



WWTP-201

WASTEWATER SYSTEM # 120002264

ANNUAL WASTEWATER REPORT

PREPARED FOR
The Township of Ramara

SUBMITTED BY
Ontario Clean Water Agency
2115 Highway 12, Brechin, ON L0K 1B0

Reporting period of January 1, 2025 to December 31, 2025

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Operating Authority: Ontario Clean Water Agency (OCWA)

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1. Background

The Environmental Compliance Approval (ECA) No. 1114-745MQT issued on June 6th, 2007 was revoked and replaced by ECA No. 8497-8D3TU7 issued on June 28th, 2012. The Ontario Clean Water Agency was the operating authority during the reporting period January 1st - December 31st, 2025.

The Brechin/Lagoon City Sewage Works complies with all requirements of the regulating authorities and operates under:

- Environmental Compliance Approval (ECA) No. 8497-8D3TU7 issued June 28, 2012
- Environmental Compliance Approval (CLI-ECA) No. 147-W601 Issue 2 issued July 22, 2024

Environmental Certificate of Approval (ECA) No. 8497-8D3TU7 Section 9(5) requires the Performance Report to contain the following:

- a) *Summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 5, including an overview of the success and adequacy of the sewage Works;*
- b) *a description of any operating problems encountered and corrective actions taken;*
- c) *a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;*
- d) *a summary of any effluent quality assurance or control measures undertaken in the reporting period;*
- e) *a summary of the calibration and maintenance carried out on all effluent monitoring equipment;*
- f) *a description of efforts made and results achieved in meeting the Design Objectives of Condition 4;*
- g) *a 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;*
- h) *a summary of any complaints received during the reporting period and any steps taken to address the complaints;*
- i) *a summary of all By-pass, spill or abnormal discharge events;*
- j) *Status update of the initial effluent characterization as per Condition 8 subsection (1) until it has been completed and the required report has been submitted; and*
- k) *any other information the District Manager requires from time to time*

Environmental Compliance Approval (CLI-ECA) No. 147-W601 Issue 2 issued July 22, 2024 Section 4.6 requires the Performance Report to contain the following:

- a) *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.*
- b) *A summary of any operating problems encountered and corrective actions taken.*
- c) *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.*
- d) *A summary of complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.*
- e) *A summary of 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.*
- f) *A summary of all Collection System Overflow(s) and Spill(s) of Sewage, including:*
 - i) *Dates;*
 - ii) *Volumes and durations;*
 - iii) *If applicable, loading 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 corrective actions, if applicable.*
- g) *A summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including 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.*
 - ii) *Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timelines.*
 - iii) *An assessment of the effectiveness of each action taken.*
 - 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.*
 - v) *Public reporting approach including proactive efforts.*

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 and reporting requirements were consistently met and that effluent quality under normal conditions was consistently within ECA requirements, with the exception for the month of March where exceedances were reported as a result of operating outside normal conditions.

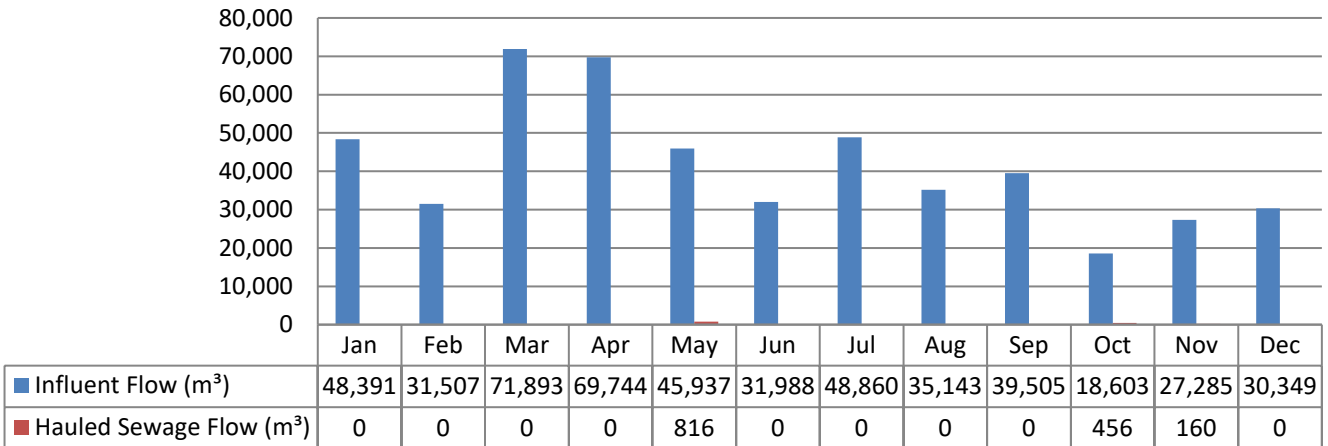
2. Summary of Influent Flow Data

Environmental Compliance Approval (ECA) No. 8497-8D3TU7, issued for the Brechin/Lagoon City WWTP Condition 9(5)(a) requires a Summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 5, including an overview of the success and adequacy of the sewage Works.

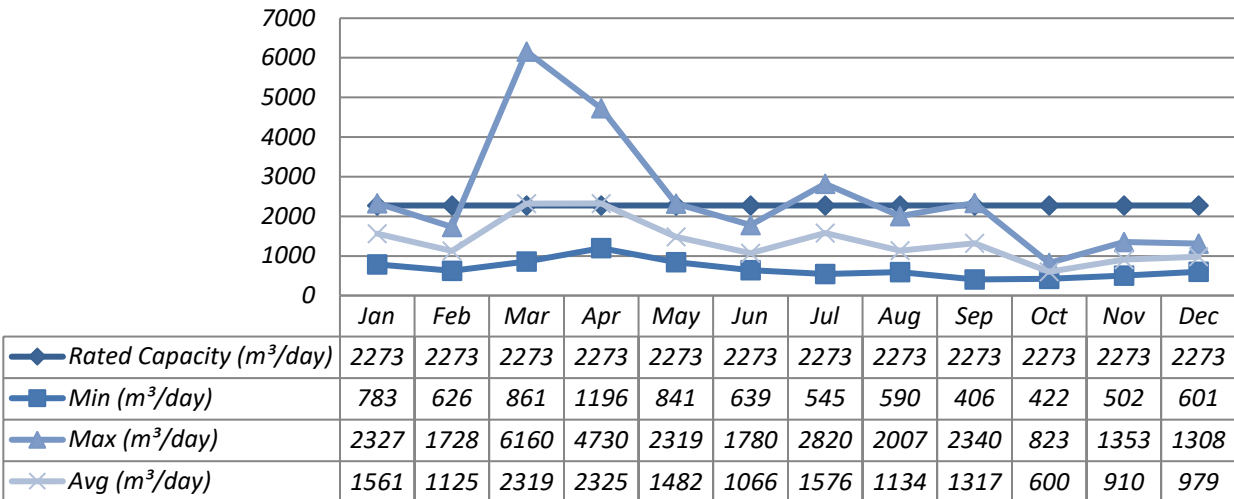
Condition 4(2)(b) of the (ECA) No. 8497-8D3TU7 indicates best efforts are to be made to operate at the rated capacity of the works. The rated capacity for the Brechin/Lagoon City Wastewater Treatment Plant is 2,273 m³/day and the annual average daily influent flow was 1,432.68 m³/day or 63.03 % of the rated capacity.

The total Influent flow in 2025 was 522,929.93 m³

Graph 1: Influent Flow Monthly Totals for 2025



Graph 2: Influent Daily Minimum, Maximum and Average Flows for 2025



Note: The above table shows exceedances in maximum flows. The spikes in flows were due to weather events/snowmelt in correlation with significant inflow and infiltration during these weather events. The average daily flow for the works was below the rated capacity, excluding March and April, which was reported and monitored as a bypass.

Brechin Lagoon City Sewage Works Historical Flows

TABLE 1: HISTORICAL SEWAGE FLOWS AND GENERATION RATES

Year	Number of Connections*	Equivalent Population**	Average Daily Flow (m ³ /day)	Maximum Daily Flow (m ³ /day)	Rated Capacity (m ³ /day)	Sewage Generation Rate (L/cap/day)
2015	1162	2414	1262	3313	2273	523
2016	1165	2420	1255	4735	2273	517
2017	1170	2431	1566	4213	2273	644
2018	1174	2439	1430	4260	2273	586
2019	1175	2441	1481	3686	2273	607
2020	1179	2650	1393	3462	2273	526
2021	1179	2650	1257	3995	2273	474
2022	1140	2391	1165	3853	2273	487
2023	1142	2395	1351	4687	2273	564
2024	1142	2395	1538	3793	2273	642
2025	1197	2395	1368	6160	2273	571
3 Year Average		2395	1419	4880	2273	592

*In 2025 the number of connections were recalculated based on property-level verification completed by the Township of Ramara.

**Based on estimated service connections in Lagoon City and Brechin: 1045 and 152 single family dwellings. The estimated population in Lagoon City: 2,000 (based on a population density of 2.0 persons per dwelling), and the estimated population in Brechin: 395 (based on a population density of 2.6 persons per dwelling). Assumptions made on location of new developments for 2025 connections for population estimation.

Note: This calculation was completed based on current connections in the system, growth within the collection system has not been considered.

3. Hydraulic Reserve Capacity

In accordance with the MECP Procedure D-5-1, the reserve capacity is calculated by the following formula:
Hydraulic Reserve Capacity= Design Flow- Committed Flow

The design flow is equal to the maximum permissible flow approved by the Amended Environmental Compliance Approval. (ECA) No. 8497-8D3TU7 maximum permissible flow is: 2273 m³/day. The committed flow is equal to the total expected flow by the existing and proposed connections based on the previous 3-year average daily flow.

The built-out service area of the Brechin/Lagoon City Sewage Works has a total of 1197 units. The three-year (2023-2025) average sewage generation rate is: 592 L/cap/day. With the current population of 2395 there is a projection of 1,418 m³/day of committed sewage flow. The estimated hydraulic reserve capacity for the Brechin Lagoon City Sewage Works in 2025 is 855 m³/day.

*These aspects of the report are generated from available data and are intended for operational reporting and not for future capacity assumptions. To help ensure a wastewater treatment plant is adequately sized to

accommodate additional service connections without compromising its efficiency or environmental impact, a thorough review should be undertaken which should include but not be limited to sewer capacity, design flow, retention time, future population growth, industrial wastewater, infiltration and inflow, and other relevant factors.

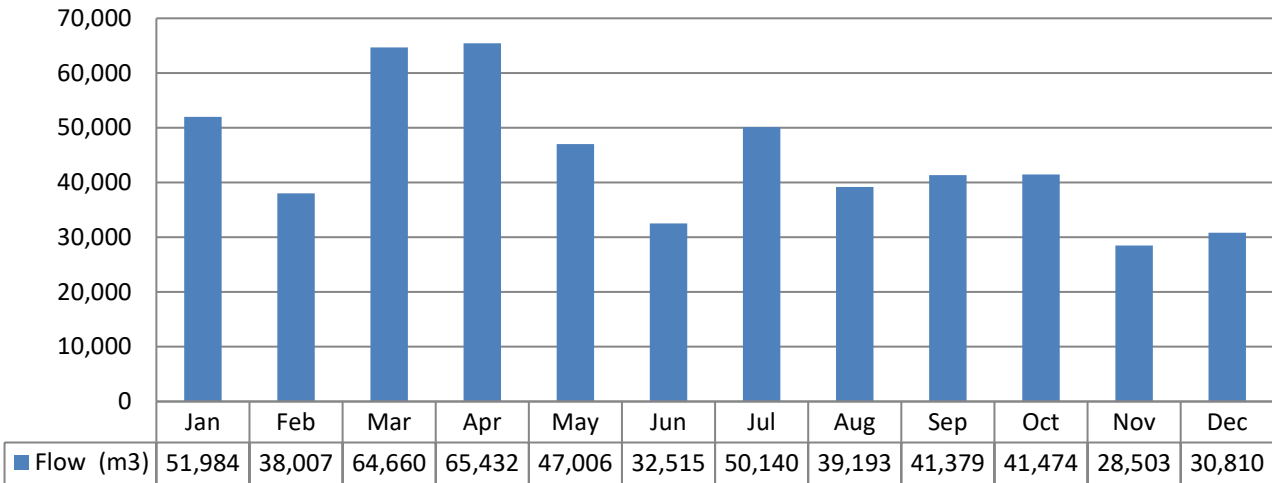
4. Summary of Effluent Flow Data

Environmental Compliance Approval (ECA) No. 8497-8D3TU7, issued for the Brechin/Lagoon City WWTP Condition 9(5)(a) requires a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 5, including an overview of the success and adequacy of the sewage works.

