



2024

**Annual Performance Report
Village of Point Edward
Water Pollution Control Plant**

Works # 110000597

Prepared by:
Village of Point Edward
Jason Verstraeten
Manager of Environmental Services

Table of Contents

Section Number	Contents	Page Number
A	A summary and interpretation of all monitoring data and a comparison to the effluent limit outlines in Condition 7, including an overview of the success and adequacy of the Works.	3
B	A description of any operating problems encountered, and corrective actions taken.	4
C	A summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism, or thing forming a part of the works.	4
D	A summary of any effluent quality assurance or control measures undertaken in the reporting period.	5
E	A summary of the calibration and maintenance carried out on all effluent monitoring equipment.	5
F	A description of efforts made, and results achieved in meeting the Effluent Objectives of Condition 6.	6
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.	7
H	A summary of complaints received during the reporting period and any steps taken to address the complaints.	7
I	A summary of all By-pass, spill, or abnormal discharge events.	7
J	A copy of all Notice of Modifications submitted to the Water supervisor as result of Schedule B, Section 1, with a status report on the implementation of each modification	7
K	A report summarizing all modifications completed as a result of Schedule B, Section 3	7
L	Any other information the District Manager requires from time to time.	8
	Appendix A.	9
	Appendix B	10

The 2024 Annual performance report for the Point Edward Water Pollution Control Plant has been prepared by the Village of Point Edward Manager of Environmental Services. This report is submitted to the local MOECP Water Supervisor in accordance with Condition 10(6) Environmental Compliance Approval (ECA) Number 2156-AEDRL2 dated October 31, 2016, to ensure that a written report detailing performance with all Terms and Conditions of this approval is completed annually.

SECTION A

A summary and interpretation of all monitoring data, a comparison to the effluent limits outlined in Condition 7 including an overview of the success and adequacy of the Works.

In accordance with ECA Condition 10(6)(a), the following table is a detailed description of the measures taken to ensure compliance with Condition 7 of the Certificate of Approval, related to monitoring and recording, and a summary of sampling required by the certificate.

Discharge Period	Effluent Parameter	Analytical Data		Criteria (ECA) Effluent Limits	Exceedance
		Annual Monthly Average	Maximum Monthly Average	Monthly Average	
January 1 to December 31	CBOD5 mg/L	3.75	4.00	15.0 mg/L	No
	Total Suspended Solids mg/L	3.98	6.50	15.0 mg/L	No
	Total Phosphorus mg/L	0.21	0.24	1.0 mg/L	No
	Total Ammonia Nitrogen mg/L	0.10	0.23	1.5 mg/L (Apr 16 - Dec 15)	No
	Total Ammonia Nitrogen mg/L	0.14	0.18	3.0 mg/L (Dec 16 – Apr 15)	No
	E. Coli. (cfu/100ml)	16.05	70.14	Geometric Mean 200 cfu/100 ml	No

2024 Annual Loadings				
Parameter	Maximum Monthly Loading kg/day	Annual Monthly Loading kg/day Average	Waste Loading Limit kg/day (Monthly Average)	Exceedance Yes/No
CBOD5	6.88	5.41	52.5	No
Total Suspended Solids	8.71	5.76	52.5	No
Total Phosphorus	0.41	0.31	3.5	No
Total Ammonia Nitrogen	0.32	0.20	5.25 (Apr 16 - Dec 15)	No
	0.28	0.20	10.5 (Dec 16 - April 15)	No

SECTION B

A description of any operating problems encountered, and corrective actions taken.

There were a couple of short periods where an increased number of filamentous bacteria were present in the process which created a partial covering of the aeration basins with a thin layer of foam. This was corrected with increased wasting and additional monitoring of the process. There was no negative effect on the plant effluent as process changes were made in time to correct the issue before it caused a decline in effluent quality.

There were no other operational issues noted for 2024.

SECTION C

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

- Regular annual maintenance of pumps, valves, aeration blowers and equipment (oil changes etc.)
- Continued Scada upgrades with historian and improved system back up on remote servers
- Remote Scada access for operations staff and management
- Digester (primary) repairs
- Continued Implementation of MESH software for improved maintenance and inventory tracking
- Updates & additions to the System wide mapping of assets and GIS implementation program
- Clarifier chains were adjusted.
- South Aeration Tank cleaned and inspected. Repairs to air diffuser grid made

All other preventative and corrective maintenance completed in 2024 is documented in the MESH maintenance software and/or the plant logbook.

