Carleton Place Wastewater System

Waterworks # 11000971

Annual Report

Prepared For: Town of Carleton Place

Reporting Period of January 1st – December 31st 2024

Issued: March 10, 2025

Revision: 0

Operating Authority:

OCWA

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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

Document	Document #	Issue Date	Issue Number
Facility ECA	5001-7FZT4A	October 3rd 2008	N/A
ECA for Municipal Sewage Collection System	172-W601	June 2nd 2022	1

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1 Revision History

Date	Rev#	Revisions	Revised By
March 10, 2025	0	Annual Report Issued	Lauren Lacombe

2 Operations and Compliance Reliability Indices

Compliance Event	Details
Ministry of Environment Inspections	No MECP Inspection during the reporting period
Ministry of Labour Inspections	No MOL Inspection during the reporting period
Non-Compliance	Two (2) Non-Compliance events during the reporting period
Community Complaints	There was one (1) Complaint during the reporting period. See 10. Summary of Complaints
Spills	One (1) spill during the reporting period – See 7.3 Spills (Other than Sewage)
Overflows	No overflows during the reporting period
Bypass	No bypasses during the reporting period
Diversion (if applicable)	One (1) diversion – See Appendix C: Details of Abnormal Sewage Events

3 Process Description

Carleton Place's wastewater treatment systems consists of gravity fed separated sewers and twelve (12) sewage pumping stations (SPS): Southeast (Highway 7) SPS, Bridge Street SPS, Carlgate SPS, Westview Heights SPS, Joseph Street SPS, Industrial Avenue SPS, Princess Street SPS, Findlay Ave SPS, Mississippi Quays SPS, Highgate SPS, Charles Street SPS, and Bodnar SPS. Only the Westview SPS is equipped to overflow from its wet well. Of the twelve pumping stations, ten have backup power, and all pumping stations convey flow to the wastewater treatment facility located at 122 Patterson Crescent in Carleton Place, ON.

Carleton Place's Water Pollution Control Plant (WPCP) is a Class III conventional activated sludge plant with anaerobic digestion. The process begins with preliminary treatment consisting of a mechanical bar screen with a backup manual screen and a vortex grit removal system. Primary treatment occurs in two rectangular primary clarifiers equipped with scum and sludge removal. Three additional tanks are in use for the purpose of providing additional primary treatment during regular operations, and to buffer high

flow situations.

Secondary treatment begins in the activated sludge process. There are three (3) aeration tanks, supplied with air by two (2) PD blowers and a turbo blower, and three (3) secondary clarifiers equipped with circular sludge rakes. Returned Activated Sludge (RAS) is pulled from the secondary clarifiers and returned to aeration. Waste Activated Sludge (WAS) is pumped from the secondary clarifiers to the primary clarifiers and is then wasted to the primary digester. WAS transfers and wasting pumps cycle automatically by a volume setpoint controlled on SCADA. When the primary digester is full, the sludge then overflows into the storage tank. Supernatant is decanted off the storage tank and returned before the raw influent channel. Effluent from the secondary clarifiers is then directed through the UV channel to be disinfected by Ultra Violet Reactors (UV) prior to discharging to the Mississippi River.

Several chemicals are added to the process to support the biological activity of activated sludge. Sodium hydroxide is added pre-aeration for alkalinity adjustment, and to promote nitrification throughout the aerated phase of sewage treatment. Polyaluminum Sulphate (PAS-8) is added for phosphorus removal post aeration.

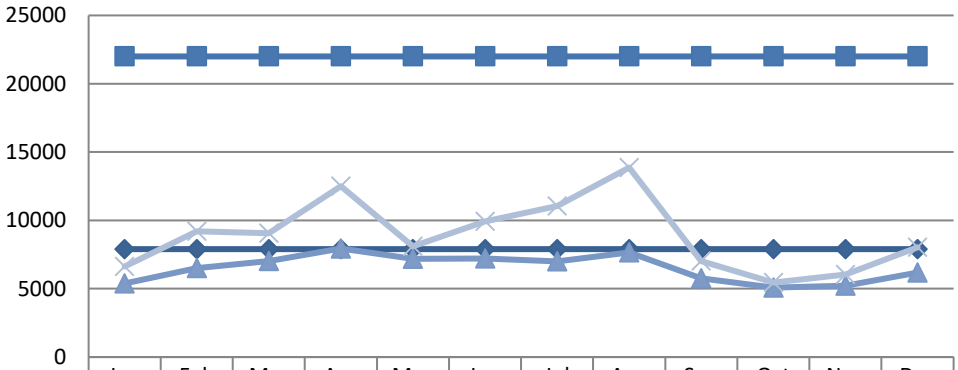
Sludge from the treatment process is co-thickened and stabilized in a two-stage digestion process consisting of a primary digester and sludge storage tank. There is a centrifuge on-site for solids handling, but due to the concentration of hydrogen sulphide produced when running the equipment, the centrifuge is not operational.

The Carleton Place WPCP is equipped with back-up power in the form of a 200 kW diesel generator.

4 Treatment Flows

The annual average daily flow for 2024 was 6,513 m³/d, which represents 82% of the facility's 7900 m³/d rated capacity.

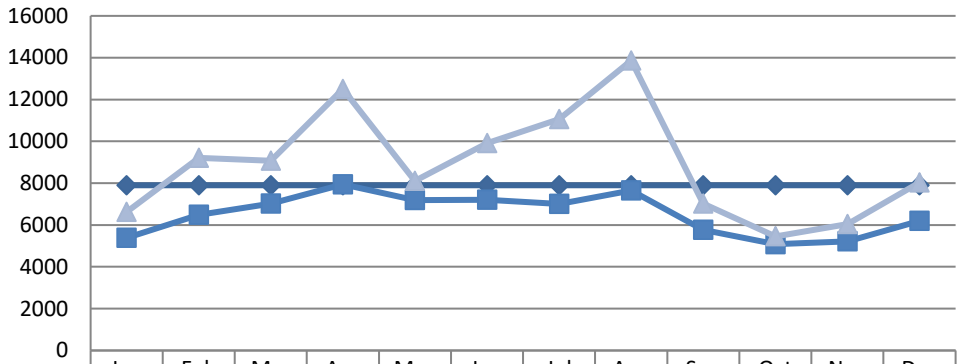
4.1 Raw Flow (m³/d)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity	7900	7900	7900	7900	7900	7900	7900	7900	7900	7900	7900	7900
Wet Weather	22000	22000	22000	22000	22000	22000	22000	22000	22000	22000	22000	22000
Average Daily Flow (m³/d)	5392	6518	7014	7943	7183	7203	7008	7654	5761	5084	5216	6193
Maximum Daily Flow (m³/d)	6628	9209	9067	12498	8107	9920	11063	13865	7018	5454	6038	8039