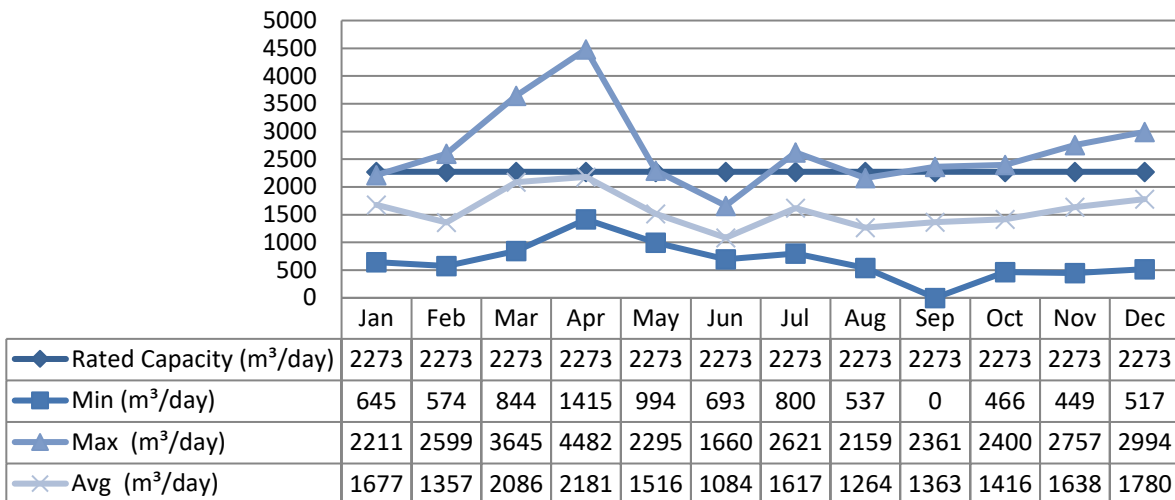
Condition 4(2)(b) of the (ECA) No. 8497-8D3TU7 indicates best efforts are to be made to operate at the rated capacity of the works. The rated capacity for the Brechin/Lagoon City Wastewater Treatment Plant is 2,273 m³/day and the annual average daily effluent flow was 1,455.07m³/day or 64.0 % of the rated capacity

The total effluent flow in 2025 was 531 102 m³

Graph 3: Effluent Flow Monthly Totals for 2025



Graph 4: Effluent Daily Minimum, Maximum and Average Flows for 2025



Note: The above table shows exceedances in maximum flows. The spikes in flows were due to weather events/snowmelt in correlation with significant inflow and infiltration during these weather events. However, the average daily flow for the works was below the rated capacity. The min value for September is a result of a scheduled plant shut down for maintenance.

5. Summary of Sampling Frequency

ECA No. 8497-8D3TU7 Condition 7(3) describes the requirement for sample collection at the following locations, frequencies and by means of the specified sample type and analyzed for each parameter listed and all results recorded:

TABLE 2: MINIMUM RAW SEWAGE SAMPLING REQUIREMENTS		
Influent Sampling Point		
Parameters	Sample Type	Frequency
BOD5	8 Hour Daytime Composite	Monthly
Total Suspended Solids	8 Hour Daytime Composite	Monthly
Total Phosphorus	8 Hour Daytime Composite	Monthly
Total Kjeldahl Nitrogen	8 Hour Daytime Composite	Monthly

TABLE 3: MINIMUM EFFLUENT SAMPLING REQUIREMENTS		
Final Effluent Sampling Point		
Parameters	Sample Type	Frequency
CBOD5	24-Hour Composite	Weekly
Total Suspended Solids	24-Hour Composite	Weekly
Total Phosphorus	24-Hour Composite	Weekly
Total Ammonia Nitrogen	24-Hour Composite	Weekly
Nitrates	24-Hour Composite	Weekly
pH	Grab/Probe	Weekly
Temperature	Grab/Probe	Weekly
E. coli	Grab	Weekly

6. Final Effluent Parameter Summary

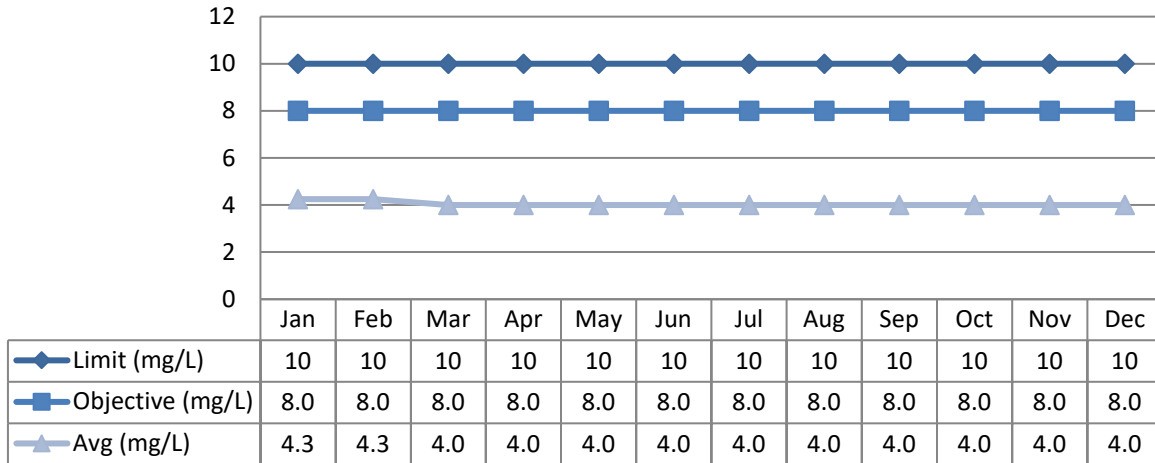
The following tables provide a summary of the monitoring data for the Brechin/Lagoon City WWTP compared to the effluent limits and objectives outlined in Condition 4 and 5 of ECA No. 8497-8D3TU7.

A summary of the Final Effluent and Raw Sewage monitoring data is contained in Appendix I of this report.

Carbonaceous Biochemical Oxygen Demand (CBOD5)

ECA No. 8497-8D3TU7 sets the final effluent monthly CBOD5 average concentration limit at 10.00 mg/L and the objective limit at 8.0 mg/L. The final effluent monthly CBOD5 average concentration results throughout 2025 were in compliance with the concentration limit and the objective limit as outlined in ECA No. 8497-8D3TU7.

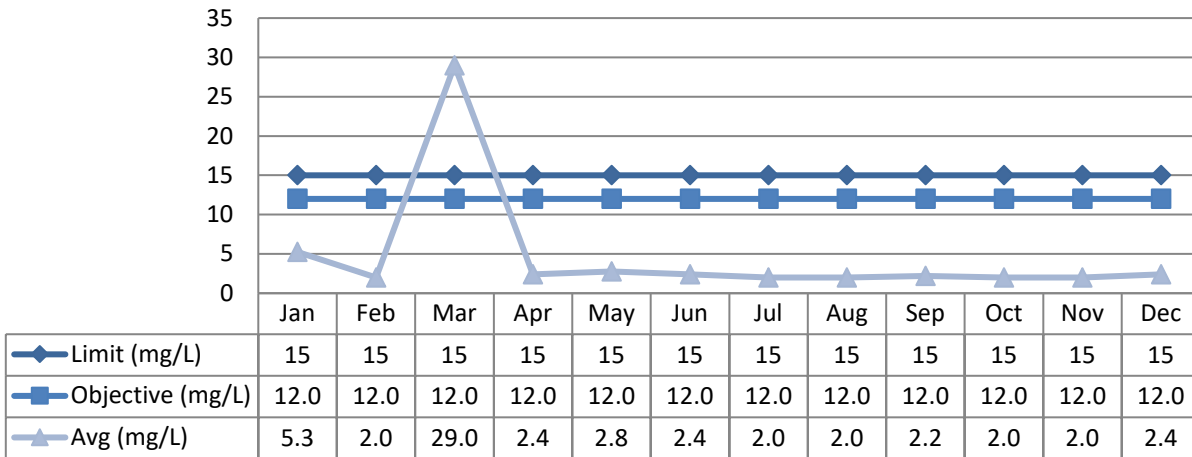
Graph 5: Final Effluent Monthly CBOD5 Concentration Comparisons for 2025



Total Suspended Solids (TSS)

ECA No. 8497-8D3TU7 sets the final effluent monthly TSS average concentration limit at 15.0 mg/L and the objective limit at 12.0 mg/L. The final effluent monthly TSS average concentration results throughout 2025, with the exception of the month of March, were in compliance with the limits and objectives outlined in ECA No. 8497-8D3TU7.

Graph 6: Final Effluent Monthly TSS Concentration Comparisons for 2025



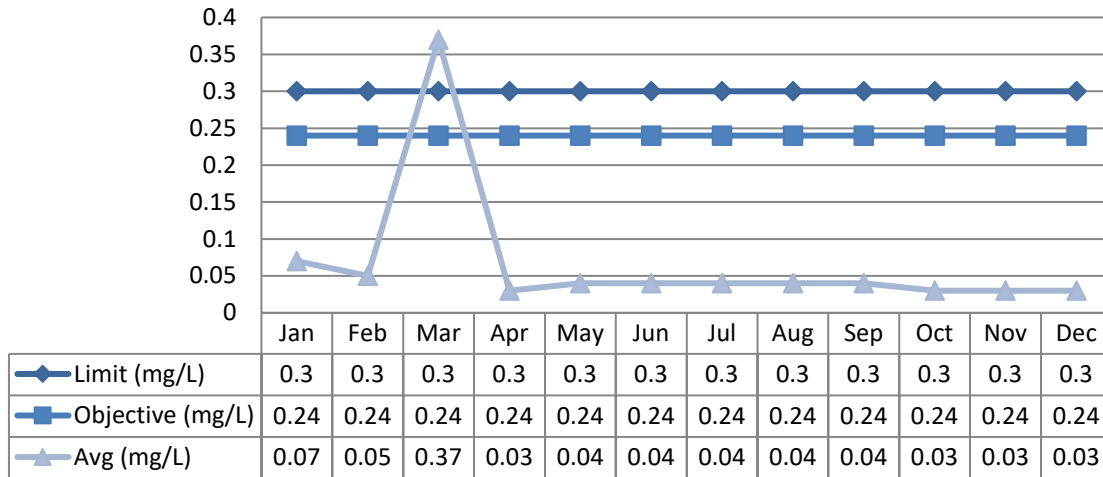
Note: The above table shows an exceedance in the month of March which occurred as a result of a bypass and was reported to the Ministry of the Environment Conservation and Parks District Manager.

Total Phosphorus (TP)

ECA No. 8497-8D3TU7 sets the final effluent TP monthly concentration limit at 0.30 mg/L, the objective limit at 0.24mg/L and the annual average waste loading at 249 kg/year. The final effluent monthly TP average concentration results, with the exception of the month of March, and annual average waste loading results throughout 2025 were in compliance with the limits and objectives outlined in ECA No. 8497-8D3TU7.

Condition 5(2) of ECA No. 8497-8D3TU7 lists the Lake Simcoe Phosphorus Reduction Strategy effluent limits. These limits are set at an annual average concentration of 0.15 mg/L and annual average loading of 124 kg/Year.

Graph 7: Final Effluent Monthly Total Phosphorus Concentration Comparisons for 2025



Note: The above table shows an exceedance in March which occurred as a result of a bypass and was reported to the Ministry of the Environment Conservation and Parks District Manager.

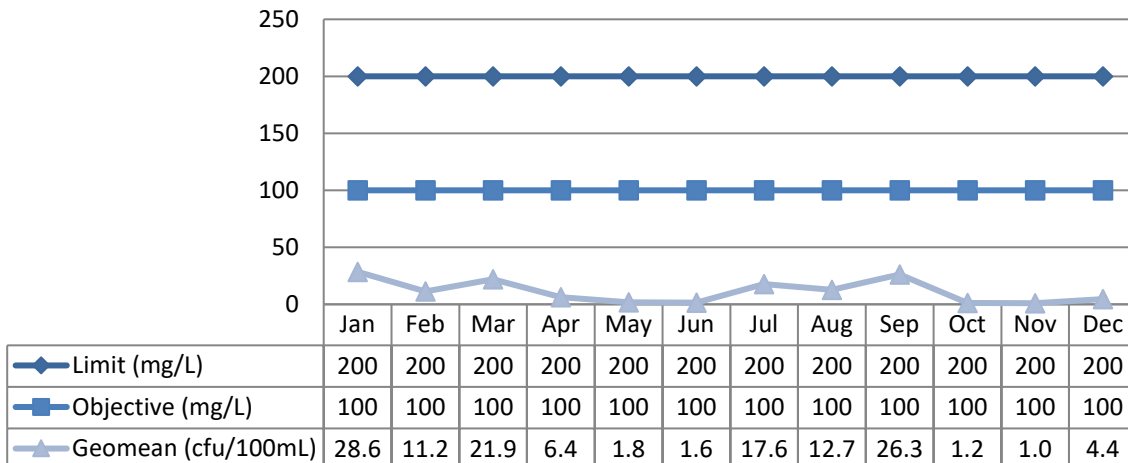
TABLE 4: ANNUAL AVERAGE CONCENTRATION AND LOADING 2025

Parameters	2025 Annual Average Concentration (mg/L)	Lake Simcoe Annual Average Concentration Limit /Objective	2025 Annual Average Loading (Kg/year)	Annual Loading Limit (Kg/year)	Lake Simcoe Annual Concentration Limit/Objective (mg/L)	Compliant (Y/N)
Total Phosphorus	0.09	0.15	49.67	249	124	Yes

E. Coli

ECA No. 8497-8D3TU7 sets the final effluent monthly geometric mean density of E. Coli at 200 cfu/100mL and an objective limit of 100 cfu/100ml. The final effluent monthly geomean limits were met each month in 2025.

