2024 ANNUAL SEWAGE REPORT

MAPLETON WASTEWATER POLLUTION CONTROL PLANT

For the period of
January 1st, 2024 to December 31st, 2024

Prepared for the Corporation of the Township of Mapleton by the Ontario Clean Water Agency

Mapleton

ONTARIO CLEAN WATER AGENCY
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1. System Description

The Mapleton Wastewater Pollution Control Plant (WPCP) is a Lagoon Treatment System consisting of five lagoons which receives residential and commercial wastewater and provides a level of treatment to meet the Amended Environmental Compliance Approval (ECA) #1391-B38PLA. Owned by the Township of Mapleton, the works is operated on behalf of the Owner by the Ontario Clean Water Agency (OCWA) for the treatment of sanitary sewage and disposal of effluent to Conestogo River. The Rated Capacity of the works is 900 m^3/day.

The major process units consist of: inlet works, preliminary treatment (aeration cell), a biological treatment stabilization cell, supplementary treatment system for phosphorus removal, three (3) final effluent polishing cells, two effluent pumping station, post-secondary treatment through sand filtration and UV disinfection. The WWTP discharges the treated effluent via its outfall into the Conestogo River.

An overview of Mapleton Wastewater Pollution Control Plant can be found in Table 1:

Table 1. Mapleton Wastewater Pollution Control Plant Overview

Facility Name	Mapleton Wastewater Pollution Control Plant
Facility Type	Facultative Lagoons, Aerated Lagoon (Cell #2), Alum addition/phosphorous removal, sand filters, sewer system and UV Disinfection, and two pumping stations.
Plant Classification	WWT I, WWC I
Works Number	120001782
Design Capacity	900 m^3/day
Receiving Water	Conestogo River
Environmental Compliance Approval	ECA# 1391-B38PLA, issued August 2, 2018

2. Influent and Effluent Monitoring and Comparison to Effluent Objectives and Effluent Limits

As per Section 11(4)(a) of ECA 1391-B38PLA, *a summary and interpretation of all Influent monitoring data, and a review of the historical trend of the sewage characteristics and flow rates* is required.

2.1 Influent (Raw Sewage)

As per Section 11(4)(a) of ECA 1391-B38PLA, *a summary and interpretation of all Influent monitoring data, and a review of the historical trend of the sewage characteristics and flow rates* is required.

2.1.1 Sampling Frequency: Influent

Samples of raw sewage (influent) are collected and analyzed on a regular basis. The sampling types and frequencies are summarized in Table 2. The sampling frequencies meet the requirements set out in Schedule D of ECA 1391-B38PLA.

Table 2. Influent Water Quality Monitoring Program and Sampling Points

Parameter	Sample Type	Minimum Frequency
BOD_5[2A]	Grab	Bi-Weekly
Total Suspended Solids[2A]	Grab	Bi-Weekly
Total Phosphorous[2A]	Grab	Bi-Weekly
Total Kjeldahl Nitrogen[2A]	Grab	Bi-Weekly

[2A]Refer to Appendix A for monthly sample results.

2.1.2 Influent (Raw Sewage) Monitoring Data

The following parameters in Table 3 are not reportable as they do not have limits or objectives but are monitored on a regular basis (see Section 2.1.1 for sampling frequency) as required by Schedule D of ECA 1391-B38PLA. Table 3 summarizes the influent monitoring data for the reporting period.

Laboratory analysis of the influent throughout the year indicated that Total Suspended Solids, Total Phosphorus and Total Kjeldahl Nitrogen peaked in October 2024 at 560.5 mg/L, 11.65 mg/L and 107.5 mg/L respectively. The highest recorded BOD_5 was recorded in June 2024 at 579.00 mg/L. Overall, there were no notable fluctuations to influent contents for the reporting year.

Table 3. Raw Sewage Monitoring Parameters as required by ECA 1391-B38PLA for Mapleton Wastewater Pollution Control Plant, 2024

Parameter	Average (mg/L)	Minimum (mg/L)	Maximum (mg/L)
BOD_5[3A]	343.71	216.33	579.00
Total Suspended Solids[3A]	334.00	193.50	560.50
Total Phosphorous[3A]	7.98	3.15	11.65
Total Kjeldahl Nitrogen[3A]	67.34	31.75	107.50

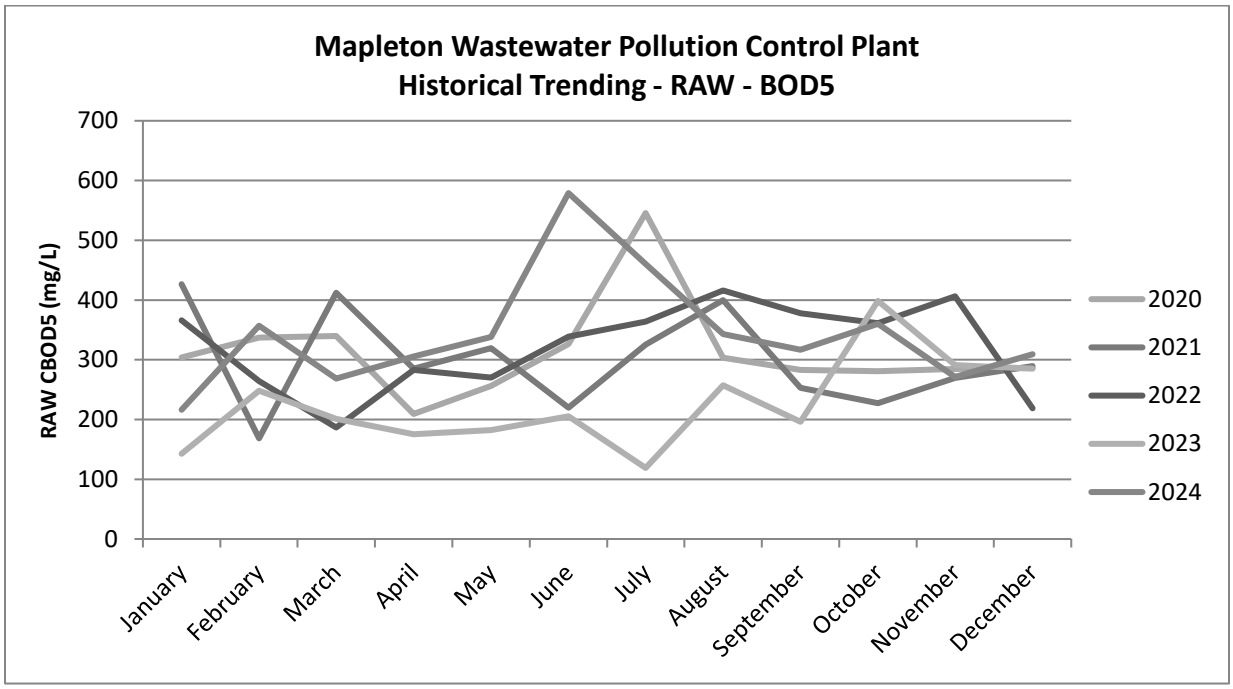
[3A]Refer to Appendix A for monthly sample results.

2.1.3 Historical Trends of Influent (Sewage) Characteristics and Influent Flowrates

Sewage Characteristics

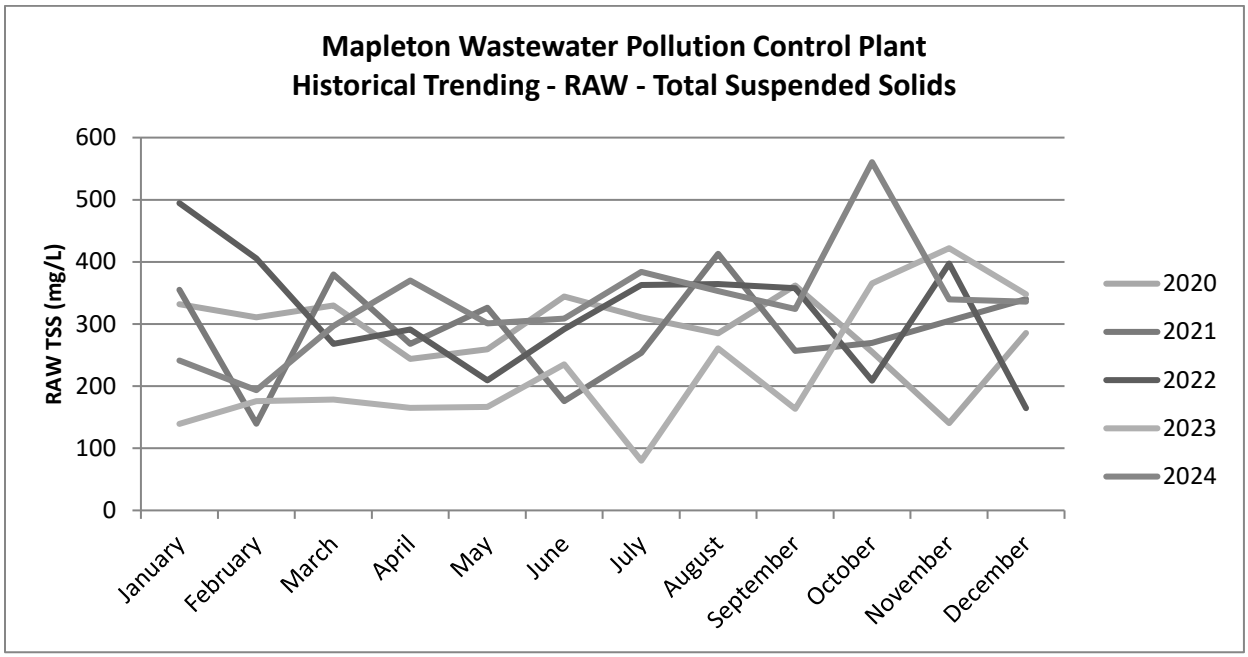
The below graph shows historical raw Biochemical Oxygen Demand (BOD_5) trending from 2020 to 2024. A review of the trends from the last 5 years for BOD_5 shows that the average BOD_5 concentration in the raw sewage fluctuates year to year with no consistent observable trend. An overall increase in BOD_5 concentration was observed in 2024 compared to previous years. The BOD_5 annual average was 225.15 mg/L in 2023 and increased in 2024 at 343.71 mg/L.

