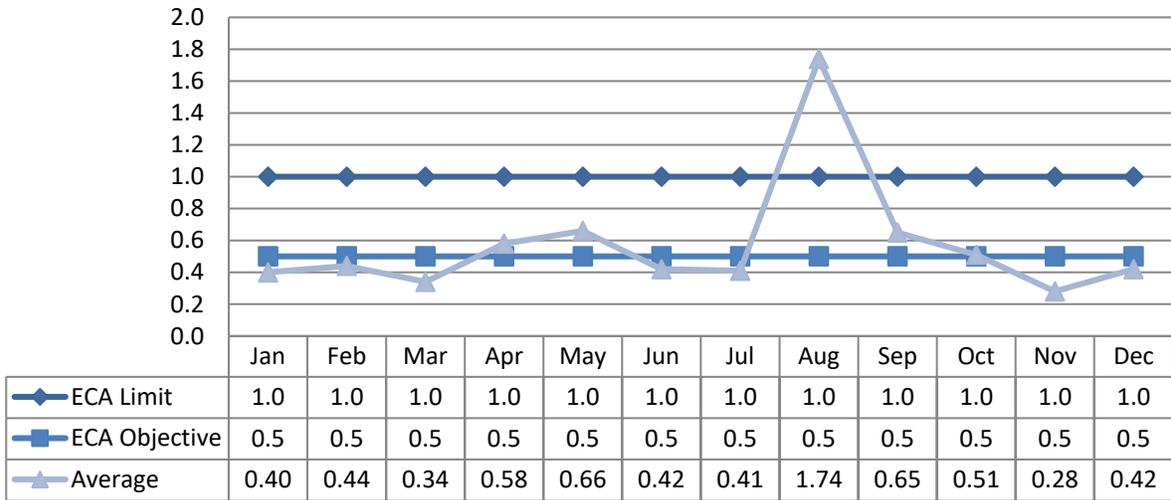
Compliance Limit and Objective for this parameter was met in 2024.

6.3.1 Concentration (mg/L)



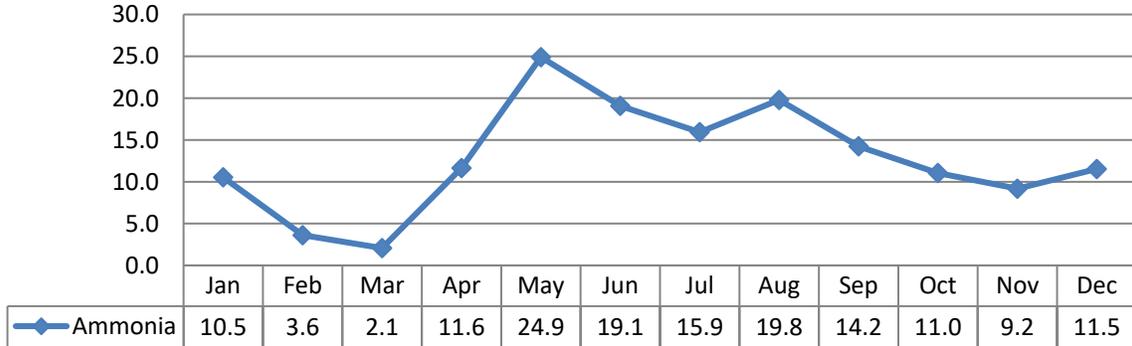
6.4 Total Phosphorus (mg/L)

6.4.1 Concentration (mg/L)



6.5 Ammonia (mg/L)

There is no Compliance Limit or Objective for this parameter.



6.6 Acute Lethality

There was one sample collected in 2024 and tested for acute lethality (Rainbow Trout and Daphnia Magna). This sampling is required both provincially and federally. Results are displayed as % mortality. An adverse result is a > 50% mortality rate.

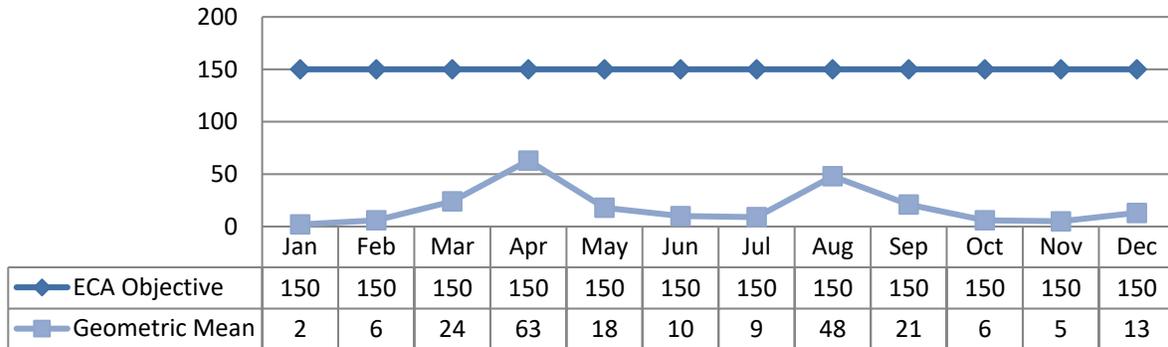
Compliance Limit for this parameter was met in 2024.