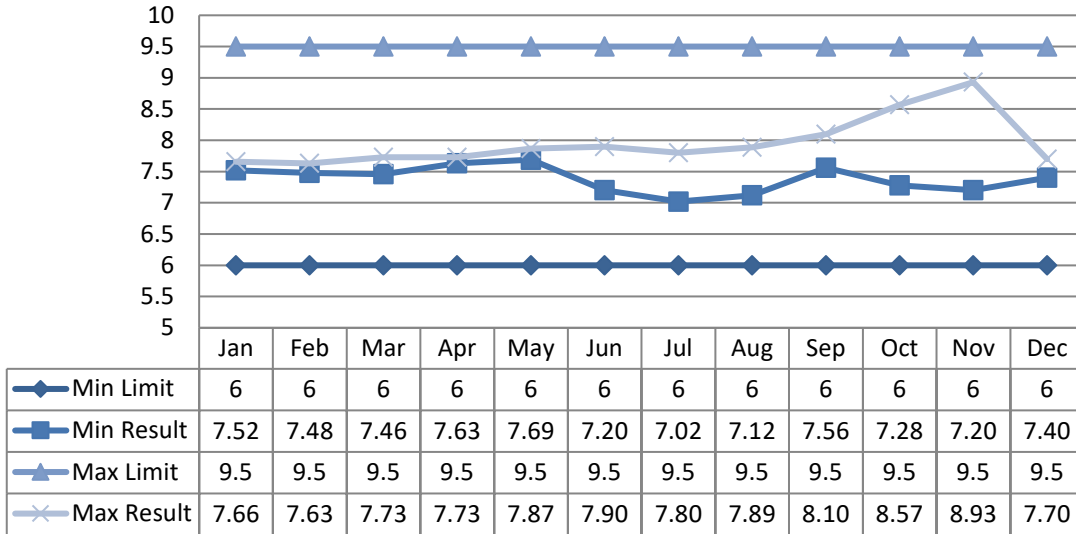
Graph 9: Final Effluent Monthly E. Coli Geometric Mean Comparisons for 2025



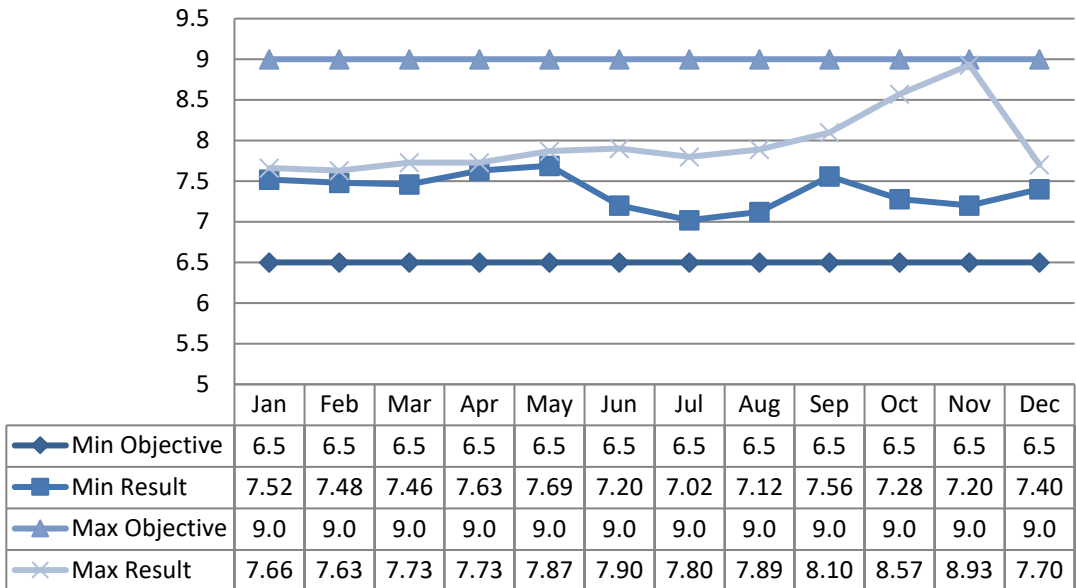
pH

ECA No. 8497-8D3TU7 has a final effluent pH compliance limit within the range of 6.0 to 9.5 and an objective limit within the range of 6.8 - 7.8, inclusive, at all times. The pH of the final effluent ranged from 7.02 – 8.93 throughout 2025 which is within the ECA compliance limit at all times.

Graph 10: Final Effluent Monthly pH Concentration Limit Comparisons for 2025



Graph 11: Final Effluent Monthly pH Concentration Objectives Comparisons for 2025



Summary of Septage Received

The Brechin/Lagoon City Wastewater Treatment Plant accepts septage from licensed haulers. A total of 112,075 m3 of septage was received in 2025.

7. Description of Operating Problems

ECA #8497-8D3TU7_Condition 9(5)(b) states that the annual performance report shall contain "a description of any operating problems encountered and corrective actions taken."

The following details describe all operating problems encountered during the reporting period and the corrective actions taken:

TABLE 5: BRECHIN LAGOON CITY WWTP OPERATIONAL CHALLENGES 2025		
Months	Challenges	Corrective Actions
January February March	Elevated flows Sewage Pumping Station (SPS) #4 generator oil burning Utility power failures during ice storms	Operational adjustments to accommodate flow Repaired generator completed following event Portable Generator utilized at SPS's
April May July	Screw pump drive bearing making noise SPS 8 Milltronics failed Plugged sewer on Willow Crescent Manhole hit by road grader on HWY 12 Waste pump 1 in biosolids pump chamber failed SPS 7 pump seal failed Sewer back up at 88 Turtle Path	Inspected and upper bearing replaced in Q3 Replaced Milltronics Cleared blockage Repaired manhole Replaced with spare and sent for repair Replaced pump installed in Q3 Cleared blockage
July August September	Blocked sewer 19 Turtle Path Centre aerator bearing failure Effluent pH sensor faulty	Cleared blockage Aerator replaced Replaced pH sensor
October November December	SPS 8 hot water tank failed	Replaced hot water tank

8. Summary of Maintenance

ECA No. 8497-8D3TU7 Condition 11(4)(e) states that the annual performance report shall contain *summary of all maintenance carried out on any major structure, equipment, apparatus or mechanism forming part of the Works.*

Routine maintenance and operation of the Brechin/Lagoon City Wastewater Treatment Plant and Sewage Pumping Stations in 2025 consisted of the following:

- Blew out and restarted return activated sludge siphons
- Changed the oil and filters in the digester blowers
- Cleaned secondary clarifiers
- De-iced mechanical aerators
- Flushed chemical pumps and lines
- Greased bearings of screw conveyor
- Performed routine maintenance and repair of pumps
- Pulled and cleaned or replaced UV bulbs
- Pump Stations Cleaned
- Repaired Clarifier 1 siphons rebuilt
- Replaced Clarifier 1 drive cable
- Installed new Polymer pump
- Added polymer system to essential power
- PS4 multi-ranger replaced
- SPS 7 pump installed
- Screw bearing replaced
- SPS 4 generator serviced
- SPS 3 electrical generator connection replaced
- Annual Calibration completed
- SPS 6 pump serviced and check valves changed
- SPS 5 generator engine anti-freeze leak repaired
- Installed cameras for basin #1 for level monitoring during haulage
- Invert inspects – 3rd party
- Repaired spare mixer
- Replaced sump pump impeller
- Replaced UV sensor
- Addition of low-level float for Clarifier basin #1
- High Level/sensor alarming and screw pump speed/level control automation
- Generator Block heater repairs

9. Summary of Effluent Quality Assurance or Control Measures

ECA No. 8497-8D3TU7 Condition 9(4)(d) states that the annual performance report shall contain *"a summary of effluent quality assurance or control measures undertaken in the reporting period."*

Effluent control measures include in-house sampling and testing for operational parameters such as suspended solids, soluble phosphorus, and dissolved oxygen. In-house testing provides real time results which are then evaluated to determine if process changes are necessary to enhance operational performance. All in-house sampling and analysis are performed by certified operations staff utilizing 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 ECA sampling requirements were submitted to SGS Lakefield Research Ltd. laboratory for analysis, with the exception of pH, temperature and unionized ammonia. SGS Lakefield Research 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, the Ontario Clean Water Agency is ensuring appropriate control measures are undertaken during sample analysis. The pH and temperature parameters were analyzed in the field at the time of sample collection by certified operators, to ensure accuracy and precision of the results obtained. The unionized ammonia was calculated using the total ammonia nitrogen concentration, pH and temperature as required by the facility Environmental Compliance Approval.

Effluent quality assurance is maintained in several ways. Laboratory samples are sent to an accredited laboratory (SGS Canada Inc. - Lakefield) for analysis of all effluent parameters. Sampling calendars issued to the operator which denote frequency of sampling. Calendars are used as a tracking mechanism throughout the month to ensure all required samples are collected. These calendars are submitted to the Process Compliance Technician at the end of each month for review. Raw and effluent samples are collected as per the Amended Environmental Compliance Approval and the results are reviewed on a regular basis to ensure compliance with the site’s objectives and limits.

Work orders illustrating all scheduled and preventative maintenance to be completed are issued to the operator and/or mechanic. OCWA conducts internal audits of the facility and develops Action Plans to ensure deficiencies are identified.

10. Summary of Calibration and Maintenance

ECA No. 8497-8D3TU7 Condition 9(4)(e) states that the annual performance report shall contain *“a summary of the calibration and maintenance carried out on all effluent monitoring equipment.”*

Calibrations on effluent monitoring equipment were performed by Flowmetrix Technical Services Inc. on April 30, 2025 for equipment located at the Brechin/ Lagoon City Wastewater Treatment Plant. Please see Appendix II: Calibration Reports.

TABLE 6: BRECHIN LAGOON CITY WWTP – SUMMARY OF EQUIPMENT CALIBRATIONS – 2025	
Collection Monitoring Equipment	Date of Completion
Pump Station #4 Flow Meter	April 30, 2025
Pump Station #8 Flow Meter	April 30, 2025
Influent Monitoring Equipment	Date of Completion
Influent Flow Meter	April 30, 2025
Final Effluent Monitoring Equipment	Date of completion
Final Effluent Flow Meter	April 30, 2025
Online pH meter	April 30, 2025

11. Description of Efforts Made and Results Achieved to Meet Effluent Objectives

OCWA uses a number of best efforts to achieve the Effluent Objectives. Effluent quality assurance and control measures include in-house sampling and testing for operational parameters such as suspended solids, phosphorus, dissolved oxygen, etc. In-house testing provides real time results which are then used to enhance process and operational performance. OCWA also collects raw sewage and effluent samples as per the ECA and reviews these results on a regular basis to ensure compliance with the ECA objectives and limits.

OCWA uses a computerized maintenance management system which generates work orders to ensure maintenance of equipment is proactively performed. In addition, OCWA provides regular status reports to the Owner which includes operational data, equipment inventory, financial statements, maintenance activities and capital improvement recommendations.

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 have access to a network of operational compliance and support experts at the cluster, region and corporate level.

TABLE 7: EFFORTS MADE TO MEET THE EFFLUENT OBJECTIVES OF CONDITION 9

1. Sampling effluent as per the ECA.
2. Visual Inspection of the effluent while performing rounds.
3. Annual calibration of the pH meter.
4. Annual calibration of the flow meters.
5. Performing preventative maintenance activities in accordance with work order schedules.
6. Monitoring treatment processes through regular in-house checks and review of lab results.
7. Sludge monitoring of primary clarifiers & adjustments to syphon rates based on tank levels to reduce solids carryover.
8. Visual review of microbiological activity of activated sludge to ensure appropriate F/M ratio and control filamentous.

The Brechin/Lagoon City WWTP was able to meet the Effluent Objectives throughout 2025, with the exception of the month of March.

Carbonaceous Biochemical Oxygen Demand (CBOD5)

ECA No. 8497-8D3TU7 sets the final effluent monthly CBOD5 average concentration objective at 8.0 mg/L.

TABLE 8: FINAL EFFLUENT MONTHLY CBOD5 CONCENTRATION OBJECTIVE COMPARISONS 2025

Monthly Average	Average Concentration (mg/L)	Concentration Objective Target (mg/L)	Objective Achieved
January	4.3	8.0	Yes
February	4.3	8.0	Yes
March	4.0	8.0	Yes
April	4.0	8.0	Yes
May	4.0	8.0	Yes
June	4.0	8.0	Yes
July	4.0	8.0	Yes
August	4.0	8.0	Yes

September	4.0	8.0	Yes
October	4.0	8.0	Yes
November	4.0	8.0	Yes
December	4.0	8.0	Yes

Total Suspended Solids (TSS)

ECA No. 8497-8D3TU7 sets the final effluent monthly TSS average concentration objective at 12.0 mg/L.

TABLE 9: FINAL EFFLUENT MONTHLY TSS CONCENTRATION OBJECTIVE COMPARISONS 2025			
Month	Average Concentration (mg/L)	Concentration Objective Target (mg/L)	Objective Achieved
January	5.3	12.0	Yes
February	2.0	12.0	Yes
March	29.0	12.0	No
April	2.4	12.0	Yes
May	2.8	12.0	Yes
June	2.4	12.0	Yes
July	2.0	12.0	Yes
August	2.0	12.0	Yes
September	2.2	12.0	Yes
October	2.0	12.0	Yes
November	2.0	12.0	Yes
December	2.4	12.0	Yes

Total Phosphorus (TP)

ECA No. 8497-8D3TU7 sets the final effluent monthly TP average concentration objective at 0.24 mg/L.

TABLE 10: FINAL EFFLUENT MONTHLY TOTAL PHOSPHORUS CONCENTRATION OBJECTIVE COMPARISONS 2025			
Month	Average Concentration (mg/L)	Concentration Objective Target (mg/L)	Objective Achieved
January	0.07	0.24	Yes
February	0.05	0.24	Yes
March	0.37	0.24	No
April	0.03	0.24	Yes
May	0.04	0.24	Yes
June	0.04	0.24	Yes
July	0.04	0.24	Yes
August	0.04	0.24	Yes
September	0.04	0.24	Yes
October	0.03	0.24	Yes
November	0.03	0.24	Yes
December	0.03	0.24	Yes

E. Coli

ECA No. 8497-8D3TU7 sets the final effluent monthly E. Coli geometric mean objective at 100 cfu/100mL.