Graph 1. Raw Sewage (Influent) BOD_5 Historical Trending for 2020-2024



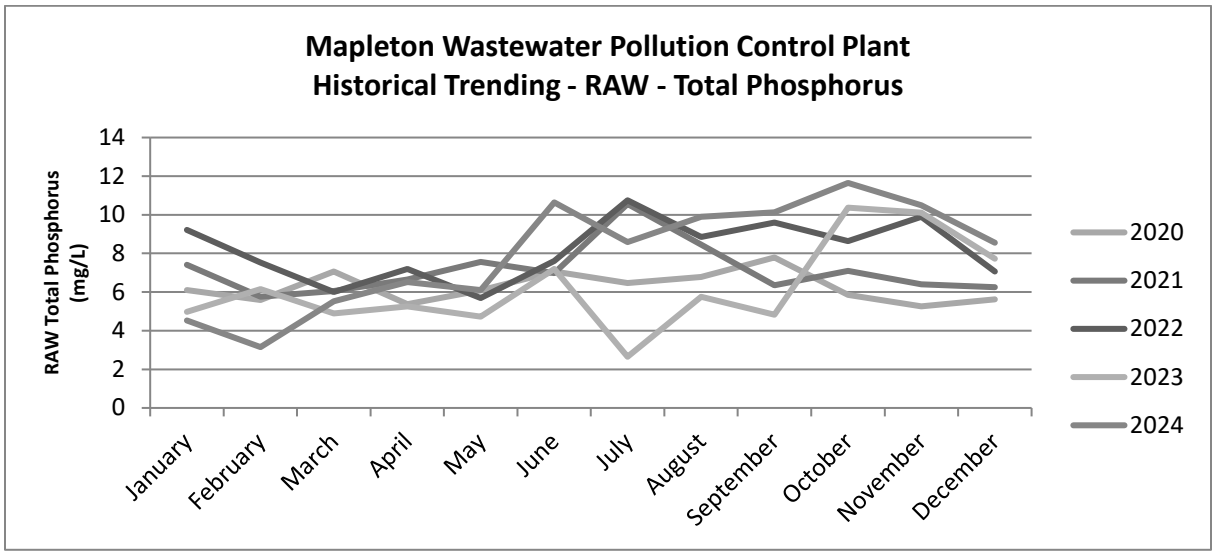
The below graph shows the historical raw Total Suspended Solids trending from 2020 to 2024. A review of the current 2024 trends versus the last 5 years has shown an increase in concentrations of Total Suspended Solids for the majority of the year. TSS annual average was 225.00 mg/L in 2023 and has increased in 2024 to 334.00 mg/L.

Graph 2. Raw Sewage (Influent) Total Suspended Solids Historical Trending for 2020-2024



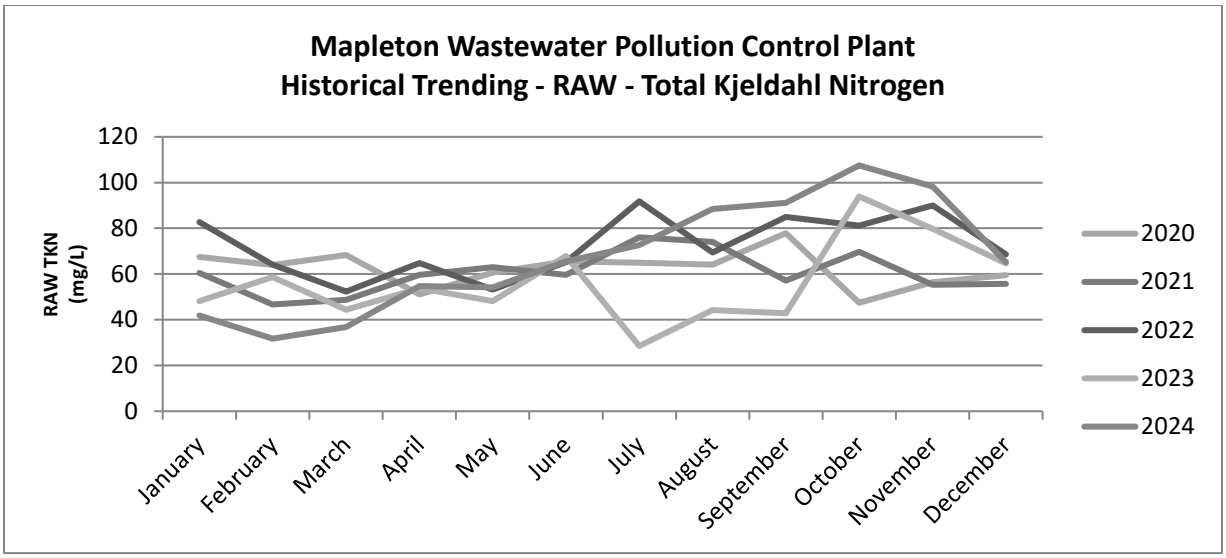
The below graph shows the historical raw Total Phosphorus trending from 2020 to 2024. A review of the current 2024 trends versus the last 5 years has shown a slight decrease in concentrations of phosphorus for the beginning of the year and an increase for the remainder of the year. TP annual average was 6.22 mg/L in 2023 and has increased in 2024 to 7.98 mg/L.

Graph 3. Raw Sewage (Influent) Total Phosphorus Historical Trending for 2020-2024



The below graph shows the historical raw Total Kjeldahl Nitrogen trending from 2020 to 2024. A review of the 2024 trends versus the last 5 years for TKN has shown a slight decrease in concentrations in the beginning of the year and an increase for the remainder of the year. The TKN annual average was 56.26 mg/L in 2023 and has increased in 2024 to 67.34 mg/L.

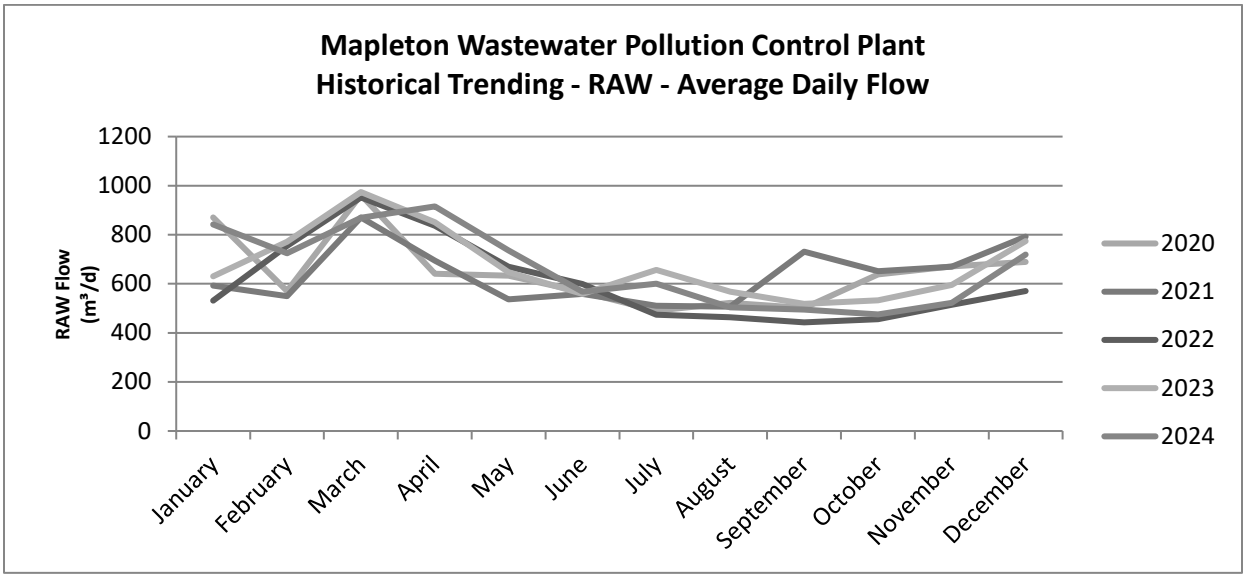
Graph 4. Raw Sewage (Influent) Total Kjeldahl Nitrogen Historical Trending for 2020-2024



Influent Flow

The below graph shows historical raw flow trending from 2020 to 2024. The graph shows that the average flows have remained fairly consistent with a slight increase year over year. There is a consistent peak in the months of March and April, which would represent warmer temperatures resulting in snowmelt and seasonal precipitation.

Graph 5. Monthly Historical Trending of Daily Average Influent Flow for 2020 to 2024



The total raw sewage volume of wastewater treated in 2024 was 242,240.00 m^3, which was a slight decrease from 245,673.00m^3 total raw sewage volume for 2023. The annual average daily flow of raw sewage was 665.49 m^3/day was 73.94 % of the rated capacity (900 m^3/day). The maximum peak flow of 1,901.00 m^3/day occurred on December 31, 2024 due to unseasonal snowmelt and heavy rainfall. This represents a peak flow of 2.1 times the rated capacity.

2.2 Final Effluent Monitoring and Flow Rates

As per Section 11(4)(b) of ECA 1391-B38PLA, *a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the designed objectives and compliance limits in this approval, including an overview of the success and adequacy of the Works* is required.

2.2.1 Sampling Frequency: Effluent

Samples of effluent are collected and analyzed on a regular basis. The sampling types and frequencies are summarized in Table 4. The sampling frequencies meet the requirements set out in Schedule D of ECA 1391-B38PLA.

Table 4. Effluent Sampling Monitoring – Sampling Frequencies

Parameters	Sample Type	Minimum Frequency
$CBOD_5$[4A]	24-hour Composite	Weekly
Total Suspended Solids[4A]	24-hour Composite	Weekly
Total Phosphorous[4A]	24-hour Composite	Weekly
Total Ammonia Nitrogen[4A]	24-hour Composite	Weekly
E. Coli[4A]	Grab	Weekly
pH	Grab/Probe	Weekly
Temperature	Grab/Probe	Weekly
Unionized Ammonia	Calculated	Weekly

[4A]Refer to Appendix A for monthly sample results.