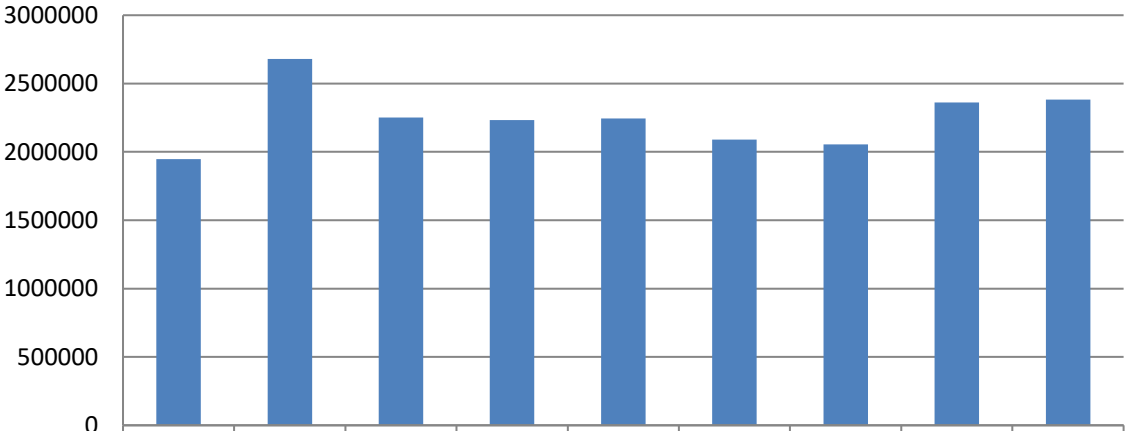
Note: Elevated flows above the rated capacity are directly related to snow melt and wet weather events.

4.2 Effluent Flow (m³/d)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Limit	7900	7900	7900	7900	7900	7900	7900	7900	7900	7900	7900	7900
Average Daily Flow (m³/d)	5392	6484	7014	7943	7183	7203	7008	7654	5761	5084	5216	6193
Maximum Daily Flow (m³/d)	6628	9209	9067	12498	8107	9920	11063	13865	7018	5454	6038	8039

4.2.1 Annual Comparison (m³)



	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total Annual Flow	1946630	2679166	2251721	2233572	2244260	2089051	2053923	2361255	2383061

4.3 Imported Sewage

4.3.1 Septage Flow (m³/d)

There was no septage accepted at this facility in 2024.

4.4 Returned Centrate

The centrifuge did not operate in 2024 at the Carleton Place WPCP.

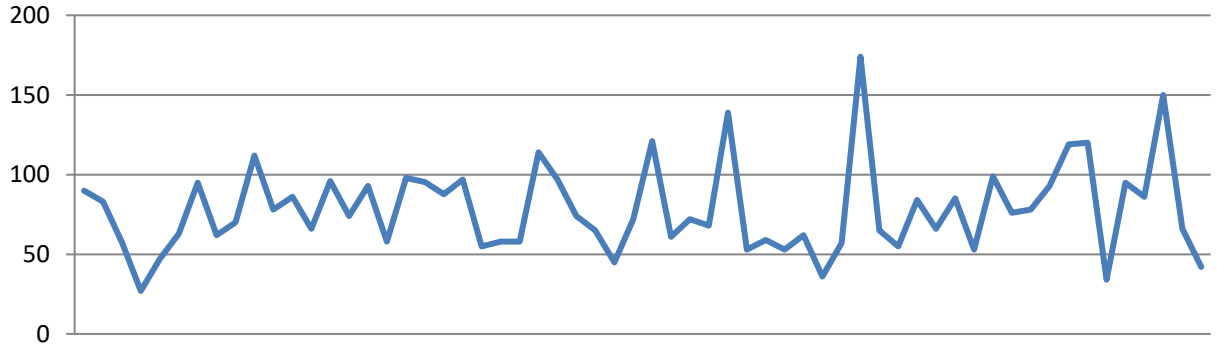
5 Influent Quality

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

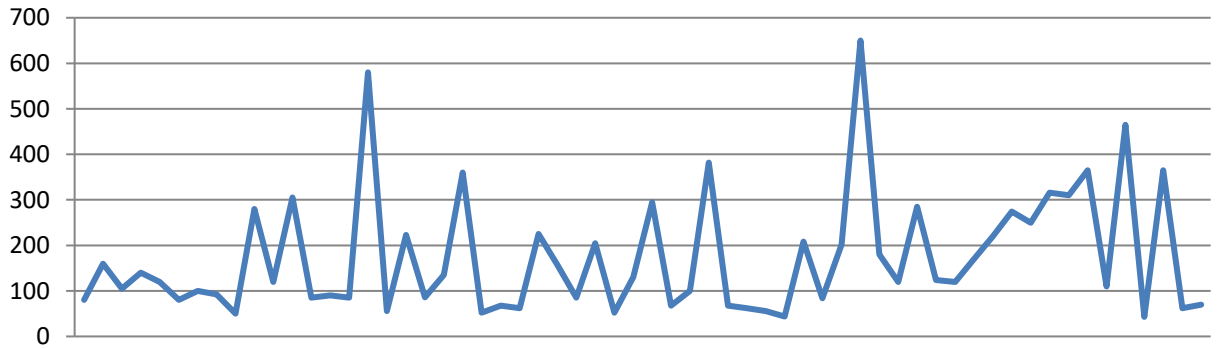
5.1 5 Year Influent Trending

Five (5) year average trends from 2020-2024 for raw sewage quality are graphed below.