TABLE 11: FINAL EFFLUENT MONTHLY E. COLI GMD OBJECTIVE COMPARISONS 2025			
Month	Geometric Mean (cfu/100mL)	Concentration Objective Target (cfu/100mL)	Objective Achieved
January	28.6	100	Yes
February	11.2	100	Yes
March	21.9	100	Yes
April	6.4	100	Yes
May	1.8	100	Yes
June	1.6	100	Yes
July	17.6	100	Yes
August	12.7	100	Yes
September	26.3	100	Yes
October	1.2	100	Yes
November	1.0	100	Yes
December	4.4	100	Yes

pH

The pH of the final effluent ranged from 7.02 – 8.93 throughout 2025 which is within the ECA design objectives of 6.50 to 9.00, inclusive, at all times.

TABLE 12: FINAL EFFLUENT MONTHLY pH OBJECTIVE COMPARISONS 2025		
Month	Minimum	Maximum
January	7.52	7.66
February	7.48	7.63
March	7.46	7.73
April	7.63	7.73
May	7.69	7.87
June	7.20	7.90
July	7.02	7.80
August	7.12	7.89
September	7.56	8.10
October	7.28	8.57
November	7.20	8.93
December	7.40	7.70

Unionized Ammonia

The concentration of un-ionized ammonia is calculated using the total ammonia nitrogen, along with field pH and temperature using the methodology stipulated in “Ontario’s Provincial Water Quality Objectives” dated July 1994, as amended. The following are the results for the calculated unionized ammonia.

TABLE 13: WEEKLY FINAL EFFLUENT pH, TEMPERATURE AND CALCULATED UN-IONIZED AMMONIA 2025				
Date	Total Ammonia Nitrogen: NH₃ + NH₄⁺ as N [mg/L]	Field pH	Field temp °C	Un-ionized Ammonia
06/01/2025	0.1	7.62	3.9	0.0005
13/01/2025	0.4	7.55	4.4	0.0017
20/01/2025	0.4	7.58	2.2	0.0015
27/01/2025	3.4	7.53	2.0	0.0112
03/02/2025	4	7.56	1.2	0.0132
11/02/2025	4.8	7.49	2.1	0.0146
18/02/2025	6	7.54	0.5	0.0179
24/02/2025	8.3	7.53	2.5	0.0285
03/03/2025	4.4	7.49	1.7	0.0129
10/03/2025	0.1	7.61	4.4	0.0005
18/03/2025	0.1	7.73	4.2	0.0006
24/03/2025	0.1	7.65	7.0	0.0007
02/04/2025	0.1	7.74	4.0	0.0006
06/04/2025	0.1	7.68	4.5	0.0006
14/04/2025	0.1	7.64	6.5	0.0006
22/04/2025	0.1	7.67	6.5	0.0007
28/04/2025	0.1	7.66	7.6	0.0007
05/05/2025	0.1	7.80	9.0	0.0011
12/05/2025	0.1	7.78	9.7	0.0011
20/05/2025	0.1	7.74	10.0	0.0010
26/05/2025	0.1	7.85	9.8	0.0013
02/06/2025	0.1	7.80	8.1	0.0010
09/06/2025	0.1	7.80	12.4	0.0014
16/06/2025	0.1	7.70	13.2	0.0012
23/06/2025	0.1	7.70	16.7	0.0015
30/06/2025	0.1	7.40	16.1	0.0007
07/07/2025	0.1	7.70	18.2	0.0017
14/07/2025	0.1	7.60	19.4	0.0015
21/07/2025	0.1	7.50	17.7	0.0010
28/07/2025	0.1	7.07	23.1	0.0006
05/08/2025	1.4	7.22	21.6	0.0103
11/08/2025	0.3	7.53	23.5	0.0051
18/08/2025	0.2	7.75	21.3	0.0048

25/08/2025	0.2	7.72	20.8	0.0043
02/09/2025	0.1	7.82	19.3	0.0024
08/09/2025	0.1	7.98	17.6	0.0031
15/09/2025	0.1	7.70	19.5	0.0019
22/09/2025	0.1	7.90	18.9	0.0028
29/09/2025	0.1	7.88	19.2	0.0028
06/10/2025	0.2	7.99	19.3	0.0071
14/10/2025	0.2	8.13	16.4	0.0079
20/10/2025	0.4	8.22	16.6	0.0195
27/10/2025	1.3	8.47	12.7	0.0825
03/11/2025	0.1	8.61	12.7	0.0086
10/11/2025	0.1	8.73	10.8	0.0096
17/11/2025	0.1	8.01	11.1	0.0020
24/11/2025	0.1	7.37	11.4	0.0005
02/12/2025	0.1	7.46	9.3	0.0005
08/12/2025	0.1	7.47	7.8	0.0005
15/12/2025	0.7	7.44	6.7	0.0028
22/12/2025	0.1	7.50	8.1	0.0005
29/12/2025	0.3	7.39	8.3	0.0012

Temperature

The final effluent temperature ranged from 0.5°C to 23.5°C.

Additional Parameters

The parameters listed below are collected as per ECA or regulatory requirements or for process optimization.

Influent Samples

Influent sampling is completed in order to make the necessary process adjustments to stay within the Final Effluent Objectives and limits set in the ECA.

TABLE 14: MONTHLY INFLUENT AVERAGE CONCENTRATIONS 2025				
Month	Biochemical Oxygen Demand - BOD5 (mg/L)	Total Suspended Solids – TSS (mg/L)	Total Kjeldahl Nitrogen – TKN (mg/L)	Total Phosphorus – TP (mg/L)
January	63	88	10.4	0.80
February	77	84	15.0	1.39
March	83	98	17.8	1.91
April	34	42	9.3	0.47
May	51	64	12.2	1.15
June	57	63	14.6	1.29
July	157	208	26.2	2.89
August	86	162	21.5	2.13
September	170	197	35.7	3.04

October	95	128	23.3	1.60
November	81	166	15.5	1.55
December	56	66	16.6	1.47

12. Summary of Biosolids

The total volume of sludge generated in 2025 was 1432 m³ which was slightly higher than the amount of sludge generated in 2024. Wessuc Inc. has been contracted to haul, land apply the Biosolids on their approved sites. Monthly sludge samples are collected & tested for metals listed in the Ontario Guidelines for Sewage Biosolids Utilization on Agricultural Lands. There is enough storage to store sludge at the Brechin/ Lagoon City WWTP for the rest of the year.

TABLE 15: MONTHLY SLUDGE GENERATION VOLUMES 2025	
Month	Volume (m ³)
January	0
February	0
March	0
April	0
May	816
June	0
July	0
August	0
September	0
October	456
November	160
December	0
Total	1432

The anticipated volume of biosolids for the next reporting period is not expected to be significantly different from this reporting period. There are no expected changes in the current sludge handling methods that are currently utilized. Refer to Appendix III: Biosolids Summary

13. Summary of Community Complaints

TABLE 16: SUMMARY OF COMPLAINTS 2025		
Date	Issue	Actions Taken
July 4, 2025	Notified by resident of sewage pump on property	Removed pump from property

14. Summary of all Bypass, Spill or Abnormal Discharge Events

TABLE 17: SUMMARY OF EVENTS 2025

Date	Type of Event	Total Estimated Volume (m ³)	Disinfect (Y/N)	Samples Collected (Y/N)	Reason
March 16, 2025	Bypass	7,235	N	Y	Significant rainfall and snowmelt event causing overwhelming influent volume at treatment facility. Initiated partial bypass of UV system, followed by bypass of basin one to outfall.
April 3, 2025	Bypass	330	N	Y	Significant rainfall event causing overwhelming influent volume at treatment facility. Initiated partial bypass of clarifier and UV system.
May 5, 2025	Sewage Spill	Unknown	N	N	Resident called Township of Ramara to report a sewer backup. OCWA Operator responded to find sewage spilling from residential sewer clean-out onto land and running into municipal ditch. Contacted vac truck to assist with unblocking residential sewer line.

15. Status Update on Initial Effluent Characterization

The initial effluent characterization was submitted as per Condition 8 Section (1). No updates occurred during the reporting period.

16. Additional Information the *District Manager* Requested

The District Manager has not requested any additional information be included in this report.

17. Summary of Efforts Made to Reduce Overflows, Spills and Bypasses

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.

- Efforts to identify and eliminate inflow and infiltration (I&I) sources through CCTV inspections in 2024. The findings of the inspections were to inform budget recommendations to make necessary repairs in 2025 to deficiencies identified.
- An annual budget is allocated to an I&I reduction program.

b) Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP’s timelines.

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

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

- Nothing to report at this time.

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.

- Not applicable.

e) Public reporting approach including proactive efforts.

- The Township of Ramara utilizes their website and social media platforms to post Media Releases. Residents have the ability to subscribe to receive Media Releases from the Township of Ramara to an email address. The Township of Ramara also distributes a quarterly publication as well as randomized campaigns that bring awareness to the Sewer Use Bylaw and other information related to municipal sewer use such as sump pump connections.

f) A summary of 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.

- No alterations were made to the Authorized System within the reporting period.