Notes: As per the ECA pH and temperature of the Final Effluent shall be determined in the field at the time of sampling for Total Ammonia Nitrogen and the concentration of un-ionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended.

2.2.2 Effluent Objectives and Limits

The effluent objectives as per Schedule B of ECA 1391-B38PLA for the Mapleton Wastewater Pollution Control Plant are summarized in table 5:

Table 5. Effluent Objectives as per Schedule B of ECA 1391-B38PLA

Effluent Parameter	Averaging Calculator	Concentration Objective (mg/L)
$CBOD_5$	Monthly Average Effluent Concentration	5.0
Total Suspended Solids	Monthly Average Effluent Concentration	15.0
Total Ammonia Nitrogen	Monthly Average Effluent Concentration	3.0
Total Phosphorous	Monthly Average Effluent Concentration	0.25
E.Coli	Monthly Geometric Mean Density	100 CFU/100mL
pH	Single Sample Result	6.5 - 8.5 inclusive

The effluent limits that are to be met as per Schedule C of ECA 1391-B38PLA for the Mapleton Wastewater Pollution Control Plant are summarized in Table 6. Any exceedance with the limits found in Table 6 constitutes a non-compliance.

Table 6. Effluent Limits as per Schedule C of ECA 1391-B38PLA

Effluent Parameter	Averaging Calculator	Concentration Limit (mg/L)
$CBOD_5$ (April, October) (March, November, December)	Monthly Average Effluent Concentration	 7.5 10.0
Total Suspended Solids	Monthly Average Effluent Concentration	25.0

Effluent Parameter	Averaging Calculator	Concentration Limit (mg/L)
Total Ammonia Nitrogen	Monthly Average Effluent Concentration	5.0
Total Phosphorous	Monthly Average Effluent Concentration	0.42
E.Coli	Monthly Geometric Mean Density	200 CFU/100 mL
pH	Single Sample Result	6.0 - 9.5 Inclusive

2.2.3 Effluent Monitoring Data

The following parameters in Table 7 have limits and objectives, they are monitored on a regular basis (see Section 2.2.1 for sampling frequency) as required by Schedule D of ECA 1391-B38PLA. Table 7 summarizes the effluent monitoring data for the reporting period.

Table 7. Effluent Monitoring Parameters as required by ECA 1391-B38PLA for Mapleton Wastewater Pollution Control Plant, 2024

Parameters	Average (mg/L)	Minimum (mg/L)	Maximum (mg/L)	Average Annual Loading (kg/d)
$CBOD_5$[7A]	<2.48	<2.00	<3.00	<5.61
Total Suspended Solids[7A]	7.86	<2.50	14.50	17.79
Total Phosphorus[7A]	<0.03	<0.03	<0.04	<0.08
Total Ammonia Nitrogen[7A]	0.59	<0.10	1.55	1.33
E.Coli[7A] (GMD)	-	1.52	2.00	-
pH	-	7.09	8.95	-
Temperature	8.20	2.50	18.00	-
Unionized Ammonia	<0.003	<0.001	0.009	-

[7A]Refer to Appendix A for monthly sample results.

2.2.4 Comparison of Data to Effluent Objectives and Effluent Limits

Analytical and monitoring data for the Mapleton Wastewater Pollution Control Plan is stored in OCWAs data management system (WISKI7). Annual and monthly averages for flows, $CBOD_5$, Total Suspended Solids, Total Phosphorous, Nitrogen-series, *E.coli* and pH can be found in Appendix A. A comparison of analytical data from effluent samples to the effluent objectives and effluent limits shown in tables 8 to 13. The Discharge period for the Mapleton WPCP is March to April and October to December.

Concentrations and Loadings

Table 8. 2024 Monthly Average Concentration and Loading of $CBOD_5$ in Comparison to ECA Objectives and Limits for Mapleton WPCP

	$CBOD_5$			
	Monthly Average Concentration (mg/L)	Within Objectives (5.00 mg/L)	Within Limits (Apr, Oct – 7.50 mg/L) (Mar, Nov, Dec - 10.00 mg/L)	Monthly Average Loading (kg/d)
January	n/a	n/a	n/a	n/a
February	n/a	n/a	n/a	n/a
March	<2.75	Yes	Yes	<7.16
April	<3.00	Yes	Yes	<8.44
May	n/a	n/a	n/a	n/a
June	n/a	n/a	n/a	n/a
July	n/a	n/a	n/a	n/a
August	n/a	n/a	n/a	n/a
September	n/a	n/a	n/a	n/a
October	<2.00	Yes	Yes	<1.14
November	<2.00	Yes	Yes	<3.72
December	<2.60	Yes	Yes	<8.13

**There are no $CBOD_5$ loading objectives or limits in the ECA*

**As per the ECA, $CBOD_5$ Averaging Calculator is a Monthly Average Effluent Concentration.*

Table 9. 2024 Monthly Average Concentration and Loading of Total Suspended Solids in Comparison to ECA Objectives and Limits for Mapleton WPCP

	Total Suspended Solids			
	Monthly Average Concentration (mg/L)	Within Objectives (15.00 mg/L)	Within Limits (25.00 mg/L)	Monthly Average Loading (kg/d)
January	n/a	n/a	n/a	n/a
February	n/a	n/a	n/a	n/a
March	8.50	Yes	Yes	22.13
April	8.50	Yes	Yes	23.91
May	n/a	n/a	n/a	n/a
June	n/a	n/a	n/a	n/a
July	n/a	n/a	n/a	n/a
August	n/a	n/a	n/a	n/a
September	n/a	n/a	n/a	n/a
October	14.50	Yes	Yes	8.26

	Total Suspended Solids			
	Monthly Average Concentration (mg/L)	Within Objectives (15.00 mg/L)	Within Limits (25.00 mg/L)	Monthly Average Loading (kg/d)
November	<2.50	Yes	Yes	<4.66
December	<5.80	Yes	Yes	<18.15

**There are no TSS loading objectives or limits in the ECA*

**As per the ECA, TSS Concentration Averaging Calculator is a Monthly Average Effluent Concentration.*

Table 10. 2024 Monthly Average Concentration and Loading of Total Phosphorus in Comparison to ECA Objectives and Limits for Mapleton WPCP

	Total Phosphorus			
	Monthly Average Concentration (mg/L)	Within Objectives (0.25 mg/L)	Within Limits (0.42 mg/L)	Monthly Average Loading (kg/d)
January	n/a	n/a	n/a	n/a
February	n/a	n/a	n/a	n/a
March	<0.04	Yes	Yes	<0.10
April	<0.04	Yes	Yes	<0.11
May	n/a	n/a	n/a	n/a
June	n/a	n/a	n/a	n/a
July	n/a	n/a	n/a	n/a
August	n/a	n/a	n/a	n/a
September	n/a	n/a	n/a	n/a
October	<0.03	Yes	Yes	<0.02
November	<0.03	Yes	Yes	<0.06
December	<0.03	Yes	Yes	<0.09

**There are no TP loading objectives or limits in the ECA*

**As per the ECA, TP Concentration Averaging Calculator is a Monthly Average Effluent Concentration.*

Table 11. 2024 Monthly Average Concentration and Loading of Total Ammonia Nitrogen in Comparison to ECA Objectives and Limits for Mapleton WPCP

	Total Ammonia Nitrogen (Ammonia Nitrogen + Ammonium Nitrogen)			
	Monthly Average Concentration (mg/L)	Within Objectives (3.0 mg/L)	Within Limits (5.0 mg/L)	Monthly Average Loading (kg/d)
January	n/a	n/a	n/a	n/a
February	n/a	n/a	n/a	n/a
March	1.55	Yes	Yes	4.04

	Total Ammonia Nitrogen (Ammonia Nitrogen + Ammonium Nitrogen)			
	Monthly Average Concentration (mg/L)	Within Objectives (3.0 mg/L)	Within Limits (5.0 mg/L)	Monthly Average Loading (kg/d)
April	1.20	Yes	Yes	3.38
May	n/a	n/a	n/a	n/a
June	n/a	n/a	n/a	n/a
July	n/a	n/a	n/a	n/a
August	n/a	n/a	n/a	n/a
September	n/a	n/a	n/a	n/a
October	<0.10	Yes	Yes	<0.06
November	<0.10	Yes	Yes	<0.19
December	<0.10	Yes	Yes	<0.31

**There are no TAN loading objectives or limits in the ECA*

**As per the ECA, TAN Concentration Averaging Calculator is a Monthly Average Effluent Concentration.*

Table 12. 2024 Monthly Average Concentration and Loading of *E.Coli* in Comparison to ECA Objectives and Limits for Mapleton WPCP

	E.coli		
	Monthly Geometric Mean Density (CFU/100 mL)	Within Objectives (100 CFU/100 mL)	Within Limits (200 CFU/100 mL)
January	n/a	n/a	n/a
February	n/a	n/a	n/a
March	2.00	Yes	Yes
April	2.00	Yes	Yes
May	n/a	n/a	n/a
June	n/a	n/a	n/a
July	n/a	n/a	n/a
August	n/a	n/a	n/a
September	n/a	n/a	n/a
October	2.00	Yes	Yes
November	1.68	Yes	Yes
December	1.52	Yes	Yes