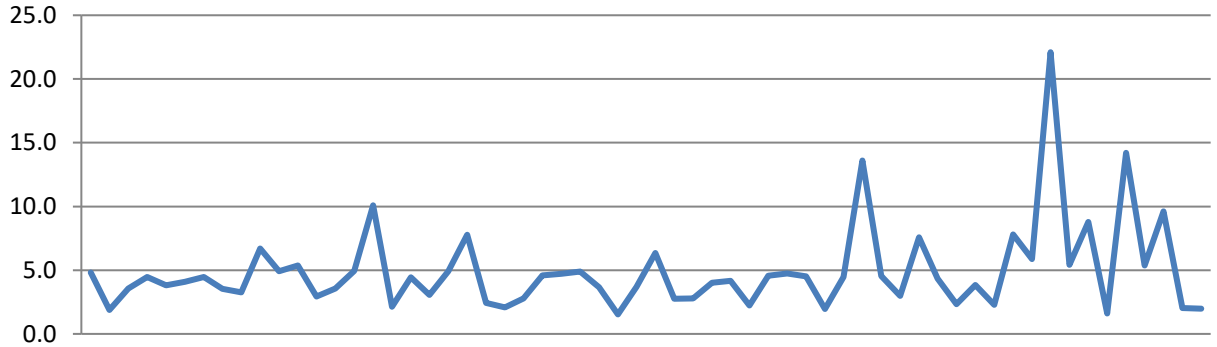
CBOD5



Total Suspended Solids

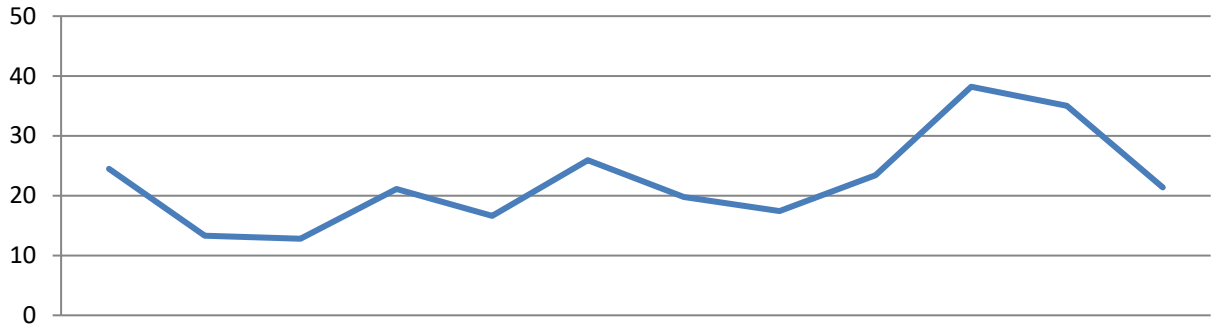


Total Phosphorus

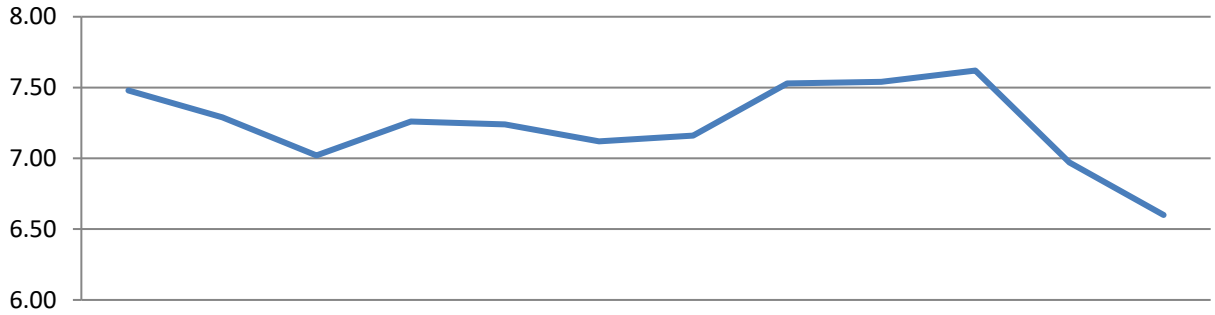


5.2 1 Year Influent Trend

Total Ammonia Nitrogen – mg/L



pH



6 Effluent Quality

In 2024, the annual average concentrations of the carbonaceous biochemical oxygen demand ($CBOD_5$) and Total Suspended Solids (TSS) remained below the effluent objectives and limits outlined in the facility's ECA. In addition, the effluent pH and monthly average Total Phosphorous (TP) concentration and loadings remained within the limits and objectives. The monthly average concentrations of total ammonia nitrogen (TAN) exceeded the concentration limit once, the concentration objective twice, and the loading objective twice. The geometric mean density of *E. Coli* in the effluent exceeded the ECA objective in January, February, May and August.

The Federal Government regulates the effluent flow, acute lethality, and the quarterly average $CBOD_5$ and total suspended solids in the effluent under the Federal Fisheries Act. The results are submitted to Environment and Climate Change Canada's effluent regulatory reporting information system, under wastewater systems effluent regulations (WSER) on a quarterly basis.

Effluent results from the Carleton Place wastewater treatment facility for 2024 are tabulated in Appendix A of this report.

6.1 Effluent Quality Assurance and Control Measures Taken

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

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

All final effluent samples collected during the reporting period to meet legislated sampling requirements are submitted to Caduceon Labs for analysis, with the exception of pH and temperature. Caduceon Labs 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. Temperature and pH parameters are analyzed in the field at the time of sample collection by certified operators, to ensure accuracy and precision of the results obtained.

OCWA uses several computer systems which include:

- Process Data Management (PDM)
    - This database program consolidates all operational data from a variety of sources including field data, online instrumentation, and electronic receipt of lab test results for reporting, tracking and analysis.
- Maximo – OCWA's Work Management System (WMS)
    - This program is used to track and schedule maintenance activities for all equipment in the system. It is also used to assign tasks for specific operational tasks.
- Wonderware (OUTPOST5)/SCADA
    - Wide-area SCADA system allows for process optimization and data logging, process trending, remote alarming.

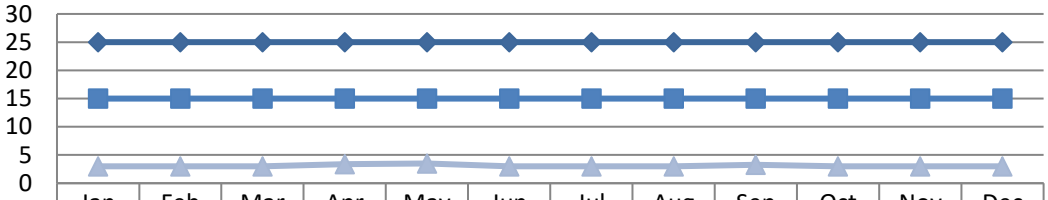
The operations team also has access to a network of operational compliance and process specialists to assist for emerging process issues. This aids in establishing additional control measures to ensure a quality effluent product.

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

6.2 CBOD5

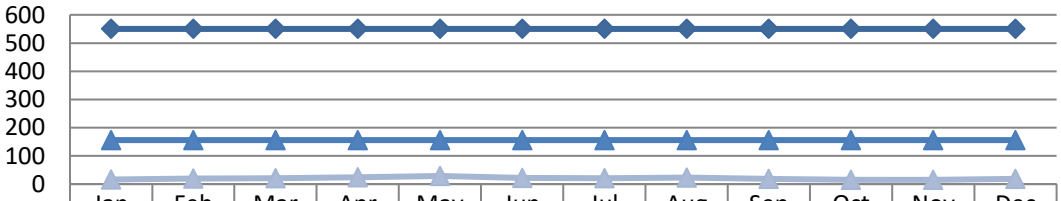
The Compliance Limit and Objective for this parameter was MET. Compliance is assessed as an annual average; the graphs below reflect monthly averages.