APPENDIX I

Performance Assessment Report

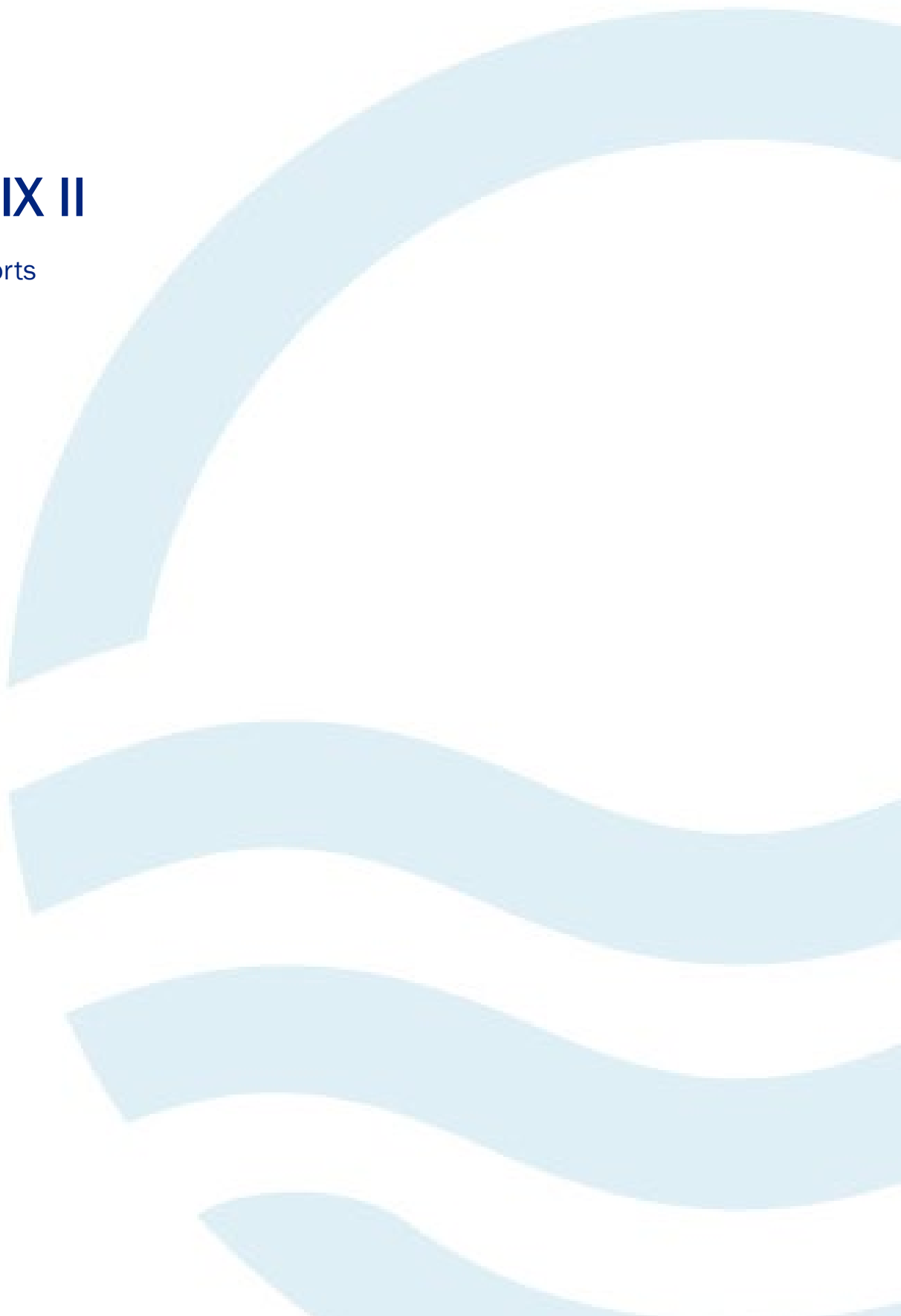


1617 LAGOON CITY WASTEWATER TREATMENT PLANT 120002255

	1 / 2025	2 / 2025	3 / 2025	4 / 2025	5 / 2025	6 / 2025	7 / 2025	8 / 2025	9 / 2025	10 / 2025	11 / 2025	12 / 2025	<-Total-->	<-Avg-->	<-Max-->	<Criteria>													
Flows																													
Raw Flow: Total - Raw m ³ /d	48,390.63	31,506.74	71,893.05	69,744.40	45,937.31	31,987.75	48,859.75	35,142.80	39,505.40	18,603.04	27,285.20	30,348.80	499,204.87			0.00													
Raw Flow: Avg - Raw m ³ /d	1,560.99	1,125.24	2,319.13	2,324.81	1,481.85	1,066.26	1,576.12	1,133.64	1,316.85	600.10	909.51	978.99		1,367.68		2,273.00													
Raw Flow: Max - Raw m ³ /d	2,327.29	1,727.90	6,159.70	4,729.90	2,318.50	1,780.30	2,820.40	2,007.00	2,339.50	823.40	1,353.30	1,308.40			6,159.70	0.00													
Raw Flow: Count - Raw m ³ /d	31.00	28.00	31.00	30.00	31.00	31.00	31.00	31.00	30.00	31.00	31.00	31.00	365.00			0.00													
Eff. Flow: Total - Final Effluent m ³ /d	51,983.90	38,006.61	64,659.78	65,431.83	47,006.23	32,514.61	50,139.63	39,193.09	41,379.40	41,474.41	28,502.88	30,809.76	531,102.13			0.00													
Eff. Flow: Avg - Final Effluent m ³ /d	1,676.90	1,357.38	2,085.80	2,181.06	1,516.33	1,083.82	1,617.41	1,264.29	1,379.31	1,337.88	950.10	993.86		1,455.07		2,273.00													
Eff. Flow: Max - Final Effluent m ³ /d	2,211.27	2,599.30	3,644.89	4,481.68	2,294.67	1,660.30	2,621.34	2,158.59	2,475.89	2,120.98	1,399.30	1,518.17			4,481.68	0.00													
Eff. Flow: Count - Final Effluent m ³ /d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00													
Carbonaceous Biochemical Oxygen Demand: CBOD																													
Eff. Avg cBOD5 - Final Effluent mg/L	<	4.25	<	4.25	<	4.00	<	4.00	<	4.00	<	4.00	<	4.00	<	4.00													
Eff. # of samples of cBOD5 - Final Effluent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	5.00	52.00			0.00													
Loading: cBOD5 - Final Effluent kg/d	<	7.127	<	5.769	<	8.343	<	8.724	<	6.065	<	4.335	<	6.470	<	5.057	<	5.517	<	5.352	<	3.800	<	3.975					
Biochemical Oxygen Demand: BOD5																													
Raw: Avg BOD5 - Raw mg/L	63.00	77.00	83.00	34.00	51.00	57.00	157.00	86.00	170.00	95.00	81.00	56.00			84.17	170.00													
Raw: # of samples of BOD5 - Raw	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00													
Percent Removal: BOD5 - Raw %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00													
Total Suspended Solids: TSS																													
Raw: Avg TSS - Raw mg/L	88.00	84.00	98.00	42.00	64.00	63.00	208.00	162.00	197.00	128.00	166.00	66.00			113.83	208.00													
Raw: # of samples of TSS - Raw	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00													
Eff. Avg TSS - Final Effluent mg/L	<	5.25	<	2.00	<	29.00	<	2.40	<	2.75	<	2.40	<	2.40	<	2.00	<	2.40	<	2.00	<	2.40	<	2.40	<	4.52	<	29.00	15.00
Eff. # of samples of TSS - Final Effluent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	5.00	52.00			0.00													
Loading: TSS - Final Effluent kg/d	<	8.804	<	2.715	<	60.488	<	5.235	<	4.170	<	2.601	<	3.235	<	2.529	<	3.034	<	2.676	<	1.900	<	2.385	<	6.58	<	60.48	0.00
Percent Removal: TSS - Raw %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00													
Total Phosphorus: TP																													
Raw: Avg TP - Raw mg/L	0.80	1.39	1.91	0.47	1.15	1.29	2.89	2.13	3.04	1.60	1.55	1.47			1.64	3.04													
Raw: # of samples of TP - Raw	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00													
Eff. Avg TP - Final Effluent mg/L	0.07	0.05	0.37	<	0.03	0.04	<	0.04	<	0.04	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.03	<	0.09	<	0.37	0.30
Eff. # of samples of TP - Final Effluent	4.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00	52.00			0.00													
Loading: TP - Final Effluent kg/d	0.113	0.068	0.761	<	0.065	0.057	<	0.039	<	0.069	<	0.047	<	0.061	<	0.040	<	0.031	<	0.032	<	0.031	<	0.032	<	0.14	<	0.76	249.000
Percent Removal: TP - Raw %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00													
Nitrogen Series																													
Raw: Avg TKN - Raw mg/L	10.40	15.00	17.80	9.30	12.20	14.60	26.20	21.50	35.70	23.30	15.50	16.60			18.18	35.70													
Raw: # of samples of TKN - Raw	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00													
Eff. Avg TAN - Final Effluent mg/L	<	1.08	<	5.78	<	1.18	<	0.10	<	0.10	<	0.10	<	0.53	<	0.10	<	0.28	<	0.28	<	0.10	<	0.28	<	0.85	<	5.78	0.00
Eff. # of samples of TAN - Final Effluent	4.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00	52.00			0.00													
Loading: TAN - Final Effluent kg/d	<	1.803	<	7.839	<	2.451	<	0.218	<	0.152	<	0.108	<	0.485	<	0.664	<	0.138	<	0.702	<	0.095	<	0.258	<	1.24	<	7.84	0.00
Eff. Avg NO3-N - Final Effluent mg/L	9.16	6.08	7.58	6.76	11.09	15.92	17.15	17.83	16.04	12.46	13.13	12.54			12.14	17.83													
Eff. # of samples of NO3-N - Final Effluent	4.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00	52.00			0.00													
Eff. Avg NO2-N - Final Effluent mg/L	0.29	0.06	0.05	<	0.05	<	0.08	<	0.22	<	0.08	<	0.07	<	0.04	1.56	0.18	0.76							0.29		1.56	0.00	
Eff. # of samples of NO2-N - Final Effluent	4.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00	52.00			0.00													
Disinfection																													
Eff. GMD E. Coli MPN - Final Effluent MPN	28.55	11.23	21.91	6.35	1.86	1.55	17.64	12.70	26.30	1.19	1.00	4.44																	
Eff. # of samples of E. Coli MPN - Final Effluent	4.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00	52.00			0.00													

APPENDIX II

Calibration Reports





FLOWMETRIX
TECHNICAL SERVICES

FLOW, PRESSURE and WATER QUALITY INSTRUMENTATION

Verification/Calibration

REPORT

OCWA

 **ONTARIO CLEAN WATER AGENCY**
AGENCE ONTARIENNE DES EAUX

- KAWARTHA LAKES – RAMARA TWP -

APRIL/MAY 2025

May 22nd, 2025

Ontario Clean Water Agency
Kawartha Lakes
Rob Smith
Team Lead
123 East St. S
Bobcaygeon ,ON K0M 1A0
T: 705-623-7273
E: RSmith@ocwa.com

RE: Annual Verification/Calibration for the Township of Ramara
WWTP - AC & WQA
April 30th & May 1st, 2025

Dear Rob,

SCG Flowmetrix appreciates the opportunity to complete your field service and verification/calibration services. This letter of transmittal confirms completion of this service project.

The following service report contains the individual instrument reports for all verification/calibrations as well as an Equipment List Summary.

Note: Equipment List Summary is only included where 5 or more instruments are verified/calibrated for the same client/area. Otherwise, only individual reports are provided.

In addition to the base report, relevant information related to standard approach and methodologies for various instruments verified and/or calibrated, and a statement of qualifications for all verification/calibrations completed by trained, knowledgeable and experienced personnel is found in the section Quality Assurance and Quality Control.

If you have any additional questions or concerns with regards to this report, please do not hesitate to contact me directly.

Kind Regards,

Sarah Cawston

Sarah Cawston
Sales & Service Coordinator
2088 Jetstream Rd.
London, ON N5V 3P6
c. 519-281-9660
scawston@scgflowmetrix.com

QUALITY ASSURANCE/QUALITY CONTROL

Flowmetrix adheres to a rigid scope of service and deliverables for each client and instrument verified, calibrated, and reported. We follow a standard guideline while performing verification and calibration procedures for each instrument, using original equipment manufacturer (OEM) tools, where possible. The values are field reported and entered in a standard report format for client review. A digital report is completed for each instrument and collated into a single document for client record.

Approach & Methodology

Flowmetrix conducts verification of each instrument and subsequent calibrations on instruments that are outside the expected tolerance of the instrument response, where possible. Manufacturers OEM suggested testing guidelines are used to verify and/or calibrate each instrument. Where, unable to perform the verification or calibration as suggested by the manufacturer, a best management practice is performed to validate the performance of such instruments.

REPORTING

Flowmetrix report is divided into (2) sections. Section (i) identifies an equipment summary of all instruments verified during this service project including instruments that PASS or FAIL; section (ii) identifies individual equipment reports for client review and record and identifies any comments and deficiencies that should be noted for client review and possible response.

Section (i) - Equipment Summary

An equipment summary sheet identifying all instruments; both PASSING and FAILING verification and/or calibration while completed during this service project.

The Summary Equipment List is only included where 5 or more instruments are verified/calibrated for the same client/area. Otherwise, only individual reports are provided.

Section (ii) - Individual Equipment Reports

Individual equipment reports are completed for easy review and are found in Appendix B. These reports outline all specific information pertaining to the equipment be tested; noted as meter under test (MUT). Date, time, location, meter make, model and serial number accompany this report for tracking and identification. Each report identifies a PASS or FAIL comment 'as found' and 'as left' upon completion of the verification and/or calibration.

Where possible, a verification is performed prior to calibration, if the OEM testing procedures allow, otherwise an 'as left' report is provided for such equipment.

Note: If a meter under test (MUT) is (AS FOUND) to be operating outside of the allowable tolerance, the report will indicate "NA". The "NA" statement is NOT suggesting the MUT, or a component of the MUT is not functional or has failed; but simply indicates at the time the test was conducted the verification reported values are found outside the allowable tolerance.

Only if the MUT is failed due to equipment failure and not verification/calibration tolerances, the report will indicate "FAIL" (AS FOUND) and will be commented on in the individual equipment report.

STATEMENT OF QUALIFICATIONS

To comply with our clients DWQMS standards, Flowmetrix adheres to a rigid approach to conducting our equipment verification/calibration services including the training received by our company and our personnel conducting service. A Statement of Qualifications outlining Flowmetrix qualifications to conduct this level of service is available in a separate document upon request.



A P P E N D I X - B
INDIVIDUAL INSTRUMENT REPORTS

AS FOUND CERTIFICATION
FORWARD FLOW DIRECTION
PASS

CLIENT DETAIL

CUSTOMER OCWA – Kawartha Lakes Hub
 CONTACT Nick Leroux
 Senior Operations Manager
 123 East St S
 Bobcaygeon ON, K0M 1A0
 P: 705-623-7278
 E: nleroux@ocwa.com

EQUIPMENT DETAIL

[MUT] MANUFACTURER Rosemount
 MODEL 8712
 CONVERTER SERIAL NUMBER 08060245142
 PLANT ID Lagoon City STP
 METER ID Final Effluent Flow
 FIT ID NA
 CLIENT TAG 0000336599
 OTHER NA
 GPS COORDINATES N 44°33.467 W 079°12.436
 VERIFICATION DATE April 30th 2025
 CAL. FREQUENCY Annual
 CAL. DUE DATE April 2026

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -
 Reference equipment and instrumentation used to
 conduct this verification test is found in our AC-
 QMS document at the time this test was
 conducted.

PROGRAMMING PARAMETERS

DIAMETER (DN) mm 300
 F.S. FLOW - MAG LPS 859.000
 F.S. RANGE - O/P LPS 600.000
 TUBE CAL. FACTOR 1108905010807005

FORWARD TOTALIZER INFORMATION

AS FOUND 1012750 M3
 AS LEFT 1012819 M3
 DIFFERENCE 69 M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST Yes
 FORWARD FLOW DIRECTION Yes
 ALLOWABLE [%] ERROR 5

COMPONENTS TESTED

CONVERTER DISPLAY yes
 mA OUTPUT yes
 TOTALIZER yes
 ACCURACY BASED ON [% o.r.] yes
 ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

VERIFICATOR CAL. FACTOR 1000015010000000
 [16-digits]

FLOW TUBE SIMULATION

	0	3	10	30	ft/s
DISPLAY	0.00	3.00	10.00	30.00	ft/s
MUT Reading	0.00	3.00	10.00	30.00	ft/s
MUT % Error	n/a	0.00	0.00	0.00	%
mA OUTPUT	4.000	5.600	9.333	20.000	mA
MUT Reading	4 mA	5.602	9.343	20.026	mA
MUT % Error	20 mA	0.04	0.10	0.13	%
TOTALIZER				30.00	ft/s
TEST Accumulation				2000.00	ft
TIME				66.54	seconds
CALC. Velocity				30.06	ft/s
% Error				0.19	%

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	ROS	1
PROCESS METER	PM	0
ANALOG METER	AM	n/a
STOP WATCH	SW	Yes

*All values are for "As Found" values.

COMMENTS

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.00	PASS
mA OUTPUT	0.09	PASS
TOTALIZER	0.19	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER OCWA – Kawartha Lakes Hub
 CONTACT Nick Leroux
 Senior Operations Manager
 123 East St S
 Bobcaygeon ON, K0M 1A0
 P: 705-623-7278
 E: nleroux@ocwa.com

EQUIPMENT DETAIL

[MUT] MANUFACTURER Greyline
 MODEL OCF-IV
 CONVERTER SERIAL NUMBER 17849
 PLANT ID Lagoon City
 METER ID Influent Flow
 FIT ID NA
 CLIENT TAG 0000334212
 OTHER NA
 GPS COORDINATES N 44°33.467 W 079°12.436

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -
 Reference equipment and instrumentation used to
 conduct this verification test is found in our AC-QMS
 document at the time this test was conducted.