***As per the ECA, E.coli Averaging Calculator is Monthly Mean Geometric Density.*

Table 13. 2024 Monthly Minimum and Maximum pH for Mapleton WPCP

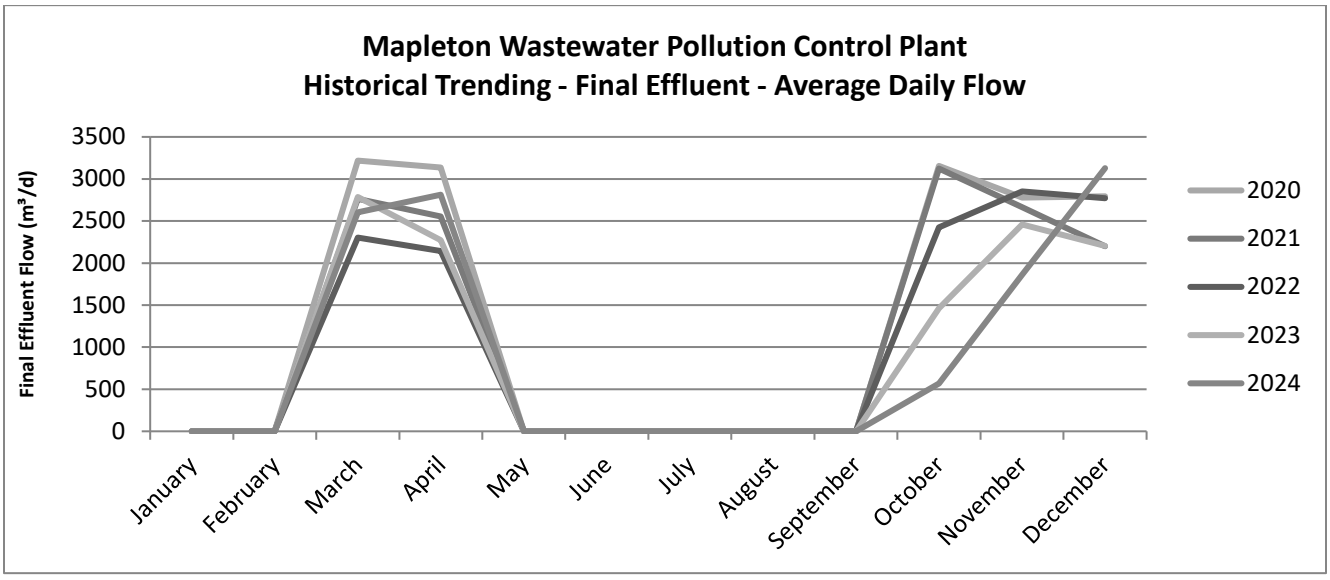
	pH			
	Minimum	Maximum	Within Objectives (6.5 – 8.5)	Within Limits (6.0 – 9.5)
January	n/a	n/a	n/a	n/a
February	n/a	n/a	n/a	n/a
March	7.09	7.33	Yes	Yes
April	7.13	7.43	Yes	Yes
May	n/a	n/a	n/a	n/a
June	n/a	n/a	n/a	n/a
July	n/a	n/a	n/a	n/a
August	n/a	n/a	n/a	n/a
September	n/a	n/a	n/a	n/a
October	7.55	8.25	Yes	Yes
November	8.11	8.31	Yes	Yes
December	7.44	8.95	No	Yes

2.2.5 Final Effluent Flow and Maximum Discharge Rates

Effluent Flow

The below graph shows historical final effluent flow trending from 2020 to 2024. The graph shows that during the discharge periods the final effluent average flows have remained fairly consistent between the discharge periods year over year.

Graph 6. Historical Average Daily Final Effluent Flow by Month for 2020 to 2024



The total effluent volume of wastewater treated in 2024 was 323,797.58 m^3 with an annual average daily effluent flow of 2,264.32 m^3/day, which was an increase from the total effluent volume of wastewater treated in 2023 of 275,292.63 m^3 and annual average daily flow of 2,220.10 m^3. See table 14 for comparison of maximum daily effluent flow to the maximum final effluent discharge rates as per Schedule C.

Table 14. Monthly Average Daily Effluent Flow

2024	Monthly Average Daily Effluent Flow (m^3)	Monthly Average Daily Effluent Flow Limit (m^3/day)
March	2603.49	2,559[14A]
April	2812.85	4,000
October	569.72	233[14A]
November	1861.93	1,854[14A]
December	3128.49	4,000

[14A]As per section 8(5) The Owner shall operate the Works such that discharge of Final Effluent from the Works is conducted on a seasonal discharge basis with the effluent being discharged only during the months at the rates as specified in Schedule C. However, discharges in excess of these daily discharges is allowed if the minimum 10:1 of the streamflow to daily discharge rate for the applicable period of that design streamflow occurs, based on actual measurements of flow rate in the Conestogo River.

[14A]As per Section 8(5)(b) The Owner shall, during the discharge of Final Effluent, make reference to the streamflow data of the Conestogo River from the Grand River Conservation Authority Website. The Owner shall take responsibility for interpreting the hydrometric data for that day and make the appropriate operational changes. The streamflow provided shall be the basis of proportional discharge for that day and the next six days for the purposes of determining the final effluent discharge rate;

2.3 Overview of Success and Adequacy of the Works

During the reporting period, The Mapleton WWTP provided overall effective wastewater treatment, producing final effluent with an annual average TSS concentration of 7.86 mg/L with a removal efficiency of >97.14%. The annual average effluent Total Phosphorus concentration was <0.03 mg/L with a removal efficiency of >99.32%.

The bacteriological quality of the effluent complied with the environmental compliance approval requirement of <200 colony forming units per 100 mL sample. The maximum geometric mean density of organisms for 2024 was 2.00 per 100 mL, indicating extremely effective effluent disinfection.

Based on the monitoring program and effluent quality data, the Mapleton WWTP provided effective treatment for the duration of the 2024 reporting period. Refer to *Appendix A* for more details on the annual and monthly effluent quality results. For the 2024 reporting year, the Mapleton WWTP complied with all of the effluent concentration limits and objectives, with the exception of one non-compliance reported for October 7, 2024 relating to a flow exceedance. See Appendix D for more information and written notification of non-compliance.

3. Deviation(s) from the Monitoring Schedule

As per Section 11(4)(c) of ECA 1391-B38PLA, *a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year* is required

During the reporting period, the following deviations occurred from the sampling schedule:

Table 15. Deviations from the 2024 Sampling Schedule

Date	Reason for Deviation
July 18, 2024	Raw sample taken 1 day later than scheduled – sampling day was shifted to July 19, 2024 to accommodate a routine annual Ministry inspection within the drinking water system on July 18, 2024
August 27, 2024	Raw sample taken 1 day later than scheduled – sampling day was shifted to August 28, 2024 due to a staff scheduling
October 3, 2024	Effluent sample taken 1 day later than scheduled – sampling day was shifted to October 4, 2024 to accommodate discharge startup that occurred on Tuesday, October 1, 2024

A copy of the sampling schedule for the next reporting year (2025) can be found in Appendix B of this report.

4. Operating Issues and Corrective Actions

As per Section 11(4)(d) of ECA 1391-B38PLA, *a summary of all operating issues encountered and corrective actions taken* is required.

There was one operating problem encountered during the reporting period. The non-compliance occurred on October 7, 2024 relating to a flow exceedance. See Appendix D for more information and written notification of non-compliance.

5. Maintenance Activities

As per Section 11(4)(e) of ECA 1391-B38PLA, *a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming parts of the Works* is required.

5.1 Work Management System

Planned maintenance, including scheduled and non-scheduled maintenance activities are scheduled using a computerized Work Management System (WMS) that allows user to:

- Enter detailed asset information
- Generate and process work orders
- Access maintenance and inspection procedures
- Plan, schedule, and document all asset related tasks and activities
- Access maintenance records and asset histories

Work Orders are automatically generated by the WMS program and are assigned to the applicable Operations staff accordingly.

5.2 Preventative Maintenance Activities

The preventative maintenance tasks completed throughout the reporting period are as follows:

- Monthly blower inspections
- Monthly filter and UV inspection (during discharge periods)
- Annual calibrations (flow meters, pH meters, etc.)
- Annual lifting device inspection

5.3 Major Maintenance

Major maintenance activities completed for the reporting period are as follows:

- Replacement floats for filter reject pumps
- Sludge depth measurements
- Valve stern repairs
- Cell 2 airline leak and alum mixer
- Compressor repairs
- Filter sand cleanout and replacement
- Annual wet well cleanout
- Annual pump inspections
- 3rd Party flow meter calibrations

6. Effluent Quality Assurance and Control

As per Section 11(4)(f) of ECA 1391-B38PLA, *a summary of any effluent quality assurance or control measures undertaken* is required:

Quality assurance and control measures undertaken during the reporting period include adherence to provincial regulations, use of accredited laboratories, operation of the system by licensed Operators, scheduled sampling and analysis, in-house laboratory analysis, and calibration and preventative maintenance of equipment. The sections below provide further details of these measures.

6.1 Adherence to Provincial Regulations

The Ontario Clean Water Agency operates the WPCP in accordance with provincial regulations and the Environmental Compliance Approval.

6.2 Use of Accredited Laboratories

Analytical tests to monitor the effluent quality are conducted by a laboratory audited by the Canadian Association for Laboratory Accreditation Inc. (CALA) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods

in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analysts performing the test methods. During the reporting period, SGS (Lakefield) Canada Inc. conducted all chemical sample analyses.

6.3 Operation by Licensed Operators

The WPCP was operated and maintained by licensed Operators. The mandatory licensing program for operators of sewage treatment facilities in Ontario is regulated under the Ontario Water Resources Act (OWRA) Regulation 435/93 and Ontario Regulation 129/04. A Licensed individual has successfully passed the licensing exam and meets the education and experience requirements set out in the regulation.

6.4 Sampling and Analysis

The Ontario Clean Water Agency followed a sampling and analysis schedule that meets the requirements of the ECA.

6.5 In-house Analysis

Licensed Operators conducted in-house analysis for monitoring purposes using standard methods. The data generated from these tests is used to determine the treatment efficiency while effectively maintaining process control. All in-house monitoring equipment is calibrated based on the manufacturer's recommendations. Using their expertise, Operators of the facility make best efforts to stay within the ECA Effluent Objectives and Limits.

7. Calibration and Maintenance Procedures

As per Section 11(4)(g) of ECA 1391-B38PLA, a summary of the calibration and maintenance carried out on all Influent and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer, is required.