6.2.1 Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	25	25	25	25	25	25	25	25	25	25	25	25
ECA Objective	15	15	15	15	15	15	15	15	15	15	15	15
Average	3.0	3.0	3.0	3.4	3.5	3.0	3.0	3.0	3.3	3.0	3.0	3.0

6.2.2 Loading (kg/d)

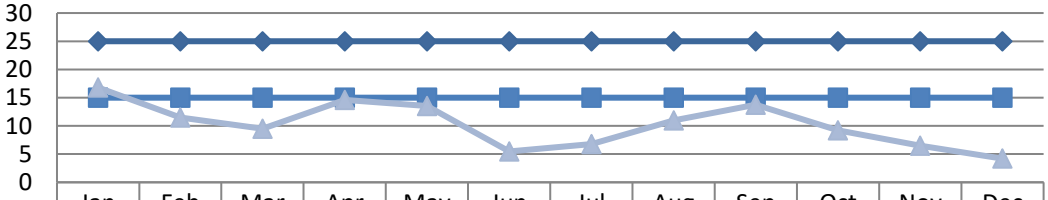


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	550	550	550	550	550	550	550	550	550	550	550	550
ECA Objective	156	156	156	156	156	156	156	156	156	156	156	156
Eff Avg	16	19	21	24	29	22	21	23	19	15	16	19

6.3 Total Suspended Solids

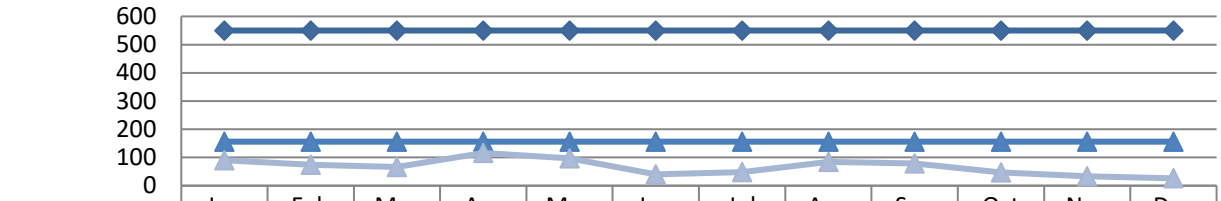
Compliance Limit and Objective for this parameter was MET. Compliance is assessed as an annual average; the graphs below reflect monthly averages.

6.3.1 Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	25	25	25	25	25	25	25	25	25	25	25	25
ECA Objective	15	15	15	15	15	15	15	15	15	15	15	15
Average	17	12	10	15	14	6	7	11	14	9	7	4

6.3.2 Loading (kg/d)

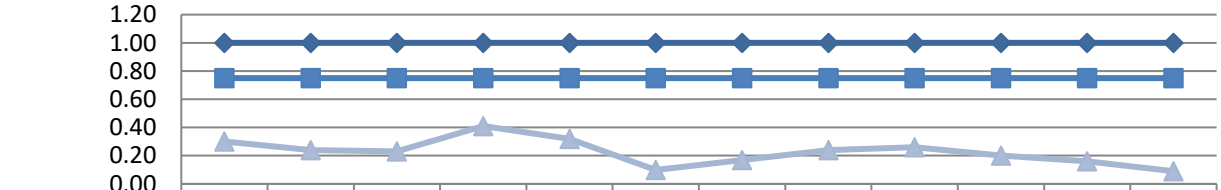


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	550	550	550	550	550	550	550	550	550	550	550	550
Objective	156	156	156	156	156	156	156	156	156	156	156	156
Eff Avg	91	75	67	116	97	40	48	84	79	47	34	26

6.4 Total Phosphorus

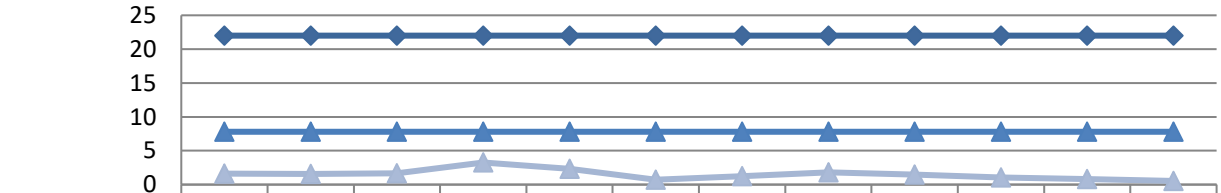
Compliance Limit and Objective for this parameter was MET. Compliance is assessed as a monthly average.

6.4.1 Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Limit	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Objective	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Average	0.30	0.24	0.23	0.41	0.32	0.10	0.17	0.24	0.26	0.20	0.16	0.09

6.4.2 Loading (kg/d)



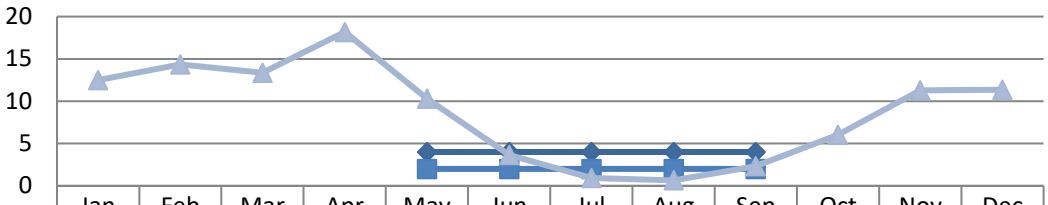
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	22	22	22	22	22	22	22	22	22	22	22	22
Objective	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Eff Avg	1.6	1.6	1.7	3.3	2.3	0.7	1.2	1.8	1.5	1.0	0.8	0.5

6.5 Total Ammonia Nitrogen

Compliance is assessed as a monthly average from May 15th to September 30th. Compliance Limit and Objective for this parameter was NOT MET in May for concentration and loadings. The concentration and loadings Limit was MET June – September.