Date	Rainbow Trout	Daphnia Magna
December 12, 2024	0%	0%

6.7 E-coli

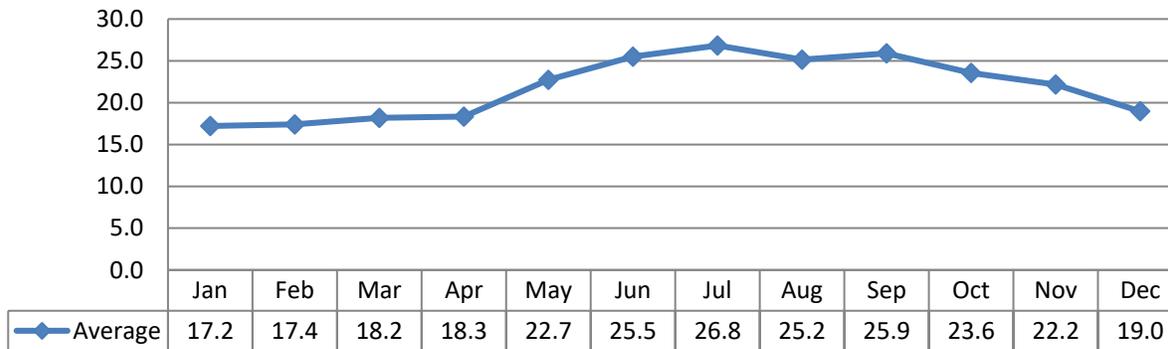
There is no Compliance Limit for this parameter and the Objective for this parameter was met in 2024.

6.7.1 Geometric Mean (cfu/100mL)



6.8 Temperature

There are no compliance limits or objectives defined for Effluent.



7 Operating Issues

Upon the review of the process it was determined that the influent parameters were elevated during the month of August. Operations determined the source of the excess influent and the flow was stopped. The excess influent came from an industrial system user who uses a lagoon to provide a level of treatment prior to the effluent discharging into the sanitary system. Arrangements were made with the industrial user to notify prior to discharges to ensure proper process adjustments are made at the treatment plant. Discharge flows will also be closely monitored to ensure they align with the sewage plants treatment capacity.

7.1 Effluent Quality Non-Compliance Summary

Date	Exceedance of	Limit	Value	Corrective Action
August 2024	Phosphorus	1	1.74	Influent flow with excessive phosphorus stopped

7.2 Summary of Abnormal Sewage Discharge Events

Abnormal Discharge Events include Bypass', Overflows, Diversions and Spills of Sewage. Summary Details are included in Appendix B.

7.3 Spills (Other than Sewage)

Date	Location	Details	Volume (m3)	Start Date and Time	End Date and Time
No spills to report in 2024.					

8 Maintenance

Unplanned maintenance is conducted as required.

8.1 Normal Maintenance and Repairs

Maintenance/Repair
-Blower motor(April 17/24) -Chlorine tank liner(Nov 20/24) - Chlorine pvc line in clarifier(October 2/24) - Fixed scum arm basin in clarifier(September 19/24) - Secondary digester rail hook up for pump to transfer to Long term storage (October 30/24) - New VFD on pump # 3 for Ingleside sewage pump station(January 3/24) - New Alarm panel at Ingleside pump station(January 3/24) - New batteries installed on generator at Ingleside pump station(January 23/24) - New VFD on ras pump #1(February 5/24) - New check valve and PVC pipe on sump pump(February 28/24) - New Flow meter at Lactalis (November 5/24)

8.2 Emergency Maintenance and Repairs

Maintenance/Repair	Details
Sewer Lateral	Repaired @ 21 Hickory St
Sewer Lateral	Replaced @26 Santa Cruz Dr

8.3 Flow Meter Calibrations and Maintenance

Location	Date of Calibration	Additional Maintenance
FIT-100 West RAS Flow Meter	September 17, 2024	None.
FIT-200 East RAS Flow Meter	September 17, 2024	None.