All in-house monitoring equipment is calibrated/verified as per manufacturer's recommendations. A third party on an annual basis also calibrates monitoring and metering equipment. Preventative maintenance is scheduled for all equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system (Maximo), upon completion, Operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

SPD Sales Limited was contracted to calibrate flow measuring equipment on August 19, 2024. All flow meters passed verification. Copies of these calibration reports can be found in **Appendix C** of this report.

8. Efforts and Results Achieved in Meeting Effluent Objectives

As per Section 11(4)(h) of ECA 1391-B38PLA, *a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situation:*

i. When any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of Final Effluent quality;

The Mapleton WPCP was able to achieve final effluent parameter design limits (refer to Table 6) for all monitored parameters during the reporting period.

Overall, based on the data, design objectives were achieved 100% of the time in the reporting year. All final effluent was within the Effluent Design Objectives for the reporting period and there appears to be no increased trend in deterioration of final effluent quality.

During the reporting period, operations staff regularly completed visual inspections of final effluent samples and found the effluent to be essentially free of floating and settleable solids. No oil and no visible film, sheen, foam or discolouration were observed in the final effluent.

ii. When the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;

During the reporting period, the annual average daily influent flow did not exceeded 80% of the rated capacity. The annual average daily flow of raw sewage in 2024 was 74.83 % (673.46 m^3/day) of the rated capacity (900 m^3/day). As previously reported in 2023, the average daily flow had slightly exceeded 80% of the rated capacity. The Township of Mapleton and their Engineers are aware of this and has future upgrades proposed for the Works. These upgrades include:

- New Drayton Sewage Pumping Station
- Forcemain Upgrades from Drayton to Lagoon
- Membrane Bio Reactor (MBR) Upgrades at the Lagoon
- Re-rating of the Sewage Works

As per the ECA, Condition 6 is imposed *"to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliances limits of Condition 6 are exceeded."*

OCWA as the Operating Authority (on behalf of the Owner) has made best efforts to stay within the Effluent Objectives in the ECA. These efforts are supported through:

- Continuous monitoring equipment
- Regular plant inspections/checks
- In-house sampling and testing
- Laboratory (3rd party) analysis of influent and effluent samples
- Data review
- Process optimization and adjustments (as required)
- Scheduled/preventative maintenance

- Repairs as necessary

A summary of the effluent quality in comparison to the effluent objectives can be found in Tables 8 to 13. These results show that the sewage treatment operations for 2024 minimized environmental impairment and provided effluent quality that was within all effluent objectives outlined in the ECA for the duration of the reporting period.

9. Sludge Generation

As per Section 11(4)(i) of ECA 1391-B38PLA, *an estimate of sludge volumes in the lagoon cells. Sludge volume is to be measured every five (5) years, but may be estimated in the interim years. A summary of disposal locations and volumes of sludge disposed of must also be provided if sludge was disposed of during the reporting period* is required

There was no sludge hauled/disposed of from the lagoon system in 2024. Currently, the volume of sludge in all cells is being procured for an estimated sludge depth calculation in 2025. The Township of Mapleton, the Township's engineer and CIMA+ Engineering are issuing IFC documents for the Lagoon MBBR capital project in June 2025. Upon the completion of this project, Cell 2 cleanout will commence.

The estimated sludge volume in the lagoon cells can be seen in table 16 below. Values below documented from the Sludge Depth Measurement Report dated May 7, 2024.

Table 16. Estimated Lagoon Cell Sludge Volumes

Cell	Estimated Sludge Volume (m^3)
Cell 1	7,712
Cell 2	12,989
Cell 3	9,515
Cell 4A	4,998
Cell 4B	9,500

10. Complaints

As per Section 11(4)(j) of ECA 1391-B38PLA, *a summary of any complaints received during the reporting period and any steps taken to address the complaints* is required.

A standard operating procedure (SOP) is in place for addressing complaints received from the community. All complaints are addressed and documented in the facility logbook. Community complaint information is entered in OCWA's electronic work management system (Maximo). This system contains all the required information and history of all complaints.

There were no complaints received during the reporting period.

11. By-pass, Spill or Abnormal Discharge Events

As per Section 11(4)(k) of ECA 1391-B38PLA, *a summary of all By-pass, Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events* is required.

There were no bypass, spill or abnormal discharge events that occurred during the reporting period.

ECA 1391-B38PLA requires that Quarterly bypass/overflow reports are to be submitted to the Water Supervisor. All 2024 quarterly reports were submitted to the Water Supervisor by the deadlines specified in the ECA.

12. Notice of Modifications

As per Section 11(4)(l) of ECA 1391-B38PLA, *a summary of all Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Condition 10, including a report on status of implementation of all modification* is required.

There were no modifications made during the reporting period to the Mapleton Wastewater Pollution Control Plant which would require a Notice of Modifications be submitted to the Water Supervisor.

13. Bypass/Overflow Proposed Elimination Projects

As per Section 11(4)(m) of ECA 1391-B38PLA, *a summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer systems that result in overall Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflows with estimated budget forecast for the year following that for which the report is submitted* is required.

The Mapleton Wastewater Pollution Control Plant did not have any bypass/overflow occurrences during this reporting period, therefore there were no projects/expenditures undertaken or completed to eliminate bypass/overflows and any future occurrences.

14. Changes/updates to Scheduled Construction/Commissioning

As per Section 11(4)(n) of ECA 1391-B38PLA, *any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es)/equipment groups in the Proposed Works* is required.

The Proposed Works reached substantial completion as of November 15, 2018.

15. Municipal Sewage Collection System - Annual Performance Report

This report was prepared in accordance with the requirements of the Environmental Compliance Approval for a Municipal Sewage Collection Systems, Schedule E, Section 4.6.1.

Municipal Sewage Collection System ECA #	105-W601, Issue 1
Sewage Works	Township of Mapleton Sewage Collection Systems
Collection System Owner	The Corporation of the Township of Mapleton
Reporting Period	January 1, 2024 to December 31, 2024

Is the Annual Report available to the public at no charge on a website on the Internet?

Yes

Note: As per Schedule E, Section 4.7.1 of CLI-ECA #105-W601-, the annual performance report must be made available, on request and without charge, to members of the public who are served by the Authorized System; and 4.7.2 must be made available, by June 1st of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet.

Location where Annual Performance Report required under CLI-ECA #105-W601, Schedule E will be available for inspection. *(CLI-ECA #101-W601, Schedule E, Section 4.6.1 & 4.7.1):*

- Township of Mapleton Town Office, 7275 Sideroad 16, Drayton, Ontario, N0G 1P0
- http://www.mapleton.ca

Pursuant to Schedule E, sections 4.6.3 to 4.6.9, this Annual Performance Report shall:

a) 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.

b) If applicable, include a summary of any operating problems encountered and corrective actions taken.

c) 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.

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

e) Include 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.

f) Include a summary of all Collection System Overflow(s) and Spill(s) of Sewage.

i. Dates;
ii. Volumes and durations;
iii. If applicable, loadings for total suspended solids, BOD, total phosphorus, and total kjeldahl nitrogen and sampling results for E.Coli;
iv. Disinfection, if any; and
v. Any adverse impacts(s) and any corrective actions, if applicable

g) Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:
   i. A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted.
   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.

15.1 Description of the Works

The Township of Mapleton Sewage Collection System is owned by the Township of Mapleton and operated on behalf of the Owner by the Ontario Clean Water Agency (OCWA). The system is composed of two subsystems: The Drayton Sewage Collection System and the Moorefield Sewage Collection System which service the areas of Drayton and Moorefield respectively.

The Drayton Collection System

The Drayton Collection System includes gravity sewers and one final sewage pumping station with a forcemain that discharges to the Mapleton Wastewater Pollution Control Plant. The sewage pumping station(s) in the Authorized system include:

- Drayton Sewage Pumping Station (SPS) – located at 13 Main St. West (accessed off of Mill Street) in Drayton the works consists of one wet well, two pumps (one duty and one standby), one basket screen at the inlet, floats and alarms, and emergency overflow, all of which pumps via forcemain to the Mapleton WPCP. The SPS is equipped with a stand-by diesel generator in case of power failure.

The Moorefield Collection System

The Moorefield collection system includes individual packaged sewage pumping stations at each property connected to a low pressure sanitary sewer system and one final sewage pumping station in Moorefield with a forcemain that discharges to the Mapleton Wastewater Pollution Control Plant. The sewage pumping station(s) in the Authorized system include:

- Moorefield Sewage Pumping Station (SPS) - located at 20 Booth St. East in Moorefield the works consists of one wet well, two pumps (one duty and one standby), floats and alarms, and emergency overflow, all of which pumps via forcemain to the Mapleton WPCP. The SPS is equipped with a stand-by diesel generator in case of power failure.

The Mapleton Municipal Collection System contains no combined sewage pumping stations, no combined sewage storage structures or combined storage tanks. The authorized collection system also contains no authorized combined sewer collection system overflow points and two authorized sanitary sewer overflow points at each of the SPS listed above. For Drayton SPS the authorized emergency overflow point is the wet well discharging to the Conestogo River and for the Moorefield SPS the authorized emergency overflow point is the wet well discharging to a ditch that would then discharge to Moorefield Creek.

15.2 Summary of Monitoring Data and Interpretation

No monitoring data was required within the municipal sewage collection system for the reporting period.

15.3 Summary of Operating Problems Encountered and Corrective Actions Taken

There were no operating problems encountered within the municipal sewage collection system.

15.4 Summary of Calibration, Maintenance, and Repairs

All in-house monitoring equipment is calibrated/verified as per manufacturer's recommendations. Monitoring and metering equipment is also calibrated by a third party on an annual basis. Preventative maintenance is scheduled for all equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system (Maximo), upon completion, Operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

SPD Sales Limited was contracted to calibrate flow measuring equipment within the Sewage Pump Stations on August 19, 2024. Copies of the calibration reports can be found in **Appendix C** of this report.