SECTION D

A summary of any effluent quality assurance or control measures undertaken

The final effluent quality determines how the treatment facility operates and if standards are being met. The standards required for certain parameters are identified in the Environmental Compliance Approval (ECA), engineering specifications and the Ministry of the Environment's Effluent Discharge Policy.

The effluent quality of this facility is monitored on a regular basis for both legal and operational requirements. Sampling and testing in plant and by an external accredited lab are necessary for monitoring all parameters required by the ECA. The quality control parameters monitored for this facility include:

- Carbonaceous Biochemical Oxygen Demand
- Total Suspended Solids (Raw & Effluent)
- Total Phosphorus (Raw & Effluent)
- pH
- Nitrogen (Ammonia + Ammonium)
- E. Coli
- Dissolved Oxygen
- Temperature
- BOD5 (Raw)
- Total Kjeldahl Nitrogen (Raw)

The sampling techniques utilized at this facility include:

- 24-hour composite samplers for the collection of the raw & treated samples and grab samples are collected for the aeration samples.
- Grab samples are used for E. Coli, pH, Temperature & Dissolved Oxygen
- Dissolved Oxygen is also now collected and trended on SCADA.

Records are kept and will be provided to the Ministry of Environment & Climate Change as required. These records include:

- Historical data
- Determination of operational efficiencies
- Chemical usage
- Proof of meeting all legal requirements.

All records of the process data are maintained at the Point Edward Water Pollution Control Plant.

SECTION E

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

The annual flow meter calibration testing was conducted on June 26, 2024, by SCG Flowmetrix Technical Services.

All records of calibration are kept in the Calibration Recorders binder in the Managers office at the plant.

SECTION F

A description of efforts made, and results achieved in meeting the effluent objectives of Condition 6

In accordance with the current ECA Condition 6, the following table is a detailed comparison for monitoring data to the effluent objectives.

1. Effluent Quality Compared to Effluent Objectives

Discharge Period	Effluent Parameter	Effluent Objective				Exceedance Yes/No
		Max Monthly Avg. mg/L unless noted	Max Monthly Loading kg/d unless noted	Monthly Avg. Concentration & Loading Objective Limits		
					Monthly Avg. Concentration mg/L unless noted	Monthly Avg. Loading kg/d unless noted
January 1 to December 31	CBOD5	4.00	6.88	10.0	35	No
	Total Suspended Solids	6.50	8.71	10.0	35	No
	Total Phosphorus	0.30	0.41	0.8	2.8	No
	Total Ammonia Nitrogen	0.23	0.32	1.0 (Apr 16 - Dec 15)	3.5 (Apr 16 - Dec 15)	No
	Total Ammonia Nitrogen	0.18	0.28	2.0 (Dec 16 – Apr 15)	7.0 (Dec 16 – Apr 15)	No
	Dissolved Oxygen	Min. Monthly Avg 5.63	N/A	>5.0 mg/L		No
	E. Coli	70.14	N/A	150 organisms/100 ml Monthly Geometric Mean Density		No
	pH	Annual Monthly Min-Max 6.7 – 8.4	Annual Monthly Avg. 7.2	Maintain pH between 6.5 - 9.0 all times		No

2. Rated Capacity

Discharge Period	Parameter	Analytical Data	Effluent Objectives (ECA)	Exceedance
		Daily Average	Daily Average	
2024	Rated Capacity	1,429 m ³ /d	3,500 m ³ /d	No

SECTION G

A tabulation of the volume of sludge generated in the reporting period, an anticipated volume to be generated in the next reporting period and a summary of the locations to where the sludge was disposed.

2024 Sludge generated (total) = 2,901 M³

Sarnia WWTP received - 0.0 M³

Central / Saul Farms received – 1,297 M³

Wessuc Sarnia Site received – 1,604 M³

* Estimated volumes for 2025 = 3,200 M³

Sludge is hauled by Central Sanitation & Wessuc. No sludge was hauled to the Sarnia WWTP in 2024

SECTION H

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

In 2024, there were no complaints received for the Point Edward Water Pollution Control Plant. A Standard Operating Procedure is in place to address complaints in the event one is received.