8.4 Authorized Alterations in Collection System

Alteration	Details	Significant Drinking Water Threat (Y/N)
No alterations to the collection system in 2024.		

8.5 Notice of Modifications

Date	Process	Modification	Status
No modifications to the collection system in 2024.			

9 Sludge Generation

9.1 Sludge Disposal Summary

Date	Disposal Location	Approval Number	Total Volume (m3)
October 25, 2024	NASM 21558	Submission ID 61025	240
October 28, 2024	NASM 21558	Submission ID 61025	520
October 29, 2024	NASM 21558	Submission ID 61025	560
October 31, 2024	NASM 21558	Submission ID 61025	560
November 1, 2024	NASM 21558	Submission ID 61025	600
November 4, 2024	NASM 21558	Submission ID 61025	120

In 2024, a total of 2600 m³ of liquid sludge was removed from Ingleside's WWTP and was utilized as soil conditioner. The sludge was removed from the WWTP by GFL in October and November. It is anticipated that approximately the same volume of sludge will be generated in 2025.

10 Summary of Complaints

Location	Date	Nature of Complaint	Actions Taken
Santa Cruz Dr	11/27/24	Sewer back up	Inspected by plumber.
Hickory St	11/28/23	Sewer backup	Inspected by Township.
Santa Cruz Dr	08/20/24	Sewer backup	Inspected by Township.
Wildwood Dr	05/28/24	Odour	Inspected by Township.

Appendix B

Appendix B - Details of Abnormal Sewage Discharge Events

Event Details Summary

Facility Bypass

Date	Location	Details	Volume (m3)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
No facility bypass' to report in 2024.								

Facility Overflow

Date	Location	Details	Volume (m3)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
No facility overflows to report in 2024.								

Collection Overflow

There are no authorized overflow locations in this system.

Spills of Sewage

Date	Location	Details	Volume (m3)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
No spills of sewage to report in 2024.								

Appendix C

Appendix D - ECA Annual Report Requirements

Facility ECA # 2147-734L2K Section 12(6)	Section in Report
a) a summary and interpretation of all monitoring data and comparison to the effluent limits outlined in Condition 7, including an overview of success and adequacy	Treatment Flows, Raw Sewage and Effluent Quality
b) a description of any operating problems encountered and corrective actions taken	Operating Issues and Problems
c) summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works	Maintenance
d) summary of any effluent quality assurance or control measures undertaken in the reporting period	Effluent Quality
e) summary of the calibration and maintenance carried out on all effluent monitoring equipment	Maintenance
f) description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6	Effluent Quality
g) tabulation of the quantity of septage added to the Works for co-treatment during the reporting period	Treatment Flows
h) summary of chemical characterization data for samples of septage collected in accordance with Table 4 in Condition 11 during the reporting period	Raw Sewage Quality
i) tabulation of the volume of sludge generated in the reporting period, 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	Sludge Generation
j) tabulation of the quantity of groundwater pumped from the WWTP Building foundation drainage system to the storm sewer system	Groundwater Pumping Volumes
k) summary of any complaints received during the reporting period and any steps taken to address the complaints	Summary of Complaints
l) summary of all By-pass, overflow, spill or abnormal discharge events	Operating Issues and Problems
m) any other information the District Manager requires from time to time	N/A

Collection ECA # 165-W601 Schedule E	Section in Report
4.6.3 If applicable, includes a summary of all required monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.	Operating Issues and Problems
4.6.4 Includes a summary of any operating problems encountered and corrective actions taken.	Operating Issues and Problems
4.6.5 Includes a summary of all calibration, maintenance, and repairs carried out on any major structure, Equipment, apparatus, mechanism, or thing forming part of the Municipal Sewage Collection System.	Maintenance
4.6.6 Includes a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.	Summary of Complaints

Collection ECA # 165-W601 Schedule E	Section in Report
4.6.7 Includes 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.	Maintenance
4.6.8 Includes a summary of all Collection System Overflow(s) and Spill(s) of Sewage, including: a) Dates; b) Volumes and durations; c) If applicable, loadings for total suspended solids, BOD, total phosphorus, and total Kjeldahl nitrogen, and sampling results for E.coli; d) Disinfection, if any; and e) Any adverse impact(s) and any corrective actions, if applicable.	Operating Issues and Problems Appendix D
4.6.9 Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable: a) 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. b) Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP’s timelines. c) An assessment of the effectiveness of each action taken. d) 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. e) Public reporting approach including proactive efforts.	Maintenance Operating Issues and Problems