The following Maintenance and Repair Activities were completed during the reporting period:

Drayton Sewage Pump Station

- Check ball valve replacement
- Pump 1 repair
- Float replacement

- Pump 2 volute replacement
- Forcemain Tee
- Monthly/annual generator inspections and load testing
- Annual pump inspections and lifecycle replacement
- Annual wet well Inspection and clean out

Moorefield Sewage Pump Station

- Monthly/annual generator Inspections and load testing
- Annual pump Inspection
- Annual wet well inspection and clean out

15.5 Community Complaints Received in Relation to the Sewage Works

A standard operating procedure (SOP) is in place for addressing complaints received from the community. All complaints are addressed and documented in the facility logbook. Community complaint information is entered in OCWA's WMS database system "Maximo". This system contains all the required information and history of all complaints.

There were no complaints received during the reporting period.

15.6 Alterations to the Authorized System

There were no alterations to the authorized system that occurred during the reporting period.

15.7 Summary of Collection System Overflow(s) and Spill(s) of Sewage

There were no collection system overflow(s) or spill(s) events that occurred during the reporting period

15.8 Efforts Made to Reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses

The sewage pump stations are equipped with alarm monitoring for high flow events. Preventative maintenance procedures are in place to ensure the sewage pump stations are operating as designed and include:

- Annual pump and pump station inspections
- Annual 3rd Party generator inspections and load testing
- Annual wet well clean out and inspection

2024 Annual Performance Report
Mapleton Wastewater Pollution Control Plant
ECA# 1391-B38PLA August 2, 2018

Appendix A

Performance Assessment Report

2024

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report

From 1/1/2024 to 12/31/2024 11:59:59 PM

6093 DRAYTON WASTEWATER TREATMENT LAGOON 120001782

	1 / 2024	2/ 2024	3/ 2024	4/ 2024	5/ 2024	6/ 2024	7/ 2024	8/ 2024	9/ 2024	10/ 2024	11/ 2024	12/ 2024	<--Total-->	<--Avg-->	<--Max-->	<-Criteria->
Flows																
Raw Flow: Total - Raw Sewage Drayton m³/d	23,363.00	18,676.00	24,218.00	24,801.00	20,458.00	14,896.00	16,478.00	13,608.00	12,842.00	11,767.00	13,606.00	19,942.00	214,655.00			0.00
Raw Flow: Total - Raw Sewage Flow from Moorefield m³/d	2,753.00	2,348.00	2,741.00	2,661.00	2,353.00	2,130.00	2,120.00	2,025.00	2,007.00	2,141.00	2,073.00	2,361.00	27,713.00			0.00
Raw Flow: Total - Raw Sewage Total m³/d	26,116.00	21,024.00	26,959.00	27,462.00	22,811.00	17,026.00	18,598.00	15,633.00	14,849.00	13,780.00	15,679.00	22,303.00	242,240.00			0.00
Raw Flow: Avg - Raw Sewage Drayton m³/d	753.65	644.00	781.23	826.70	659.94	496.53	531.55	438.97	428.07	405.76	453.53	643.29		589.71		750.00
Raw Flow: Avg - Raw Sewage Flow from Moorefield m³/d	88.81	80.97	88.42	88.70	75.90	71.00	68.39	65.32	66.90	69.06	69.10	76.16		75.72		
Raw Flow: Avg - Raw Sewage Total m³/d	842.45	724.97	869.65	915.40	735.84	567.53	599.94	504.29	494.97	475.17	522.63	719.45		665.49		
Raw Flow: Max - Raw Sewage Drayton m³/d	1,733.00	956.00	1,340.00	1,606.00	1,063.00	725.00	1,403.00	680.00	772.00	532.00	589.00	1,808.00			1,808.00	0.00
Raw Flow: Max - Raw Sewage Flow from Moorefield m³/d	164.00	115.00	133.00	139.00	102.00	108.00	102.00	86.00	88.00	96.00	103.00	109.00			164.00	0.00
Raw Flow: Max - Raw Sewage Total m³/d	1,827.00	1,026.00	1,449.00	1,741.00	1,132.00	805.00	1,505.00	760.00	851.00	616.00	690.00	1,901.00			1,901.00	0.00
Raw Flow: Count - Raw Sewage Drayton m³/d	31.00	29.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	29.00	30.00	31.00	364.00			0.00
Raw Flow: Count - Raw Sewage Flow from Moorefield m³/d	31.00	29.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	366.00			0.00
Raw Flow: Count - Raw Sewage Total m³/d	31.00	29.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	29.00	30.00	31.00	364.00			0.00
Eff. Flow: Total - Final Effluent m³/d	0.00	0.00	72,897.67	84,385.47	0.00	0.00	0.00	0.00	0.00	13,673.26	55,857.84	96,983.34	323,797.58			0.00
Eff. Flow: Avg - Final Effluent m³/d	0.00	0.00	2,603.49	2,812.85	0.00	0.00	0.00	0.00	0.00	569.72	1,861.93	3,128.49		2,264.32		4,000.00
Eff. Flow: Max - Final Effluent m³/d	0.00	0.00	2,738.90	3,219.11	0.00	0.00	0.00	0.00	0.00	895.49	3,552.57	3,609.62			3,609.62	0.00
Eff Flow: Count - Final Effluent m³/d	0.00	0.00	28.00	30.00	0.00	0.00	0.00	0.00	0.00	24.00	30.00	31.00	143.00			0.00
Carbonaceous Biochemical Oxygen Demand: CBOD																
Eff: Avg cBOD5 - Final Effluent mg/L	0.00	0.00	< 2.75	< 3.00	0.00	0.00	0.00	0.00	0.00	< 2.00	< 2.00	< 2.60		< 2.48	< 3.00	10.00
Eff: # of samples of cBOD5 - Final Effluent	0.00	0.00	4.00	4.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	5.00	21.00			0.00
Loading: cBOD5 - Final Effluent kg/d	0.000	0.000	< 7.160	< 8.439	0.000	0.000	0.000	0.000	0.000	< 1.139	< 3.724	< 8.134		< 5.61	< 8.44	
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw Sewage Drayton mg/L	216.33	357.00	268.50	305.50	338.00	579.00	460.33	343.00	316.50	360.00	271.00	309.33		343.71	579.00	0.00
Raw: # of samples of BOD5 - Raw Sewage Drayton	3.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	27.00			0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage Drayton mg/L	241.33	193.50	297.00	370.00	301.00	308.50	383.67	353.00	324.00	560.50	339.50	336.00		334.00	560.50	0.00
Raw: # of samples of TSS - Raw Sewage Drayton	3.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	27.00			0.00
Eff: Avg TSS - Final Effluent mg/L	0.00	0.00	8.50	8.50	0.00	0.00	0.00	0.00	0.00	14.50	< 2.50	< 5.80		7.86	14.50	25.00
Eff: # of samples of TSS - Final Effluent	0.00	0.00	4.00	4.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	5.00	21.00			0.00
Loading: TSS - Final Effluent kg/d	0.000	0.000	22.130	23.909	0.000	0.000	0.000	0.000	0.000	8.261	< 4.655	< 18.145		17.79	23.91	
Percent Removal: TSS - Final Effluent %	0.00	0.00	97.14	97.70	0.00	0.00	0.00	0.00	0.00	97.41	99.26	98.27			99.26	0.00

Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage Drayton mg/L	4.53	3.15	5.52	6.51	6.10	10.65	8.58	9.90	10.12	11.65	10.50	8.56		7.98	11.65	0.00
Raw: # of samples of TP - Raw Sewage Drayton	3.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	27.00			0.00
Eff: Avg TP - Final Effluent mg/L	0.00	0.00	< 0.04	< 0.04	0.00	0.00	0.00	0.00	0.00	< 0.03	< 0.03	< 0.03		< 0.03	<	0.50
Eff: # of samples of TP - Final Effluent	0.00	0.00	4.00	4.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	5.00	21.00			0.00
Loading: TP - Final Effluent kg/d	0.000	0.000	< 0.098	< 0.105	0.000	0.000	0.000	0.000	0.000	< 0.019	< 0.061	< 0.094		< 0.08	< 0.11	
Percent Removal: TP - Final Effluent %	0.00	0.00	99.32	99.42	0.00	0.00	0.00	0.00	0.00	99.72	99.69	99.65			99.72	0.00
Nitrogen Series																
Raw: Avg TKN - Raw Sewage Drayton mg/L	41.80	31.75	36.80	54.80	54.20	65.45	72.70	88.50	91.10	107.50	98.30	65.17		67.34	107.50	0.00
Raw: # of samples of TKN - Raw Sewage Drayton	3.00	2.00	1.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	26.00			0.00
Eff: Avg TAN - Final Effluent mg/L	0.00	0.00	1.55	1.20	0.00	0.00	0.00	0.00	0.00	< 0.10	< 0.10	< 0.10		0.59	1.55	5.00
Eff: # of samples of TAN - Final Effluent	0.00	0.00	4.00	4.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	5.00	21.00			0.00
Loading: TAN - Final Effluent kg/d	0.000	0.000	4.035	3.375	0.000	0.000	0.000	0.000	0.000	< 0.057	< 0.186	< 0.313		1.33	4.04	
Disinfection																
Eff: GMD E. Coli - Final Effluent cfu/100mL	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00	1.68	1.52				200.00
Eff: # of samples of E. Coli - Final Effluent	0.00	0.00	4.00	4.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	5.00	21.00			0.00

2024 Annual Performance Report
Mapleton Wastewater Pollution Control Plant
ECA# 1391-B38PLA August 2, 2018

Appendix B

2025 Sampling Schedule

2025 Sampling Calendar
DRAYTON LAGOON (Org #6093)
WWT I, WWC I

JANUARY						
M	T	W	TH	F	St	Su
30 - BW/W/R	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	**16 - BW**	17	18	19
20	21	22	23	24	25	26
27	28	29	**30 - BW**	31		