6.5.1 Concentration (mg/L)

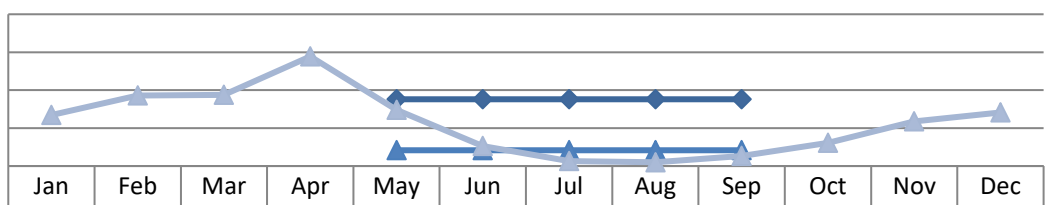
Compliance Limit in effect from May 15 to September 30th



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit					4.0	4.0	4.0	4.0	4.0			
ECA Objective					2.0	2.0	2.0	2.0	2.0			
Average	12.5	14.4	13.4	18.2	10.3	3.6	0.9	0.7	2.3	6.0	11.3	11.4

6.5.2 Loading (kg/d)

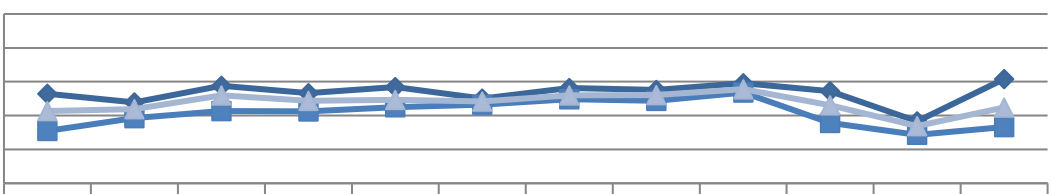
Compliance Limit in effect from May 15 to September 30



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit					88	88	88	88	88			
Objective					20.8	20.8	20.8	20.8	20.8			
Eff Avg	67.4	93.0	93.6	144.4	74.1	26.1	6.4	5.0	13.4	30.7	58.9	70.4

6.6 pH

Compliance Limit for this parameter was MET. This parameter is to be maintained between 6.0 and 9.5 inclusive, at all times.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max pH	7.6	7.4	7.9	7.7	7.8	7.5	7.8	7.8	8.0	7.7	6.8	8.1
Min pH	6.6	6.9	7.1	7.1	7.3	7.3	7.5	7.4	7.7	6.8	6.4	6.7
Average	7.1	7.2	7.6	7.4	7.5	7.4	7.6	7.6	7.8	7.3	6.7	7.2

6.7 Acute Lethality

There were four (4) samples collected in 2024 tested for acute lethality of Rainbow Trout and Daphnia Magna. The sampling is required both provincially and federally. Results are displayed as % mortality. An adverse result is a > 50% mortality rate. Compliance Limit for this parameter was MET

Quarter	Date	Rainbow Trout
1st Quarter	February 22, 2024	0%
2nd Quarter	May 2, 2024	0%
3rd Quarter	August 20, 2024	0%
4th Quarter	November 19, 2024	0%

7 Operating Issues

7.1 Effluent Quality Non-Compliance Summary

The effluent limits are based on current requirements in the facility's Environmental Compliance Approval (ECA). As the operating authority we shall use our best efforts to operate the facility in a manner that ensures the objectives and limits are not exceeded in the treated effluent. Please refer to the chart below for ECA Objective exceedances. There was one (1) Effluent Quality Non-Compliance for Total Ammonia Nitrogen in 2024, and one (1) missed bacteriological/Fecal Strep effluent sample.

Capacity is the most significant issue at Carleton Place WWTP. Regular daily flows for this plant are above the rated capacity, causing hydraulic overloading during high flow events. Two (2) Phys/Chem Tanks are currently used as primary clarifiers as the plant is not able to adequately treat the flow otherwise. A regular hauling program year-round is required as the storage capacity for digested sludge is not large enough to accommodate required operations.

Plant upgrades are in the final design and construction tender phase. A report is to be drafted once bids are received and reviewed and presented to Town Council.

Date	Exceedance of	Objective	Limit	Value	Corrective Action
May	Total Ammonia Nitrogen Concentration Limit, Loading Objective	2.0 mg/L 20.8 kg/day	4.0 mg/L 88 kg/day	7.07 mg/L 74.1 kg/day	Sludge hauling completed May 17th, TAN sample below limit for the last week of May.
June	Total Ammonia Nitrogen Concentration and Loading Objective	2.0 mg/L 20.8 kg/day	4.0 mg/L 88 kg/day	3.6 mg/L 26.1 kg/day	Installed new aeration Jet Pump (delivery delays)
Sept	Total Ammonia Nitrogen Concentration Objective	2.0 mg/L	4.0 mg/L	2.3 mg/L	Operational adjustments made

7.2 Summary of Abnormal Sewage Discharge Events

Abnormal Discharge Events include Bypasses, Overflows, Diversions and Spills of Sewage. Summary Details are included in Appendix C.

7.3 Spills (Other than Sewage)

Date	Location	Details	Volume (m3)	Start Date and Time	End Date and Time
April 9, 2024	Carleton Place WWTP Hauling Bay	Digested sludge spilled from the hauling bay after the scissor valve was not locked in place, and the pump spontaneously started with no operator prompt. The pump turned off unprompted shortly after it started. A programming interlock was put in place to prevent this from reoccurring.	1	13:49	13:51

8 Maintenance

Routine planned maintenance activities are scheduled in WMS and include:

- Inspect, adjust and calibrate process control equipment to ensure proper operation of water distribution systems, pumps, chemical feeders, and all other equipment installed at the facilities.
- Carry out a routine maintenance program including greasing and oiling as specified in the lubrication schedule.
- Perform day-to-day maintenance duties to equipment including checking machinery and electrical equipment when required.
- Maintain an equipment inventory
- Maintain accurate records of work conducted, activities, and achievements.

Planned maintenance activities are communicated to the person responsible for completing the task through the issuance of WMS work orders. Work orders are automatically generated on a schedule as determined based on manufacturer's recommendations and site specific operational and maintenance needs and are assigned directly to the appropriate operations personnel. This schedule is set up by the designated WMS Primary. Work orders are completed and electronically entered into WMS by the person responsible for completing the task. Unplanned maintenance is conducted as required.