SECTION I

A summary of all by-pass, spill, or abnormal discharge events

No bypasses, spills or abnormal discharges occurred in 2024.

SECTION J

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

Attached as Appendix A (copy of Notice and status report)

SECTION K

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

Attached as Appendix B

SECTION L

Any other information the District Manager requires from time to time

The un-ionized ammonia results show that the performance of the system is sufficient to keep the levels below the 20ug/L objective set by the Province of Ontario.

Un-ionized Ammonia in Final Effluent Lab Results 2024	Un-ionized Ammonia	Field pH	Field Temperature	TAN
03-Jan-24	0.001	7.13	13.5	0.2
09-Jan-24	0.004	7.94	14.5	0.2
16-Jan-24	0.001	7.88	6.1	0.1
23-Jan-24	0.001	7.2	14.7	0.1
30-Jan-24	0.004	7.79	12.2	0.3
06-Feb-24	0.004	8.44	10.6	0.1
13-Feb-24	0.001	7.97	9.2	0.1
21-Feb-24	0.001	7.58	13.7	0.1
27-Feb-24	0.002	7.92	11.6	0.1
05-Mar-24	0.001	7.2	16.8	0.1
12-Mar-24	0.001	7	15.1	0.1
26-Mar-24	0.001	6.8	19.3	0.1
03-Apr-24	0.002	7.6	14.5	0.2
09-Apr-24	0.001	7.2	17.2	0.1
16-Apr-24	0.001	6.9	18.5	0.2
23-Apr-24	0.001	7.5	11.5	0.2
30-Apr-24	0.001	7	18.8	0.2
07-May-24	0.001	7.4	10.9	0.2
14-May-24	0.001	7.2	17.9	0.2
22-May-24	0.001	7.1	20.5	0.1
28-May-24	0.001	7	21.2	0.1
04-Jun-24	0.001	7.75	20	0.1
11-Jun-24	0.001	7.88	18.9	0.2
18-Jun-24	0.001	7.64	21.5	0.1
25-Jun-24	0.001	7.64	21.8	0.1
03-Jul-24	0.001	7.3	21	0.1
09-Jul-24	0.001	6.7	20.2	0.2
16-Jul-24	0.001	7	22.7	0.1
23-Jul-24	0.001	7.1	14.5	0.1
30-Jul-24	0.001	6.9	22.5	0.1
07-Aug-24	0.001	6.8	21.8	0.1
13-Aug-24	0.001	6.8	22	0.1
20-Aug-24	0.004	7.3	21.1	0.5
27-Aug-24	0.001	7.2	15.1	0.2
04-Sep-24	0.001	6.9	21.6	0.1
10-Sep-24	0.001	6.7	20.8	0.1
17-Sep-24	0.001	6.8	21	0.1
24-Sep-24	0.001	7.05	20.5	0.2
02-Oct-24	0.001	7.4	21.2	0.1
08-Oct-24	0.001	6.9	20.2	0.1
16-Oct-24	0.001	7	18.6	0.1
22-Oct-24	0.001	7.1	20.7	0.1
29-Oct-24	0.001	7	19.5	0.1
05-Nov-24	0.001	6.9	19.9	0.1
13-Nov-24	0.001	7.2	13.8	0.1
19-Nov-24	0.001	6.8	19.4	0.2
26-Nov-24	0.001	6.8	17.1	0.2
03-Dec-24	0.001	6.8	16.3	0.1
10-Dec-24	0.001	6.8	17.1	0.1
17-Dec-24	0.001	7	17.3	0.1
24-Dec-24	0.001	6.74	13.6	0.1
31-Dec-24	0.001	7.02	14.7	0.1

Appendix A

Status Report on Modifications

(Not Applicable for 2024)

Appendix B

As part of Schedule B section 3 this report is being submitted with the Sewage Works annual report.

A plant valve replacement project has been started and will be performed over a few years. This is the replacement of older vales in the plant that is difficult to operate. This has no effect on operation or the plant or the quality of the final effluent from the plant.

Resealing of the Primary digester cover, and walls has been on going from 2018 and will be continued into the 2025 calendar year for completion.