FEBRUARY						
M	T	W	TH	F	St	Su
					1	2
3	4	**5**	6	7	8	9
10	11	12	**13 - BW**	14	15	16
17	**18 - LCS**	**19 - LCS**	**20 - LCS**	**21 - LCS**	22	23
24	25	26	**27 - BW**	28		

MARCH						
M	T	W	TH	F	St	Su
					1	2
3	4	5	**6 - W/R**	7	8	9
10	11	12	**13 - BW/W/R**	14	15	16
17	18	19	**20 - W/R**	21	22	23
24	25	26	**27 - BW/W/R**	28	29	30
31						

APRIL						
M	T	W	TH	F	St	Su
	1	2	**3 - W/R**	4	5	6
7	8	9	**10 - BW/W/R**	11	12	13
14	15	**16 - W/R**	17	18	19	20
21	22	23	**24 - BW/W/R**	25	26	27
28	29	30				

MAY						
M	T	W	TH	F	St	Su
			1	2	3	4
5	6	7	**8 - BW**	9	10	11
12	13	14	15	16	17	18
19	20	21	**22 - BW**	23	24	25
26	27	28	29	30	31	

JUNE						
M	T	W	TH	F	St	Su
						1
2	3	4	**5 - BW**	6	7	8
9	10	11	12	13	14	15
16	17	18	**19 - BW**	20	21	22
23	24	25	26	27	28	29
30						

Stat Holiday/Weekend

Sample Day

BW=Bi-Weekly Raw; **W**=Weekly Effluent; **R**=Weekly River; **LCS**=Lagoon Cell Sampling (Required at least 7 days prior to discharge)

Discharge Periods: March-April & October-December

If you are NOT able to sample on the scheduled day, call your PCT as soon as possible

S:\WestHighlands\12 MAPLETON (Township of)\01 OPERATIONAL\1-1 Sampling Schedules\04 Drayton Lagoon WWTP\2025 Sampling Calendar_DraytonLagoon_Waste_2024.12.02.xlsx

Revision # 9
Revised 2024-12-02

2025 Sampling Calendar
DRAYTON LAGOON (Org #6093)
WWT I, WWC I

JULY						
M	T	W	TH	F	St	Su
	1	2	**3 - BW**	4	5	6
7	8	9	10	11	12	13
14	15	16	**17 - BW**	18	19	20
21	22	23	24	25	26	27
28	29	30	**31 - BW**			

AUGUST						
M	T	W	TH	F	St	Su
				1	2	3
4	5	6	7	8	9	10
11	12	13	**14 - BW**	15	16	17
18	19	20	21	22	23	24
25	26	27	**28 - BW**	29	30	31

SEPTEMBER						
M	T	W	TH	F	St	Su
1	2	3	4	5	6	7
8	9	10	**11 BW**	12	13	14
15 - LCS	**16 - LCS**	**17 - LCS**	**18 - LCS**	**19 - LCS**	20	21
22	23	24	**25 - BW**	26	27	28
29	30					

OCTOBER						
M	T	W	TH	F	St	Su
		1	**2 - W/R**	3	4	5
6	7	8	**9 - BW/W/R**	10	11	12
13	14	15	**16 - W/R**	17	18	19
20	21	22	**23 - BW/W/R**	24	25	26
27	28	29	**30 - W/R**	31		

NOVEMBER						
M	T	W	TH	F	St	Su
					1	2
3	4	5	**6 - BW/W/R**	7	8	9
10	11	12	**13 - W/R**	14	15	16
17	18	19	**20 - BW/W/R**	21	22	23
24	25	26	**27 - W/R**	28	29	30

DECEMBER						
M	T	W	TH	F	St	Su
1	2	3	**4 - BW/W/R**	5	6	7
8	9	10	**11 - W/R**	12	13	14
15	16	17	**18 - BW/W/R**	19	20	21
22	23	24	25	26	27	28
29	**30 - BW/W/R**	31				

Stat Holiday/Weekend

Sample Day

BW=Bi-Weekly Raw; **W**=Weekly Effluent; **R**=Weekly River; **LCS**=Lagoon Cell Sampling (Required at least 7 days prior to discharge)

Discharge Periods: March-April & October-December

If you are NOT able to sample on the scheduled day, call your PCT as soon as possible

S:\WestHighlands\12 MAPLETON (Township of)\01 OPERATIONAL\1-1 Sampling Schedules\04 Drayton Lagoon WWTP\2025 Sampling Calendar_DraytonLagoon_Waste_2024.12.02.xlsx

Revision # 9
Revised 2024-12-02

2024 Annual Performance Report
Mapleton Wastewater Pollution Control Plant
ECA# 1391-B38PLA August 2, 2018

Appendix C

Calibration Reports

2024

CALIBRATION / VERIFICATION

6470 Viscount Rd., Mississauga, Ontario
L4V 1H3. **Tel:** (905) 678-2882
Email: service@spdsales.com
Web Site: www.spdsales.com

Customer Name:	OCWA - Highlands Hub						
Plant Name and address:	Moorefield PS						
Service Date:	19-Aug-24	**Instrument Type:**	**FIT**	**W.O. Number:**	**240741-0001**	**Asset#:**	NA
Due Date:	19-Aug-25	**Manufacturer:**	ABB				
Follow-Up Required:	No	**Model:**	**Transmitter:**	Watermaster	**Sensor:**	-	
As Left Status:	Initial Condt	**Serial #:**	**Transmitter:**	3K620000416124	**Sensor:**	-	
Instrument Visual Inspection:		**Range:**	0-22.22 l/s		**Output:**	4-20 mA	
Mechanical Inspection:	OK	**Tag Information:**	NA				
Electrical Inspection:	OK	**Description:**	Sewage Flow				
As found Display information:	OK	**Process/Location Descrpition:**	NA				

Instrument Information:	
Calibration Factor:	-
Zero Point:	-
Flow Tube Diameter in mm:	100
Flow rate at 20 mA/100%:	22.22
Flow Unit:	l/s

Input	Input %	Flow rate	mA Out	As Found	Deviation	As Left	Deviation
0	**0.00%**	**0.00**	**4.00**	3.98	-0.50%	3.98	-0.50%
25	**25.00%**	**5.56**	**8.00**	7.99	-0.12%	7.99	-0.12%
50	**50.00%**	**11.11**	**12.00**	11.98	-0.17%	11.98	-0.17%
75	**75.00%**	**16.67**	**16.00**	15.98	-0.12%	15.98	-0.12%
100	**100.00%**	**22.22**	**20.00**	19.91	-0.45%	19.91	-0.45%

Comments	**Test Equipment Used**		
	Name / Type	**Serial No.**	**Due Date**
Internal verification was done using internal simulation.			
Analog output tested during internal verification.	Fluke Digital Multimeter	53600167	May-24

Other Outputs Tested:	Not tested	**Technician Name**		**Witness Name**	
Loop Check Performed:	Not tested	Vaibhav P		Don Irvine	
Within Specification:	No	**Date:**	19-Aug-24	**Date:**	19-Aug-24

CALIBRATION / VERIFICATION

6470 Viscount Rd., Mississauga, Ontario
L4V 1H3. **Tel:** (905) 678-2882
Email: service@spdsales.com
Web Site: www.spdsales.com

Customer Name:	OCWA - Highlands Hub						
Plant Name and address:	Drayton - Mill Street Pumping Station						
Service Date:	19-Aug-24	**Instrument Type:**	**FIT**	**W.O. Number:**	**240741-0001**	**Asset#:**	156957
Due Date:	19-Aug-25	**Manufacturer:**	E&H				
Follow-Up Required:	No	**Model:**	**Transmitter:**	Promag 53	**Sensor:**	-	
As Left Status:	Initial Condt	**Serial #:**	**Transmitter:**	F61F0119000	**Sensor:**	-	
Instrument Visual Inspection:		**Range:**	0-100 m^3/Hr		**Output:**	4-20 mA	
Mechanical Inspection:	OK	**Tag Information:**	NA				
Electrical Inspection:	OK	**Description:**	Meter flow 01 Influent				
As found Display information:	OK	**Process/Location Descrpition:**	NA				

Instrument Information:	
Pipe Size:	6"
K/Cal Factor:	1.0955
Zero Point:	0
Flow unit:	m^3/Hr
Flow rate at 20 mA/100%:	100
Pulse rate at 100%:	-
Empty Pipe Detection:	ON
Flow Direction:	-

Input	Input %	Flow rate	mA Out	As Found	Deviation	As Left	Deviation
0	**0.00%**	**0.00**	**4.00**	3.99	-0.25%	3.99	-0.25%
5	**5.00%**	**5.00**	**4.80**	4.79	-0.21%	4.79	-0.21%
50	**50.00%**	**50.00**	**12.00**	11.99	-0.08%	11.99	-0.08%
75	**75.00%**	**75.00**	**16.00**	15.99	-0.06%	15.99	-0.06%
100	**100.00%**	**100.00**	**20.00**	19.96	-0.20%	19.96	-0.20%

Comments	**Test Equipment Used**		
	Name / Type	**Serial No.**	**Due Date**
verification was done using internal simulation.	Fluke Digital Multimeter	53600167	May-24
Analog output tested during internal verification.			