8.1 Normal Maintenance and Repairs

Work Order	Details
3759158	4G Communication Booster for Alarm Dialer
3761682	Capital New Snow Blower Purchase

Work Order	Details
3765154	Jet Pump Repair for Aeration 3
3847781	Headworks Compactor Repair
3849822	Plasma Cutter Purchase
3850260	Keyway Broach Set Purchase
3851583	New full size tool box for trucks
3899835	Repair Sludge Holding Tank Mixer
3903434	SCADA Logic Repair Sludge Transfer
3903444	Positive Displacement Blower replacement parts
3950376	HVAC Annual Maintenance Service
3950377	Reciprocating Compressor Replacement (HVAC System)
3951558	Generator Battery Replacement - High Gate & Bridge SPS
3951713	Primary Clarifier 5 Plug Valve Replacement
3952575	Handheld and Online Analyzer Annual Servicing
3998844	Pumping Station Clean Outs
4000290	SouthEast Pump 2 VFD Replacement
4000494	SPS Roof Reshingling Mississippi Quays, Carlgate and Westview
4050839	New pump for Charles SPS
4052172	New Portable Gas Detector
4093492	Bodnar SPS Level Controller Recalibration
4093494	Bar Screen High Level Float Repair
4143044	Carlgate Pump 1 Replaced

Work Order	Details
4143040	Secondary Digester Roof Level Transmitter Repair
4191907	Chemical Building Backflow Preventer Repair
4192256	Findlay/Princess Pumper Truck Service
4194675	pH Final Effluent Probe Purchase
4196150	New Batteries for Southeast Generator
4196207	Annual Flare Stack Maintenance
4276479	South East pump 2 VFD Repair

8.2 Emergency Maintenance and Repairs

Work Order	Details
4196821	Charles SPS Pump Replacement and Pumper Truck Service
3807218	Pumper Truck for Industrial SPS for Power Outage

8.3 Flow Meter Calibrations and Maintenance

Location	Date of Calibration	Additional Maintenance
Effluent Flow Meter	November 26, 2024	N/A
Bypass Flowmeter	November 26, 2024	N/A
BIO Plant Flowmeter	November 26, 2024	N/A
Physical Chemical Flowmeter	November 26, 2024	N/A
Meter Flow RAS	November 26, 2024	N/A
Meter Flow Raw Sewage	November 26, 2024	N/A
Meter Flow WAS	November 26, 2024	N/A

Location	Date of Calibration	Additional Maintenance
Secondary Sludge TXFR	November 25, 2024	N/A
Raw Sludge to Primary's	November 25, 2024	N/A
SouthEast SPS Flow	November 25, 2024	N/A
Bodnar SPS	November 25, 2024	N/A

8.4 Authorized Alterations in Collection System

Work Order	Details	Significant Drinking Water Threat (Y/N)
There were no Alterations in the Collection System. Plant design is completed to 90%		

8.5 Notice of Modifications

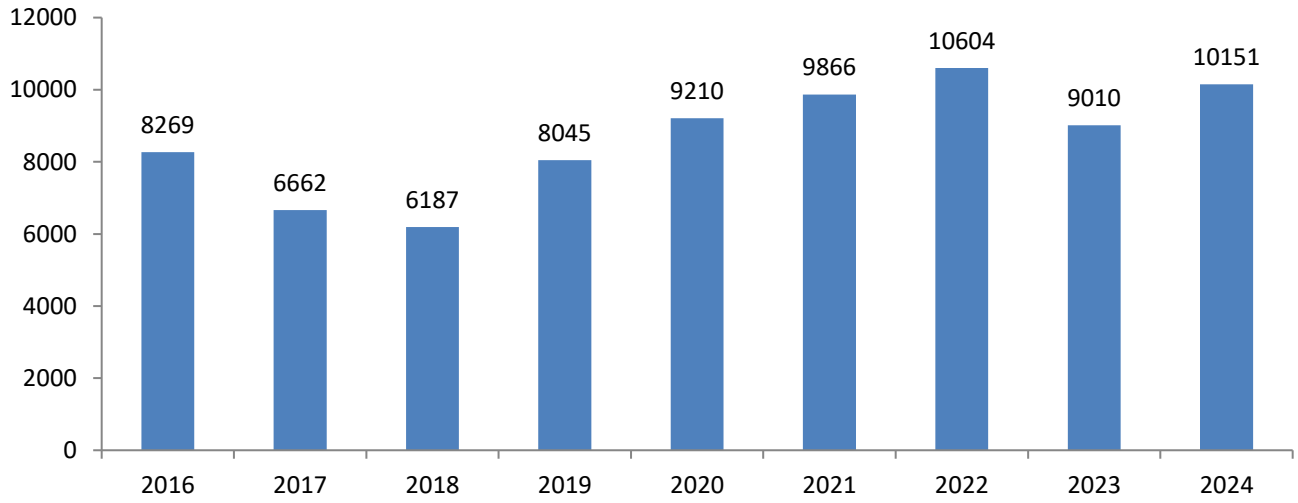
Date	Process	Modification	Status
No modifications during the reporting period			

9 Sludge Generation

9.1 Sludge Disposal Summary

Date	Disposal Location	Approval Number	Total Volume (m^3)
January	THF Facility	ECA# 5948-7JRMAJ	440
April	GFL Storage Facility	ECA# S-3708-42	120
May 3-11	Sunol Farms – 14 & 15	24216	1680
May 13-17	Sunol Farms – Turner Farm	24589	920
June	GFL Storage Facility	ECA# S-3708-42	160
July	GFL Storage Facility	ECA# S-3708-42	280
July 15-18	Foster – McDonald Farm	24344	2040
August 27 – September 3	Sunol Farms – James Farm	61733	2220
November 12-19	Sunol Farms – James Farm	61733	2291
		Total	10,151

9.2 Annual Comparison (m^3/year)



It is anticipated that sludge volumes in 2025 will remain similar to the 2024 volumes.

10 Summary of Complaints

Location	Date	Nature of Complaint	Actions Taken
23 Lenore St.	March 1	Sanitary Backup	Back up at main - cleaned with vac truck
192 High St.	March 7	Sanitary Backup	Issues on the private side
79 Beckwith St.	March 11	Service issues	Roots
WWTP	April 9	Sanitary issue	Email was provided to Town
7 Beckwith St.	June 4	Sanitary Backup	Perhaps excess use - will call back if problem persists
455 Moffatt St.	June 8	Sanitary back-up	Resident was advised to call a plumber
124A Bridge St.	June 12	Sanitary backup	Private issue
159 Caldwell St.	June 18	Backyard structure - soil erosion	Private Structure - LCHC responsibility
373 Lanark St.	June 30	Broken ball valve	Private plumbing issue
55 Patterson Cr.	August 21	Sanitary back up	Grease in lateral
6 Alexander St.	September 11	Sanitary back up	Internal plumbing issue
42 Patterson Cr.	November 4	Odour	No issues in lateral identified
23 Peever St.	November 17	Sanitary back up	Grease in lateral
252 Moffatt St.	November 20	Odour	Source of odour not identified
193 Sarah St.	December 11	Sanitary back up	Private plumbing issue
67 William St.	December 21	Sanitary back up	Advised to call plumber

11 Collection System Highlights

Collection System Highlights are provided for inclusion by the Town of Carleton Place:

- Staff performed routine maintenance and inspections of the collection system which included an emphasis on areas with lower flows.
- Staff performed annual flushing activities, a quarter of town as prescribed
- Lenore St. required a mainline flush, but is ultimately a service issue

Appendix A

Appendix A – PARS Report and Monitoring Data

The PARS Report does not include Diversion sample results for the month of August.