VERIFICATION DATE April 30th 2025
 CAL. FREQUENCY Annual
 CAL. DUE DATE April 2026

PROGRAMMING PARAMETERS

NOTCH ANGLE (φ)	inches	45
EMPTY DISTANCE, TX to notch	m	0.662
TRANSDUCER (TX), to sump fic	m	0.78
SUMP LEVEL, zero flow	m	0.118
MAX. HEAD	m	0.300
BLANKING DISTANCE	m	0.362
DEAD ZONE	m	0.000
MAX. FLOW	M3/H	101.4
F.S. RANGE - O/P	M3/H	101.4

TOTALIZER

AS FOUND	217488	M3
AS LEFT	217490	M3
DIFFERENCE	2	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
ALLOWABLE [%] ERROR	15

COMPONENTS TESTED

CONVERTER DISPLAY	yes
mA OUTPUT	yes
TOTALIZER	no
ACCURACY BASED ON [% o.r.]	yes

Ultrasonic Sensor is not installed high enough, to ensure full scale flow conditions

ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

AS FOUND TEST RESULTS

		0.0	3.1	17.7	48.7	100.0	% F.S. Range
		0.000	0.075	0.150	0.225	0.300	m
REF. FLOW RATE		0.0	3.2	17.9	49.4	101.4	M3/H
MUT [Reading]		0.0	3.2	17.9	48.7	101.8	M3/H
MUT [Difference]		0.0	0.0	0.0	-0.7	0.4	M3/H
MUT [% Error]		0.0	1.0	-0.1	-1.4	0.4	%
mA OUTPUT		4.000	4.500	6.828	11.794	20.000	mA
MUT [Reading]	min. 4.000 mA	4.000	4.516	6.852	11.619	20.002	mA
MUT [Difference]	max. 20.000 mA	0.000	0.016	0.024	-0.175	0.002	mA
MUT [% Error]		0.00	0.36	0.35	-1.49	0.01	%
TOTALIZER - REF. FLOW RATE							
TOTALIZER [MUT]							
TEST TIME							
CALC. TOTALIZER							
ERROR							

COMMENTS

-Results based on Internal Simulation not actual flow.

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] LEVEL	Sim. BOARD	n/a
PROCESS METER	PM	0
STOP WATCH	SW	n/a

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	-0.04	PASS
mA OUTPUT	-0.15	PASS
TOTALIZER	N/A	N/A

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

VeriMaster - Flow Meter Verification Report

Customer Information		Meter Information	
Customer	OCWA Ramara	Meter Owner	PS 4
Verification Download	Wed, Apr 30, 2025	Meter Type	WaterMaster
		Sensor Size	DN200
		Pipe Status	Fluid Present
		Sensor Type	Fullbore
		Sensor Serial No	3K220000196136
		Transmitter Serial No	3K220000382532
		Tag	FIT-SPS#4
		Location	?

Overall Status: Pass

The flowmeter has passed its internal continuous verification and automatic self calibration. It is working within +/- 1% of its original factory calibration

Summary of Results		Verification History	
Coil Group	Passed	OIML Accuracy Alarms	0
Electrode Group	Passed	Totaliser Information	
Sensor Group	Passed	Forward	362977.50 m3
Transmitter Signal	Passed	Reverse	416.85 m3
Transmitter Driver	Passed	Net	3620457.26 m3
Output Group	Passed	Sensor Data	
Configuration	Passed	Coil Current	179.9 mA
		Coil Inductance	99.6 mH
		Coil Inductance Shift	-0.5%
		Coil / Loop Resistance	31.8 ohm
Sensor Information		Transmitter Data	
Q3	1000.00 m3/h	Tx Gain - Adjustment	0.0%
Calibration Accuracy	OIML Class 2	VeriMaster Information	
Sensor Calibration Factors	113.8%; -0.55 mm/s; 11	Version	01.00.03
Date of Manufacture	2016 Oct 17	Limit Version	01.00.01
Run Hours	3492days 2hrs 55mins	Pulse Output	
Transmitter Information		Output 1: 100.0Hz	Not tested
Application Version	V01.06.00 03/03/15	Output 1: 50.0Hz	Not tested
MSP Version	01.00.00	Output 2: 100.0Hz	Not tested
Date of Manufacture	2016 Oct 17	Output 2: 50.0Hz	Not tested
Run Hours	4648days 19hrs 45mins		
Current Output			
4mA Value	Pass : 4.000 mA ; 0.00%		
12mA Value	Pass : 11.983 mA ; 0.14%		
20mA Value	Pass : 19.992 mA ; 0.04%		

Installation Comments / Equipment used:	Configuration Settings
DMM-0 used for mA output check	Mains Frequency
	50 Hz
	Qmax
	1000.00 m3/h
	Pulses/Unit
	50.000000
	Pulses Limit Frequency
	100.0 Hz
	Sensor User Span/Zero
	-100.0%; 0.00 mm/s
	User Flow Cutoff/Hysteresis
	0.00%; 20%
	Meter Mode
	Forward Flow

Date Wed, Apr 30, 2025

Operator Signature

Print

ABB Instrumentation World Flow Technology

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 Fax: +1 (215) 674 6394

RESULTS **PASS**

CUSTOMER OCWA – Kawartha Lakes Hub
 CONTACT Nick Leroux
 Senior Operations Manager
 123 East St S
 Bobcaygeon ON, K0M 1A0
 P: 705-623-7278
 E: nleroux@ocwa.com

[MUT] MANUFACTURER ABB
 MODEL AX460/600010/STD
 SERIAL NUMBER 3K22000652669
 CLIENT TAG 0000336600
 LOCATION Lagon City STP
 OTHER Final Effluent Flow
 GPS COORDINATES N 44°33.467 W 079°12.436

VER. BY Daniel Kettlewell

TOLERANCE [pH] 0.1

Quality Management Standards Information -
 Standards, reference equipment, and
 instrumentation used to conduct this test outlining
 the lot#, and expiry date is found in our current

VERIFICATION DATE April 30th 2025
 CAL. FREQUENCY Annual
 CAL. DUE DATE April 2026

pH VERIFICATION
NIST TRACEABLE (BUFFERS)

BEFORE CALIBRATION

REFERENCE BUFFER			[MUT] READINGS			
pH BUFFER	TEMP. ° C	pH CORRECTED	pH	TEMP. ° C	pH - ERROR DIFF.	PASS FAIL
4.01	8.0	4.00	4.20	8.0	0.20	FAIL
7.01	8.1	7.07	7.52	8.1	0.45	FAIL
					RESULT	FAIL

AFTER CALIBRATION

REFERENCE BUFFER			[MUT] READINGS			
pH BUFFER	TEMP. ° C	pH CORRECTED	pH	TEMP. ° C	pH - ERROR DIFF.	PASS FAIL
4.01	8.0	4.00	4.00	8.0	0.00	PASS
7.01	8.1	7.07	7.01	8.1	-0.06	PASS
					RESULT	PASS

COMMENTS

Slope: 102.6%

[QMS] INFORMATION

ITEM

ID #

[REFERENCE]
 4.01 BUFFER pHBUFF4 1
 7.01 BUFFER pHBUFF7 1
 TEMPERATURE REF. DDTEMP 1

NIST Traceable Buffers were used to confirm the overall accuracy of this instrument. "AS FOUND" readings and "AS FOUND" readings are reported within this report. A temperature device was used to measure and record the buffer temperature to correct for pH values due to the effects related to buffer temperature.

PASS

CUSTOMER CONTACT	OCWA – Kawartha Lakes Hub Nick Leroux Senior Operations Manager 123 East St S Bobcaygeon ON, K0M 1A0 P: 705-623-7278 E: nleroux@ocwa.com	[MUT] MANUFACTURER	HACH
		MODEL	HQ40D
		SERIAL NUMBER	N/A
		CLIENT TAG	0000334246
		LOCATION	Lagoon City WWTP
		OTHER	n/a

VER. BY	Daniel Kettlewell	TOLERANCE [pH]	0.05
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Quality Management Standards Information - Standards, reference equipment, and instrumentation used to conduct this test outlining the lot#, and expiry date is found in our current

VERIFICATION DATE	April 30th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	April 2026

AS FOUND

DO Concentration [mg/L]	9.04
DO Concentration [%]	101
Barometric Pressure [hpa]	19.4
Temperature	985

AS LEFT

DO Concentration [mg/L]	9.45
DO Concentration [%]	100
Barometric Pressure [hpa]	985
Temperature	16.7

COMMENTS

[QMS] INFORMATION

ITEM

ID #

Calibration performed as per manufacturer's recommended procedure.

NIST Traceable Buffers were used to confirm the overall accuracy of this instrument. "AS FOUND" readings and "AS FOUND" readings are reported within this report. A temperature device was used to measure and record the buffer temperature to correct for pH values due to the effects related to buffer temperature.

PASS

AS FOUND CERTIFICATION

CUSTOMER CONTACT	OCWA – Kawartha Lakes Hub Nick Leroux Senior Operations Manager 123 East St S Bobcaygeon ON, K0M 1A0 P: 705-623-7278 E: nleroux@ocwa.com	[MUT] MANUFACTURER	HACH
		MODEL	DR900
		SERIAL NUMBER	222646601030
		CLIENT TAG	n/a
		LOCATION	Lagoon City WWTP
		OTHER	n/a
VER. BY	Daniel Kettlewell	TOLERANCE [mg/L]	0.05
		STANDARD RECOVERY [%]	90
Quality Management Standards Information - Standards, reference equipment, and instrumentation used to conduct this test outlining the lot#, and expiry date is found in our current QMS document.		VERIFICATION DATE	April 30th 2025
		CAL. FREQUENCY	Annual
		CAL. DUE DATE	April 2026

CHLORINE [Cl₂] SECONDARY STANDARDS

STANDARD	BLANK [mg/L]			READING mg/L	PASS FAIL
STD 1	0.18	+/-	0.09	0.20	PASS
STD 2	0.86	+/-	0.10	0.86	PASS
STD 3	1.57	+/-	0.14	1.59	PASS

CHLORINE [Cl₂] PRIMARY STANDARDS

STANDARD VALUE [mg/L]	25.77	BLANK SAMPLE SIZE [mL]	10.0
STANDARD ADDITIONS SIZE [mL]	0.200	DPD LOT#	A2315
		EXPIRY DATE	Nov-27

SAMPLE TEST #	Cl ₂ STANDARD mL	COMBINED SAMPLE mL	REFERENCE STANDARD mg/L	REFERENCE READING mg/L	MUT READING mg/L	DIFF. ERROR mg/L	PASS FAIL	STANDARD RECOVERY %
BLANK	0	10.000	0	0	0	0	PASS	N/A
STD 1	0.200	10.200	0.51	0.56	0.52	-0.04	PASS	109.8
STD 2	0.400	10.400	0.99	1.06	1.01	-0.05	PASS	107.1
STD 3	0.600	10.600	1.46	1.49	1.44	-0.05	PASS	102.1
AVERAGE RESULTS						-0.05	PASS	106.3

COMMENTS	[QMS] INFORMATION	ITEM	ID #
	[REFERENCE] HACH PCII	HACH PC II	1
	10.0 mL PIPETTE	HACH-PP-10	1
	0.2 mL PIPETTE	G-PP-2	1
	SECONDARY STANDARDS	AS-CLSS	1
	PRIMARY STANDARDS	AS-CLPS	1
	ABSORBANCE STANDARDS	AS-ABS	1

ABSORBANCE CHECKS		
WAVELENGTH	TESTED	PASS/FAIL
420 nm	Yes	PASS
520 nm	Yes	PASS
560 nm	Yes	PASS
610 nm	Yes	PASS

Primary and Secondary standards were used to confirm the overall accuracy of this instrument along with conducting an analytical comparative technique against a reference meter. All values are considered "AS FOUND" readings. If the "AS FOUND" readings were not within acceptable limits, an "AS LEFT" report will be issued if the instrument was able to be calibrated to indicate the overall accuracy of the meter. If the meter was not calibrated for any reason, a comment will be issued for this instrument.

ABB MEASUREMENT & ANALYTICS | TEST REPORT

ABB Ability™

Verification for measurement devices



Verification Report for: WaterMaster

Measurement made easy

Measurement & Analytics
Service

Installation Details

Meter Owner

Machine Name

Medium

Operator Details

Date and Time 30-05-2024 11:48:23

Operator's Name Admin

Operator's Signature

Customer Details

Site Address Lagoon City WWTP

Telephone

Email

Overall Status - Passed

The flowmeter has passed its internal continuous verification and automatic self-calibration. It is working within +/- 2% of original factory calibration.