Other Outputs Tested:	Not tested	**Technician Name**		**Witness Name**	
Loop Check Performed:	Not tested	Vaibhav Patel		Don Irvine	
Within Specification:	Yes	**Date:**	19-Aug-24	**Date:**	19-Aug-24

CALIBRATION / VERIFICATION

6470 Viscount Rd., Mississauga, Ontario
L4V 1H3. **Tel:** (905) 678-2882
Email: service@spdsales.com
Web Site: www.spdsales.com

Customer Name:	OCWA - Highlands Hub						
Plant Name and address:	Drayton - Lagoon						
Service Date:	19-Aug-24	**Instrument Type:**	**FI/FIT**	**W.O. Number:**	**240741-0001**	**Asset#:**	NA
Due Date:	19-Aug-25	**Manufacturer:**	Siemens				
Follow-Up Required:	No	**Model:**	**Transmitter:**	Multiranger 100	**Sensor:**	-	
As Left Status:	Initial Condt	**Serial #:**	**Transmitter:**	PBD/BN210450	**Sensor:**	-	
Instrument Visual Inspection:		**Range:**	0-1382.0 CUM/Day		**Output:**	4-20 mA	
Mechanical Inspection:	OK	**Tag Information:**	NA				
Electrical Inspection:	OK	**Description:**	Lagoon Flow				
As found Display information:	OK	**Process/Location Descrpition:**	NA				

Instrument Information:	
Span:	0.225
Empty Distance:	0.952
Flow Eponent:	1.53
Max Head: (20 mA)	0.168
Max Flow: (20 mA)	1382
Height Unit:	m
Flow Unit:	Cum/Day

Input (%)	**Flow**	**mA Out**	**As Found**	**Deviation**	**As Left**	**Deviation**
0.00%	**0.000**	**4.00**	3.98	-0.50%	3.98	-0.50%
25.00%	**345.500**	**8.00**	5.90	-26.25%	5.90	-26.25%
50.00%	**691.000**	**12.00**	9.50	-20.83%	9.50	-20.83%
75.00%	**1036.500**	**16.00**	14.25	-10.94%	14.25	-10.94%
100.00%	**1382.000**	**20.00**	19.89	-0.55%	19.89	-0.55%

Comments		**Test Equipment Used**		
		Name / Type	**Serial No.**	**Due Date**
Internal verification was done using simulation.				
Analog output tested during internal verification.		Fluke Digital Multimeter	53600167	May-24
Other Outputs Tested:	Not tested	**Technician Name**		**Witness Name**
Loop Check Performed:	Not tested	Vaibhav P		Dan
Within Specification:	No	**Date:** 19-Aug-24		**Date:** 19-Aug-24

CALIBRATION / VERIFICATION

6470 Viscount Rd., Mississauga, Ontario
L4V 1H3. **Tel:** (905) 678-2882
Email: service@spdsales.com
Web Site: www.spdsales.com

Customer Name:	OCWA - Highlands Hub						
Plant Name and address:	Drayton - Lagoon						
Service Date:	19-Aug-24	**Instrument Type:**	**FIT**	**W.O. Number:**	**240741-0001**	**Asset#:**	NA
Due Date:	19-Aug-25	**Manufacturer:**	Rosemount				
Follow-Up Required:	No	**Model:**	**Transmitter:**	8712	**Sensor:**	-	
As Left Status:	Initial Condt	**Serial #:**	**Transmitter:**	0860203395	**Sensor:**	-	
Instrument Visual Inspection:		**Range:**	0-25500 CUM/Day		**Output:**	4-20 mA	
Mechanical Inspection:	OK	**Tag Information:**	NA				
Electrical Inspection:	OK	**Description:**	Lagoon Flow				
As found Display information:	OK	**Process/Location Descrpition:**	NA				

Instrument Information:	
Pipe Size:	8"
Cal Tube Number:	
Flow Unit:	l/s
Flow rate at 20 mA/100%:	25500
Pulse rate at 100%:	NA

Input	Input %	Flow rate Ft/s	mA Out	As Found	Deviation	As Left	Deviation
0	**0.00%**	**0.00**	**4.00**	3.99	-0.25%	3.99	-0.25%
3	**10.00%**	**3.00**	**5.60**	5.58	-0.36%	5.58	-0.36%
10	**33.33%**	**10.00**	**9.33**	9.31	-0.21%	9.31	-0.21%
30	**100.00%**	**30.00**	**20.00**	19.90	-0.50%	19.90	-0.50%

Comments		**Test Equipment Used**		
		Name / Type	**Serial No.**	**Due Date**
Cal Number: 0979205909737005		Rosemount Simulator		
Verified successfully with Rosemount simulator.		Fluke Digital Multimeter	53600167	May-24
Other Outputs Tested:	Not tested	**Technician Name**		**Witness Name**
Loop Check Performed:	Not tested	Vaibhav Patel		Don Irvine
Within Specification:	Yes	**Date:** 19-Aug-24		**Date:** 19-Aug-24

CALIBRATION / VERIFICATION

6470 Viscount Rd., Mississauga, Ontario
L4V 1H3. **Tel:** (905) 678-2882
Email: service@spdsales.com
Web Site: www.spdsales.com

Customer Name:	OCWA - Highlands Hub						
Plant Name and address:	Drayton - Lagoon						
Service Date:	19-Aug-24	**Instrument Type:**	**FIT**	**W.O. Number:**	**240741-0001**	**Asset#:**	NA
Due Date:	19-Aug-25	**Manufacturer:**	E&H				
Follow-Up Required:	No	**Model:**	**Transmitter:**	Promag 53	**Sensor:**	-	
As Left Status:	Initial Condt	**Serial #:**	**Transmitter:**	L81D5519000	**Sensor:**	-	
Instrument Visual Inspection:		**Range:**	0-200 m^3/Hr		**Output:**	4-20 mA	
Mechanical Inspection:	OK	**Tag Information:**	FE/FIT-1				
Electrical Inspection:	OK	**Description:**	Lagoon Effluent Flow				
As found Display information:	OK	**Process/Location Descrpition:**	NA				

Instrument Information:	
Pipe Size:	8"
K/Cal Factor:	1.0526
Zero Point:	4
Flow unit:	m^3/Hr
Flow rate at 20 mA/100%:	200
Pulse rate at 100%:	-
Empty Pipe Detection:	ON
Flow Direction:	-

Input	Input %	Flow rate	mA Out	As Found	Deviation	As Left	Deviation
0	**0.00%**	**0.00**	**4.00**	3.99	-0.25%	3.99	-0.25%
5	**5.00%**	**10.00**	**4.80**	4.79	-0.21%	4.79	-0.21%
50	**50.00%**	**100.00**	**12.00**	11.99	-0.08%	11.99	-0.08%
75	**75.00%**	**150.00**	**16.00**	15.99	-0.06%	15.99	-0.06%
100	**100.00%**	**200.00**	**20.00**	19.96	-0.20%	19.96	-0.20%

Comments	**Test Equipment Used**		
	Name / Type	**Serial No.**	**Due Date**
verification was done using internal simulation.	Fluke Digital Multimeter	53600167	May-24
Analog output tested during internal verification.			

Other Outputs Tested:	Not tested	**Technician Name**		**Witness Name**	
Loop Check Performed:	Not tested	Vaibhav Patel		Don Irvine	
Within Specification:	Yes	**Date:**	19-Aug-24	**Date:**	19-Aug-24

2024 Annual Performance Report
Mapleton Wastewater Pollution Control Plant
ECA# 1391-B38PLA August 2, 2018

Appendix D

Non-Compliance Written Notifications

2024

From:	Melissa Cortes
To:	"Neubrand, Rick (MECP)"
Cc:	Jenna Porter; -GHRH-SPCM@ocwa.com (Mailing List); Dwight Hallahan; Murray MacRitchie; Steve Miller; Dan Yake; Don Irvine; Caralynn McRae; Jamie Morgan
Subject:	Written Notification of Non-Compliance - Daily Final Effluent Flow Limit Exceedance for Mapleton WPCP on Monday October 7, 2024
Date:	October-09-24 11:17:00 AM
Attachments:	image001.jpg

Hello Rick,

This is a written notification of non-compliance for final effluent flow limit exceedance at Mapleton WPCP and a follow-up to the voice message notification provided by Jenna Porter on October 9, 2024 at 11:05 hrs.

RE: Mapleton WPCP - Non-Compliance for Final Effluent Daily Effluent Flow Limit Exceedance

Facility: Mapleton Wastewater Pollution Control Plant

Regulatory Requirement(s): Amended Environmental Compliance Approval #1391-B38PLA, Section 8, Schedule C, issued August 2, 2018
Section 8. Operation and Maintenance (5):The Owner shall operate the Works such that discharge of Final Effluent from the Works is conducted on a seasonal discharge basis with the effluent being discharged only during the months at the rates as specified in Schedule C. However, discharges in excess of these daily discharges is allowed if the minimum 10:1 of the streamflow to daily discharge rate for the applicable period of that design streamflow occurs, based on actual measurements of flow rate in the Conestogo River.

Table 2- Maximum Final Effluent Discharge Rates as per ECA "Schedule C" and Section 8(5)

Month	**Monthly Average Daily Effluent Flow (m^3/day)**
October	233 m^3 or **656.4** m^3 (10:1)

Based on Section 8(5): Monday October 7, 2024, the allowable discharge rate was **656.4m^3/day** (River Flow at 3:00pm 0.076m^3/s – 6566.4m^3/day – allowable discharge is 10:1 ratio or 656.4 m^3/day). The flow rate was set at 600m^3/day at approx. 3:50pm. For the previous week the flow rate was set at 830m^3\day based on the calculation. Tuesday October 8, 2024 during rounds it was recorded on the data logger for the 24hr period of October 7, 2024 as **715.26m^3\day**. At the time the reading was taken October 8, 2024 the flow meter was showing 530m^3\day. According to the data logger the actual overage was **59.26m^3**.

Maximum Daily Final Effluent Discharge Rate Exceedance: October 7, 2024

Period	**Maximum Daily Effluent Flow (m^3/day)**
October 7, 2024	**715.26 m^3**

Incident Description

- Mapleton WPCP produced a daily effluent flow on October 7, 2024 of 715.26 m^3/day. ECA discharge rate for October 233 m^3/day – or 10:1 ration as per section 8(5) 656.4 m^3/day, resulting in of overage of 59.26 m^3
- This exceedance was a result of an offset timeframe from the data logger (midnight to midnight) versus operational checks/re-calculation later in the day.

Corrective Actions

- Operators will aim to perform operational checks/re-calculation earlier in the day.

If there are any questions or comments concerning this notification of non-compliance, please let me know so we can discuss it further.

Kind regards,

Melissa Cortes

Process & Compliance Technician
Highlands Hub, Georgian Highlands Region
300 Centennial Road
Shelburne ON, L9V 2Z4
519-938-6909