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report

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

03/04/2025

5672 CARLETON PLACE WASTEWATER TREATMENT FACILITY 110000971

	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 Influent m³/d	167,143.35	189,027.41	217,438.93	238,292.95	222,686.82	216,076.28	217,255.71	237,261.17	172,824.52	157,589.28	156,486.34	191,978.44	2,384,061.20			0.00
Raw Flow: Avg - Raw Sewage Influent m³/d	5,391.72	6,518.19	7,014.16	7,943.10	7,183.45	7,202.54	7,008.25	7,653.59	5,760.82	5,083.53	5,216.21	6,192.85		6,513.83		
Raw Flow: Max - Raw Sewage Influent m³/d	6,628.22	9,208.75	9,067.32	12,498.02	8,107.23	9,920.42	11,062.85	13,865.42	7,018.00	5,453.65	6,038.03	8,038.78			13,865.42	0.00
Raw Flow: Count - Raw Sewage Influent 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
Eff. Flow: Total - Final Effluent m³/d	167,143.52	188,027.41	217,438.93	238,292.95	222,686.82	216,076.28	217,255.01	237,261.17	172,824.52	157,589.28	156,486.34	191,978.44	2,383,060.67			0.00
Eff. Flow: Avg - Final Effluent m³/d	5,391.73	6,483.70	7,014.16	7,943.10	7,183.45	7,202.54	7,008.23	7,653.59	5,760.82	5,083.53	5,216.21	6,192.85		6,511.09		7,600.00
Eff. Flow: Max - Final Effluent m³/d	6,628.22	9,208.75	9,067.32	12,498.02	8,107.23	9,920.42	11,062.85	13,865.42	7,018.00	5,453.65	6,038.03	8,038.78			13,865.42	0.00
Eff Flow: Count - Final Effluent 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
Carbonaceous Biochemical Oxygen Demand: CBOD																
Raw: Avg cBOD5 - Raw Sewage Influent mg/L	99.00	76.00	78.00	93.00	119.00	120.00	34.00	95.00	86.00	150.00	66.00	42.00		88.17	150.00	0.00
Raw: # of samples of cBOD5 - Raw Sewage Influent	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 cBOD5 - Final Effluent mg/L	< 3.00	< 3.00	< 3.00	< 3.40	< 3.50	< 3.00	< 3.00	< 3.00	< 3.25	< 3.00	< 3.00	< 3.00		< 3.10	< 3.5	25.00
Eff: # of samples of cBOD5 - Final Effluent	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53			0.00
Loading: cBOD5 - Final Effluent kg/d	< 16.175	< 19.451	< 21.042	< 27.007	< 25.142	< 21.608	< 21.025	< 22.961	< 18.723	< 15.251	< 15.649	< 18.579		< 20.2	< 27.007	550.000
Percent Removal: cBOD5 - Raw Sewage Influent %	96.97	96.05	96.15	96.34	97.06	97.50	91.18	96.84	96.22	98.00	95.45	92.86		95.93	98.00	0.00
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw Sewage Influent mg/L	156.00	143.00	125.00	131.00	155.00	172.00	51.00	200.00	127.00	172.00	83.00	67.00		131.83	200.00	0.00
Raw: # of samples of BOD5 - Raw Sewage Influent	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 BOD5 - Final Effluent mg/L	5.00	3.00	4.00	4.00	16.00	< 4.00	< 3.00	4.00	< 6.00	< 3.00	4.00	4.00		5.00	16.00	
Loading: BOD5 - Final Effluent kg/d	26.959	19.451	28.057	31.772	114.935	28.810	< 21.025	30.614	34.565	< 15.251	20.865	24.771		33.09	114.94	
Percent Removal: BOD5 - Raw Sewage Influent %	98.08	97.90	97.60	97.40	97.74	98.26	94.12	94.21	97.44	98.26	96.39	95.52		96.91		0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage Influent mg/L	220.00	274.00	250.00	316.00	310.00	365.00	110.00	465.00	43.00	365.00	62.00	70.00		237.50	465.00	0.00
Raw: # of samples of TSS - Raw Sewage Influent	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	16.80	11.50	9.50	14.60	13.50	5.50	6.80	11.00	13.75	9.20	6.50	< 4.20		10.24	16.80	25.00
Eff: # of samples of TSS - Final Effluent	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53			0.00
Loading: TSS - Final Effluent kg/d	90.581	74.563	66.635	115.969	96.977	39.614	47.656	84.190	79.211	46.768	33.905	< 26.010		66.840	115.97	550.000
Percent Removal: TSS - Raw Sewage Influent %	92.36	95.80	96.20	95.38	95.65	98.49	93.82	97.63	68.02	97.48	89.52	94.00		92.863	98.49	0.00
Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage Influent mg/L	2.28	7.81	5.88	22.10	5.41	8.78	1.60	14.20	5.36	9.61	2.02	1.97		7.25	22.10	0.00
Raw: # of samples of TP - Raw Sewage Influent	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	0.30	0.24	0.24	0.41	0.32	0.10	0.17	0.24	0.26	0.20	0.16	0.09		0.23	0.41	1.00
Eff: # of samples of TP - Final Effluent	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53			0.00
Loading: TP - Final Effluent kg/d	1.639	1.572	1.648	3.257	2.317	0.738	1.219	1.840	1.469	1.027	0.822	0.545		1.51	3.257	22.000
Percent Removal: TP - Raw Sewage Influent %	86.67	96.90	96.00	98.14	94.04	98.83	89.13	98.30	95.24	97.90	92.20	95.53		94.91	98.83	0.00
Nitrogen Series																
Raw: Avg TKN - Raw Sewage Influent mg/L	30.50	25.50	28.10	61.60	29.00	42.70	23.20	40.40	35.60	46.40	33.40	26.90		35.28	61.60	0.00
Raw: # of samples of TKN - Raw Sewage Influent	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	12.50	14.35	13.35	18.18	10.31	3.63	0.92	0.65	2.33	6.04	11.30	11.37		8.84	18.18	4.00
Eff: # of samples of TAN - Final Effluent	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53.00			0.00
Loading: TAN - Final Effluent kg/d	67.386	93.041	93.639	144.406	74.061	26.127	6.434	4.994	13.394	30.704	58.943	70.400		57.58	144.41	88.000
Eff: Avg NO3-N - Final Effluent mg/L	5.46	3.50	2.77	2.82	3.77	7.73	11.70	< 0.05	9.39	10.20	6.75	4.12		5.69	11.70	0.00
Eff: # of samples of NO3-N - Final Effluent	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 NO2-N - Final Effluent mg/L	0.09	< 0.05	0.23	0.30	1.08	0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06		0.18	1.08	0.00
Eff: # of samples of NO2-N - Final Effluent	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
Disinfection																
Eff: GMD E. Coli - Final Effluent cfu/100mL	699.91	233.10	29.13	194.40	520.68	14.14	19.30	232.20	20.71	87.45	71.35	35.09				200.00
Eff: # of samples of E. Coli - Final Effluent	5.00	4.00	4.00	5.00	4.00	4.00	5.00	3.00	4.00	5.00	4.00	5.00	55.00			0.00