ABB Ability Verification for measurement devices verifies the function of the measurement product within the specification limits over the lifetime of the device with a total test coverage > 90% and complies with the requirements for traceable verification according to DIN EN ISO 9001:2015 - section 8.5

Sensor Information

Sensor Serial No.	5015506
Sensor SAP/ERP No.	3K220000167646
Sensor Type	WM Full Bore
Sensor Size	DN 50
Q3	35.000 l/s
Calibration Accuracy	OIML Class 2
Sensor Calibration Factors	176.738 %, -0.820 mm/s
Date of Manufacture	11:23:51 2013/01/07
Sensor User Span/Zero	100.000 %, 8.998 mm/s
User Flow Cutoff/Hysteresis	0.000 %, 20.000 %
Coil Current	180.000 mA
Coil Inductance	20.240 mH
Coil / Loop Resistance	28.501 Ohm

Summary Verification of the Sensor

Summary of Results

Coil Group	PASS
Electrode Group	PASS
Sensor Group	PASS
Transmitter Signal	PASS
Transmitter Driver	PASS
Configuration	PASS

Sensor Data

Coil Inductance Shift	-0.3 %
Cable Length	0 m
Electrode Backoff Voltage	-0.104 V
Electrode Differential Voltage	0.018 V

Pipe Status

Full Pipe

Transmitter Information

Transmitter Serial No	34160
Transmitter SAP/ERP No.	3K220000167646
Application Version	V01.05.00 12/07/12
MSP Version	00.00.04
Date of Manufacture	13:46:51 2012/11/15
Tx Gain Adjustment	0.020 %
OIML Accuracy Alarms	OFF
Mains Freq	60.000 Hz
Qmax	35.000 l/s
Pulses/Unit	1.000
FS Freq	35.000 Hz
Pulses Limit Freq	16.667 Hz
Meter Mode	Forward Only

Summary Verification of the Transmitter

Output Group

Current Output 31/32 **PASS**

Applied	Measured	Result
4 mA	3.990 mA	PASS
12 mA	11.971 mA	PASS
20 mA	19.982 mA	PASS

Pulse Output 41/42

NOT EXECUTED

Applied	Measured	Result
5250 Hz		
2625 Hz		

Pulse Output 51/52

NOT EXECUTED

Applied	Measured	Result
5250 Hz		
2625 Hz		

Totalizer Information

	Start	End	Difference
Forward	278004511 l	278004511 l	0.000 l
Reverse	19.800 l	19.800 l	0.000 l
Net	278004511 l	278004511 l	0.000 l

Comments (Installation, Grounding etc.)

Verified current using DMM-0

Verification Certificate has been generated by ABB Ability Verification for measurement devices variant "Licensed software testing" (ABB WaterMaster VDF Version 03.34).

ABB Ability Verification for measurement devices Version 04.00.00.7

—
To find your local ABB contact, visit:

[abb.com/contacts](https://www.abb.com/contacts)

For more information, visit:

[abb.com/measurement](https://www.abb.com/measurement)

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AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER OCWA – Kawartha Lakes Hub
 CONTACT Nick Leroux
 Senior Operations Manager
 123 East St S
 Bobcaygeon ON, K0M 1A0
 P: 705-623-7278
 E: nleroux@ocwa.com

EQUIPMENT DETAIL

[MUT] MANUFACTURER Siemens
 MODEL LT500
 CONVERTER SERIAL NUMBER PBD-R7100002
 PLANT ID PS#1
 METER ID Wet Well Level
 FIT ID n/a
 CLIENT TAG n/a
 OTHER n/a
 GPS COORDINATES n/a
 VERIFICATION DATE May 1st 2025
 CAL. FREQUENCY Annual
 CAL. DUE DATE May 2026

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -
 Reference equipment and instrumentation used to
 conduct this verification test is found in our AC-
 QMS document at the time this test was
 conducted.

PROGRAMMING PARAMETERS

EMPTY DISTANCE m 2.500
 SPAN m 2.200
 BLANKING DISTANCE m 0.300
 OFFSET m 0

TEST CRITERIA

AS FOUND CERTIFICATION TEST Yes
 ALLOWABLE [%] ERROR 15

COMPONENTS TESTED

CONVERTER DISPLAY yes
 mA OUTPUT no
 TOTALIZER yes
 ACCURACY BASED ON [% o.r.] yes
 ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

Ultrasonic sensor installed to ensure full scale flow condition

AS FOUND TEST RESULTS

		23.0					% F.S. Range
AIR SPACE MEASURED		1.993					m
LEVEL EXPECTED		0.507					m
MUT [Reading]		0.535					m
MUT [Difference]		0.028					m
MUT [% Error]		5.4					%
mA OUTPUT							
MUT [Reading]	min. 4.000 mA						
MUT [Difference]	max. 20.000 mA						
MUT [% Error]							

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION IDENT. ID #
 [REFERENCE] LEVEL Sim. BOARD N/A
 PROCESS METER PM 0

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	5.44	PASS
mA OUTPUT	N/A	N/A

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER OCWA – Kawartha Lakes Hub
 CONTACT Nick Leroux
 Senior Operations Manager
 123 East St S
 Bobcaygeon ON, K0M 1A0
 P: 705-623-7278
 E: nleroux@ocwa.com

EQUIPMENT DETAIL

[MUT] MANUFACTURER Miltronics
 MODEL Multiranger 100
 CONVERTER SERIAL NUMBER 111903138XB
 PLANT ID PS#2
 METER ID Wet Well Level
 FIT ID n/a
 CLIENT TAG n/a
 OTHER n/a
 GPS COORDINATES n/a
 VERIFICATION DATE May 1st 2025
 CAL. FREQUENCY Annual
 CAL. DUE DATE May 2026

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -
 Reference equipment and instrumentation used to
 conduct this verification test is found in our AC-
 QMS document at the time this test was
 conducted.

PROGRAMMING PARAMETERS

EMPTY DISTANCE m 3.810
 SPAN m 3.480
 BLANKING DISTANCE m 0.300
 OFFSET m 0

TEST CRITERIA

AS FOUND CERTIFICATION TEST Yes
 ALLOWABLE [%] ERROR 15

COMPONENTS TESTED

CONVERTER DISPLAY yes
 mA OUTPUT no
 TOTALIZER yes
 ACCURACY BASED ON [% o.r.] yes
 ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

Ultrasonic sensor installed to ensure full scale flow condition

AS FOUND TEST RESULTS

		27.8					% F.S. Range
AIR SPACE MEASURED		2.841					m
LEVEL EXPECTED		0.969					m
MUT [Reading]		1.050					m
MUT [Difference]		0.081					m
MUT [% Error]		8.4					%
mA OUTPUT							
MUT [Reading]	min. 4.000 mA						
MUT [Difference]	max. 20.000 mA						
MUT [% Error]							

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION IDENT. ID #
 [REFERENCE] LEVEL Sim. BOARD N/A
 PROCESS METER PM 0

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	8.36	PASS
mA OUTPUT	N/A	N/A

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER OCWA – Kawartha Lakes Hub
 CONTACT Nick Leroux
 Senior Operations Manager
 123 East St S
 Bobcaygeon ON, K0M 1A0
 P: 705-623-7278
 E: nleroux@ocwa.com

EQUIPMENT DETAIL

[MUT] MANUFACTURER Siemens
 MODEL LT500
 CONVERTER SERIAL NUMBER PBD-T1106141
 PLANT ID PS#4
 METER ID Wet Well Level
 FIT ID n/a
 CLIENT TAG n/a
 OTHER n/a
 GPS COORDINATES n/a
 VERIFICATION DATE May 1st 2025
 CAL. FREQUENCY Annual
 CAL. DUE DATE May 2026

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -
 Reference equipment and instrumentation used to
 conduct this verification test is found in our AC-
 QMS document at the time this test was
 conducted.

PROGRAMMING PARAMETERS

EMPTY DISTANCE m 4.720
 SPAN m 4.720
 BLANKING DISTANCE m 0.300
 OFFSET m 0

TEST CRITERIA

AS FOUND CERTIFICATION TEST Yes
 ALLOWABLE [%] ERROR 15

COMPONENTS TESTED

CONVERTER DISPLAY yes
 mA OUTPUT no
 TOTALIZER yes
 ACCURACY BASED ON [% o.r.] yes
 ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

Ultrasonic sensor installed to ensure full scale flow condition

AS FOUND TEST RESULTS

		37.5					% F.S. Range
AIR SPACE MEASURED		2.950					m
LEVEL EXPECTED		1.770					m
MUT [Reading]		1.800					m
MUT [Difference]		0.030					m
MUT [% Error]		1.7					%
mA OUTPUT							
MUT [Reading]	min. 4.000 mA						
MUT [Difference]	max. 20.000 mA						
MUT [% Error]							

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION IDENT. ID #
 [REFERENCE] LEVEL Sim. BOARD N/A
 PROCESS METER PM 0

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	1.69	PASS
mA OUTPUT	N/A	N/A

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER OCWA – Kawartha Lakes Hub
 CONTACT Nick Leroux
 Senior Operations Manager
 123 East St S
 Bobcaygeon ON, K0M 1A0
 P: 705-623-7278
 E: nleroux@ocwa.com

EQUIPMENT DETAIL

[MUT] MANUFACTURER Miltronics
 MODEL Multiranger 100
 CONVERTER SERIAL NUMBER 061004195VV
 PLANT ID PS#5
 METER ID Wet Well Level
 FIT ID n/a
 CLIENT TAG n/a
 OTHER n/a
 GPS COORDINATES n/a
 VERIFICATION DATE May 1st 2025
 CAL. FREQUENCY Annual
 CAL. DUE DATE May 2026

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -
 Reference equipment and instrumentation used to
 conduct this verification test is found in our AC-
 QMS document at the time this test was
 conducted.

PROGRAMMING PARAMETERS

EMPTY DISTANCE m 3.400
 SPAN m 3.000
 BLANKING DISTANCE m 0.300
 OFFSET m 0

TEST CRITERIA

AS FOUND CERTIFICATION TEST Yes
 ALLOWABLE [%] ERROR 15

COMPONENTS TESTED

CONVERTER DISPLAY yes
 mA OUTPUT no
 TOTALIZER yes
 ACCURACY BASED ON [% o.r.] yes
 ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

Ultrasonic sensor installed to ensure full scale flow condition

AS FOUND TEST RESULTS

		42.7					% F.S. Range
AIR SPACE MEASURED		2.119					m
LEVEL EXPECTED		1.281					m
MUT [Reading]		1.300					m
MUT [Difference]		0.019					m
MUT [% Error]		1.5					%
mA OUTPUT							
MUT [Reading]	min. 4.000 mA						
MUT [Difference]	max. 20.000 mA						
MUT [% Error]							

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION IDENT. ID #
 [REFERENCE] LEVEL Sim. BOARD N/A
 PROCESS METER PM 0

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	1.48	PASS
mA OUTPUT	N/A	N/A

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER OCWA – Kawartha Lakes Hub
 CONTACT Nick Leroux
 Senior Operations Manager
 123 East St S
 Bobcaygeon ON, K0M 1A0
 P: 705-623-7278
 E: nleroux@ocwa.com

EQUIPMENT DETAIL

[MUT] MANUFACTURER Miltronics
 MODEL Multiranger 100
 CONVERTER SERIAL NUMBER PBD/W21307S5XB
 PLANT ID PS#6
 METER ID Wet Well Level
 FIT ID n/a
 CLIENT TAG n/a
 OTHER n/a
 GPS COORDINATES n/a
 VERIFICATION DATE May 1st 2025
 CAL. FREQUENCY Annual
 CAL. DUE DATE May 2026

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -
 Reference equipment and instrumentation used to
 conduct this verification test is found in our AC-
 QMS document at the time this test was
 conducted.

PROGRAMMING PARAMETERS

EMPTY DISTANCE m 5.790
 SPAN m 5.000
 BLANKING DISTANCE m 0.300
 OFFSET m 0

TEST CRITERIA

AS FOUND CERTIFICATION TEST Yes
 ALLOWABLE [%] ERROR 15

COMPONENTS TESTED

CONVERTER DISPLAY yes
 mA OUTPUT no
 TOTALIZER yes
 ACCURACY BASED ON [% o.r.] yes
 ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

Ultrasonic sensor installed to ensure full scale flow condition

AS FOUND TEST RESULTS

		37.0					% F.S. Range
AIR SPACE MEASURED		3.940					m
LEVEL EXPECTED		1.850					m
MUT [Reading]		1.810					m
MUT [Difference]		-0.040					m
MUT [% Error]		-2.2					%
mA OUTPUT							
MUT [Reading]	min. 4.000 mA						
MUT [Difference]	max. 20.000 mA						
MUT [% Error]							

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION IDENT. ID #
 [REFERENCE] LEVEL Sim. BOARD N/A
 PROCESS METER PM 0

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	-2.16	PASS
mA OUTPUT	N/A	N/A

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL		EQUIPMENT DETAIL	
CUSTOMER	OCWA – Kawartha Lakes Hub	[MUT] MANUFACTURER	Siemens
CONTACT	Nick Leroux Senior Operations Manager 123 East St S Bobcaygeon ON, K0M 1A0 P: 705-623-7278 E: nleroux@ocwa.com	MODEL	LT500
		CONVERTER SERIAL NUMBER	N/A
		PLANT ID	PS#7
		METER ID	Wet Well Level
		FIT ID	n/a
		CLIENT TAG	n/a
		OTHER	n/a
		GPS COORDINATES	n/a
VER. BY - FM	Daniel Kettlewell	VERIFICATION DATE	May 1st 2025
Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC- QMS document at the time this test was conducted.		CAL. FREQUENCY	Annual
		CAL. DUE DATE	May 2026

PROGRAMMING PARAMETERS

EMPTY DISTANCE	m	5.855
SPAN	m	1.000
BLANKING DISTANCE	m	0.300
OFFSET	m	0

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
ALLOWABLE [%] ERROR	15

COMPONENTS TESTED

CONVERTER DISPLAY	yes
mA OUTPUT	no
TOTALIZER	yes
ACCURACY BASED ON [% o.r.]	yes
ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.	

Ultrasonic sensor installed to ensure full scale flow condition

AS FOUND TEST RESULTS

		101.0					% F.S. Range
AIR SPACE MEASURED		4.845					m
LEVEL EXPECTED		1.010					m
MUT [Reading]		1.060					m
MUT [Difference]		0.050					m
MUT [% Error]		5.0					%
mA OUTPUT							
MUT [Reading]	min. 4.000 mA						
MUT [Difference]	max. 20.000 mA						
MUT [% Error]							

COMMENTS

COMMENTS	QUALITY MANAGEMENT STANDARDS INFO.			RESULTS		
	[QMS] INFORMATION	IDENT.	ID #	TEST	AVG % o.r.	PASS FAIL
	[REFERENCE] LEVEL	Sim. BOARD	N/A	DISPLAY	4.95	PASS
	PROCESS METER	PM	0	mA OUTPUT	N/A	N/A

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER OCWA – Kawartha Lakes Hub
 CONTACT Nick Leroux
 Senior Operations Manager
 123 East St S
 Bobcaygeon ON, K0M 1A0
 P: 705-623-7278
 E: nleroux@ocwa.com

EQUIPMENT DETAIL

[MUT] MANUFACTURER Siemens
 MODEL LT500
 CONVERTER SERIAL NUMBER PBD-T40473017
 PLANT ID PS#8
 METER ID Wet Well Level
 FIT ID n/a
 CLIENT TAG n/a
 OTHER n/a
 GPS COORDINATES n/a
 VERIFICATION DATE May 1st 2025
 CAL. FREQUENCY Annual
 CAL. DUE DATE May 2026

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -
 Reference equipment and instrumentation used to
 conduct this verification test is found in our AC-
 QMS document at the time this test was
 conducted.

PROGRAMMING PARAMETERS

EMPTY DISTANCE m 7.000
 SPAN m 6.700
 BLANKING DISTANCE m 0.300
 OFFSET m 0

TEST CRITERIA

AS FOUND CERTIFICATION TEST Yes
 ALLOWABLE [%] ERROR 15

COMPONENTS TESTED

CONVERTER DISPLAY yes
 mA OUTPUT no
 TOTALIZER yes
 ACCURACY BASED ON [% o.r.] yes
 ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

Ultrasonic sensor installed to ensure full scale flow condition

AS FOUND TEST RESULTS

		27.2					% F.S. Range
AIR SPACE MEASURED		5.176					m
LEVEL EXPECTED		1.824					m
MUT [Reading]		1.820					m
MUT [Difference]		-0.004					m
MUT [% Error]		-0.2					%
mA OUTPUT							
MUT [Reading]	min. 4.000 mA						
MUT [Difference]	max. 20.000 mA						
MUT [% Error]							

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION IDENT. ID #
 [REFERENCE] LEVEL Sim. BOARD N/A
 PROCESS METER PM 0

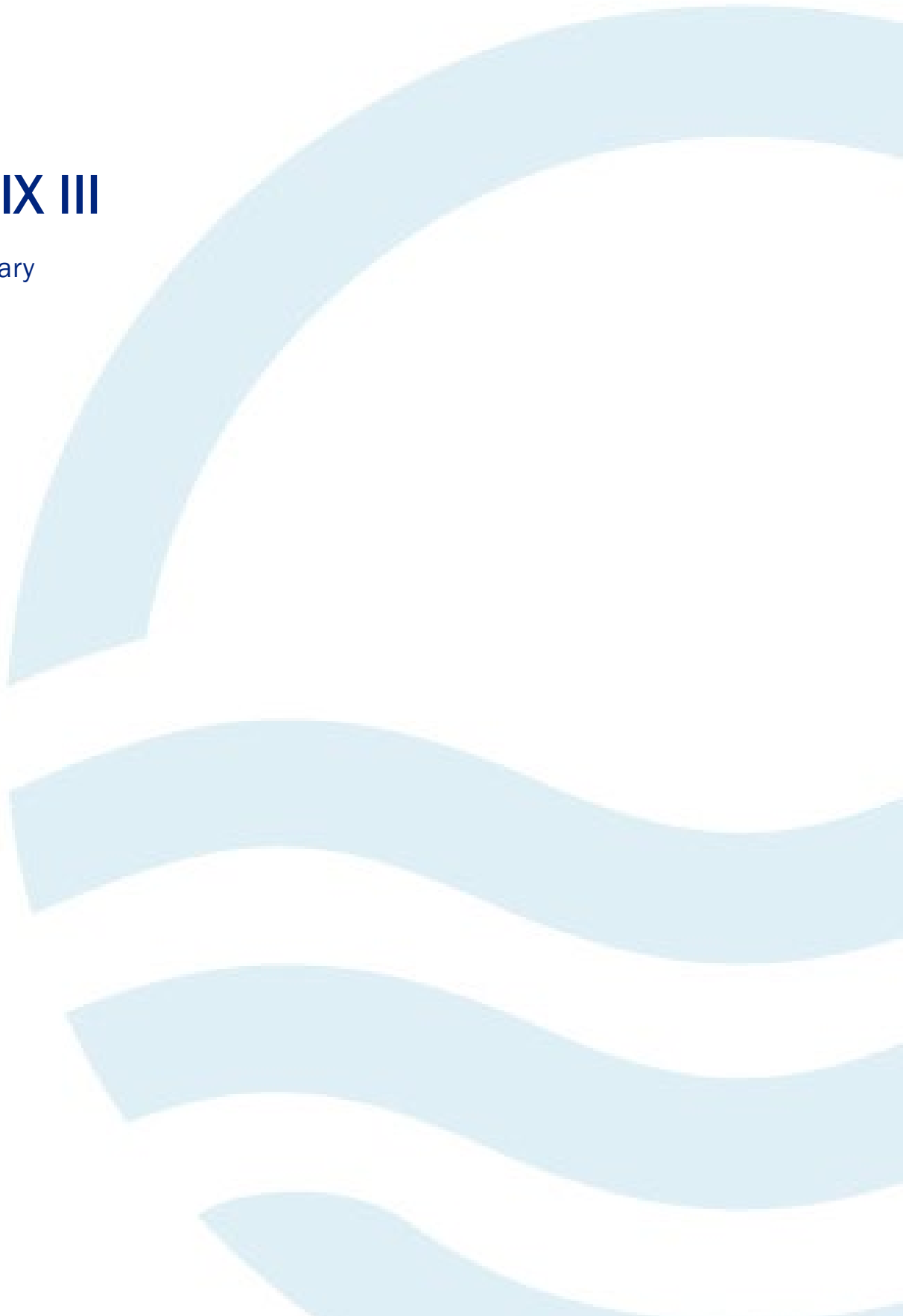
RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	-0.22	PASS
mA OUTPUT	N/A	N/A

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

APPENDIX III

Biosolids Summary



Biosolids Quality Report

Facility: LAGOON CITY WASTEWATER TREATMENT PLANT



Solids & Nutrients

Period: 01/01/2025 to 12/31/2025

Works: 1617 / Digester Type: Aerobic

Solids & Nutrients	Metals & Criteria	Last 4 Samples
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Facility Works Number: 120002255 Receiver: Wetland area draining to Lake Simcoe
 Facility Owner: Municipality: The Township of Ramara Service Population: 2420
 Facility Classification: Class 2 Wastewater Treatment Total Design Capacity:

Note: all parameters in this report are derived from the Bslq Station

Month	Hauled Vol. (m³)	Total Solids (mg/L)	Volatile Solids (mg/L)	Total Phosphorus (mg/L)	Total Ammonia Nitrogen (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Ammonia + Nitrate (mg/L)	Potassium (mg/L)
Parameter Short Name	HauledVol	TS	VS	TP	NH3p_NH4p_N	NO3-N	NO2-N	TKN	Calculation in Report	K
T/S	IH Month.Total	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	- no T/S	Lab Published Month Mean
Jan		17,300.00	8,490.00	410.00	2.50	3.00	3.00	518.00	2.75	41.00
Feb		17,000.00	8,800.00	353.00	1.70	3.00	3.00	501.00	2.35	39.70
Mar		17,900.00	9,120.00	312.00	2.30	3.00	3.00	523.00	2.65	85.00
Apr		30,100.00	14,900.00	274.00	2.40	3.00	3.00	825.00	2.70	30.00
May	816.00	28,000.00	13,400.00	549.00	1.90	3.00	3.00	678.00	2.45	46.00
Jun		31,400.00	15,500.00	586.00	4.40	3.00	3.00	526.00	3.70	60.00
Jul		29,200.00	13,500.00	620.00	3.40	3.00	3.00	396.00	3.20	60.00
Aug		36,100.00	16,800.00	848.00	5.10	40.00	3.00	932.00	22.55	69.00
Sep		42,100.00	19,700.00	857.00	5.40	3.00	3.00	918.00	4.20	66.00
Oct	456.00	39,600.00	18,900.00	1,070.00	13.80	21.00	3.00	770.00	17.40	74.00
Nov	160.00	29,500.00	14,600.00	732.00	1.00	16.00	3.00	637.00	8.50	60.00
Dec		26,100.00	12,200.00	568.00	1.30	3.00	3.00	791.00	2.15	59.00
Average	477.33	28,691.67	13,825.83	598.25	3.77	8.67	3.00	667.92	6.22	57.48
Total	1,432.00	344,300.00	165,910.00	7,179.00	45.20	104.00	36.00	8,015.00	74.60	689.70

Solids & Nutrients

Metals & Criteria

Last 4 Samples

Note: all parameters in this report are derived from the Bslq Station

Month	Arsenic (mg/L)	Cadmium (mg/L)	Cobalt (mg/L)	Chromium (mg/L)	Copper (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Lead (mg/L)	Selenium (mg/L)	Zinc (mg/L)
Parameter Short Name	As	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Zn
T/S	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean
Jan	0.10	0.01	0.04	0.34	2.80	0.01	0.05	0.20	0.20	0.10	7.00
Feb	0.11	0.01	0.04	0.30	2.38	0.01	0.05	0.18	0.14	0.10	6.48
Mar	0.10	0.06	0.10	0.71	28.00	0.03	0.33	0.61	0.90	0.10	46.00
Apr	0.10	0.01	0.03	0.21	1.90	0.01	0.05	0.13	0.10	0.10	5.00
May	0.20	0.01	0.05	0.42	3.70	0.01	0.05	0.25	0.20	0.10	9.00
Jun	0.20	0.01	0.07	0.47	3.50	0.01	0.05	0.32	0.20	0.10	9.00
Jul	0.20	0.01	0.06	0.40	3.60	0.01	0.05	0.31	0.20	0.10	9.00
Aug	0.20	0.02	0.08	0.56	5.80	0.02	0.07	0.43	0.30	0.10	15.00
Sep	0.20	0.02	0.09	0.62	6.50	0.01	0.07	0.46	0.30	0.10	15.00
Oct	0.30	0.03	0.09	0.70	7.40	0.02	0.09	0.53	0.40	0.10	18.00
Nov	0.20	0.02	0.06	0.53	5.70	0.01	0.06	0.38	0.30	0.10	13.00
Dec	0.10	0.01	0.06	0.42	4.30	0.01	0.05	0.31	0.20	0.10	10.00
Average	0.17	0.02	0.06	0.47	6.30	0.01	0.08	0.34	0.29	0.10	13.54
Max. Permissible Metal Concentrations (mg/kg of Solids)	170.00	34.00	340.00	2,800.00	1,700.00	11.00	94.00	420.00	1,100.00	34.00	4,200.00
Metal Concentrations in Sludge (mg/kg)	5.82	0.65	2.23	16.50	219.52	0.35	2.82	11.93	10.00	3.49	471.91

Solids & Nutrients

Metals & Criteria

Last 4 Samples

Note: all parameters in this report are derived from the Bslq Station

Parameter Short Name	Time Series	09/04/2025	10/07/2025	11/03/2025	12/02/2025	Average	Metal Concentrations in Sludge (mg/kg)	Max. Permissible Metal Concentrations (mg/kg of Solids)
As (mg/L)	Lab Published	0.20	0.30	0.20	0.10	0.20	5.83	170
Cd (mg/L)	Lab Published	0.02	0.03	0.02	0.01	0.02	0.58	34
Co (mg/L)	Lab Published	0.09	0.09	0.06	0.06	0.08	2.18	340
Cr (mg/L)	Lab Published	0.62	0.70	0.53	0.42	0.57	16.53	2800
Cu (mg/L)	Lab Published	6.50	7.40	5.70	4.30	5.98	174.07	1700
Hg (mg/L)	Lab Published	0.01	0.02	0.01	0.01	0.01	0.31	11
Mo (mg/L)	Lab Published	0.07	0.09	0.06	0.05	0.07	1.97	94
Ni (mg/L)	Lab Published	0.46	0.53	0.38	0.31	0.42	12.24	420
Pb (mg/L)	Lab Published	0.30	0.40	0.30	0.20	0.30	8.74	1100
Se (mg/L)	Lab Published	0.10	0.10	0.10	0.10	0.10	2.91	34
Zn (mg/L)	Lab Published	15.00	18.00	13.00	10.00	14.00	407.87	4200
E.Coli Dry Wt (cfu/g)	Lab Published						E. Coli average is the GMD	
TS (mg/L)	Lab Published	42,100.00	39,600.00	29,500.00	26,100.00	34,325.00		
VS (mg/L)	Lab Published	19,700.00	18,900.00	14,600.00	12,200.00	16,350.00		
TP (mg/L)	Lab Published	857.00	1,070.00	732.00	568.00	806.75		
NO2-N (mg/L)	Lab Published	3.00	3.00	3.00	3.00	3.00		
TKN (mg/L)	Lab Published	918.00	770.00	637.00	791.00	779.00		
K (mg/L)	Lab Published	66.00	74.00	60.00	59.00	64.75		
NH3p_NH4p_N (mg/L)	Lab Published	5.40	13.80	1.00	1.30	5.38		
NO3-N (mg/L)	Lab Published	3.00	21.00	16.00	3.00	10.75		