Appendix B

Appendix B - Biosolids Quality Report

Biosolids Quality Report **Facility: CARLETON PLACE WASTEWATER TREATMENT FACILITY**

Solids & Nutrients **Period: 01/01/2024 to 12/31/2024** **Works: 5672 / Digestor Type: Anaerobic**

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Solids & Nutrients **Metals & Criteria** **Last 4 Samples**

Facility Works Number:	110000971	Receiver:	Mississippi River
Facility Owner:	Municipality: Town of Carleton Place	Service Population:	
Facility Classification:	Class 3 Wastewater Treatment	Total Design Capacity:	

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

Month	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	TS	VS	TP	NH3p_NH4p_N	NO3-N	NO2-N	TKN	Calculation in Report	K
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	- no T/S	Lab Published Month Mean
Jan	21,350.00	12,800.00	695.00	300.50	0.40	0.40	1,430.00	150.45	60.65
Feb	32,800.00	18,150.00	1,517.00	721.50	1.20	0.45	2,765.00	361.35	68.60
Mar	29,700.00	15,350.00	1,149.00	755.50	0.40	0.60	2,220.00	377.95	60.40
Apr	33,300.00	17,550.00	1,690.00	801.50	0.25	0.25	3,070.00	400.88	64.60
May	28,100.00	13,800.00	1,205.00	964.50	0.90	0.45	1,810.00	482.70	51.80
Jun	24,150.00	10,770.00	773.50	427.00	0.40	0.40	1,365.00	213.70	53.05
Jul	20,850.00	12,600.00	811.00	756.00	0.45	0.60	1,405.00	378.23	41.50
Aug	15,850.00	8,745.00	660.00	858.00	0.45	0.40	1,230.00	429.23	31.40
Sep	26,200.00	13,195.00	845.00	492.00	0.25	0.25	1,400.00	246.13	39.15
Oct	18,500.00	9,740.00	610.00	480.50	0.25	0.25	1,170.00	240.38	32.25
Nov	47,350.00	22,000.00	1,595.00	857.50	1.10	0.40	2,180.00	429.30	61.60
Dec	24,200.00	14,633.33	904.00	539.33	0.40	0.40	1,800.00	269.87	48.87
Average	26,862.50	14,111.11	1,037.88	662.82	0.54	0.40	1,820.42	331.68	51.16
Total	322,350.00	169,333.33	12,454.50	7,953.83	6.45	4.85	21,845.00	3,980.14	613.87

Biosolids Quality Report

Facility: CARLETON PLACE WASTEWATER TREATMENT FACILITY

Metals & Criteria

Period: 01/01/2024 to 12/31/2024

Works: 5672 / Digestor Type: Anaerobic

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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	0.03	0.05	0.26	10.47	0.01	0.18	0.55	0.95	0.10	9.71
Feb	0.10	0.03	0.05	0.39	12.90	0.01	0.18	0.31	0.30	0.10	12.40
Mar	0.10	0.03	0.04	0.34	9.48	0.01	0.18	0.23	0.15	0.10	9.22
Apr	0.15	0.03	0.05	0.61	12.73	0.01	0.19	0.33	0.20	0.10	14.30
May	0.10	0.03	0.04	0.42	9.13	0.01	0.18	0.41	1.00	0.10	10.13
Jun	0.10	0.03	0.05	0.33	7.66	0.00	0.18	0.20	0.20	0.10	8.70
Jul	0.10	0.03	0.03	0.33	7.75	0.00	0.18	0.27	0.15	0.10	8.25
Aug	0.10	0.03	0.03	0.16	4.68	0.00	0.18	0.14	0.10	0.10	5.49
Sep	0.10	0.03	0.04	0.41	12.60	0.01	0.18	0.31	0.50	0.10	12.80
Oct	0.10	0.03	0.03	0.22	6.62	0.00	0.18	0.16	0.10	0.10	7.59
Nov	0.10	0.03	0.09	0.85	23.45	0.02	0.23	0.55	0.45	0.15	26.55
Dec	0.10	0.03	0.03	0.32	9.07	0.01	0.18	0.25	0.27	0.10	7.87
Average	0.10	0.03	0.04	0.38	10.54	0.01	0.18	0.31	0.36	0.10	11.08
Min. Acceptable Ammonia + Nitrate Nitrogen to Metal Ratio	100.00	500.00	50.00	6.00	10.00	1,500.00	180.00	40.00	15.00	500.00	4.00
Ammonia + Nitrate Nitrogen to Metal Ratio in Sludge	3,184.11	11,055.95	7,728.43	862.44	31.46	40,339.27	1,796.90	1,082.05	911.48	3,184.11	29.93

Appendix C

Appendix C - Details of Abnormal Sewage Discharge Events

Event Details Summary

Facility Diversion

Date	Location	Details	Volume (m³)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
August 9-11	Carleton Place WPCP	Heavy rain fall	16,624	August 9th 14:40	August 11th 10:50	44.16	Mississippi River	Yes

Facility Bypass

Date	Location	Details	Volume (m³)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
There were no facility bypass events reported during the reporting period.								

Facility Overflow

Date	Location	Details	Volume (m³)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
There were no facility overflow events reported during the reporting period.								

Collection Overflow

There are no authorized overflow locations in this system.

Spills of Sewage

Date	Location	Details	Volume (m³)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
There were no spills of sewage reported during the reporting period.								

Collection System Monitoring Data

Event Date	Event Location	Volume (m3)	Parameter	mg/L	Source Loading	Any Adverse Impacts & Corrective Actions
There were no overflow or spill of sewage events in the Collection System reported during the reporting period.			BOD			
			Total Suspended Solids			
			Total Phosphorus			
			Total Kjeldahl Nitrogen (TKN)			
			E.Coli			

Appendix D

Appendix D - ECA Annual Report Requirements

Facility ECA # 5001-7FZT4A Section 12(6)	Section in Report
(a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;	4 Treatment Flows 6 Effluent Quality
(b) a description of any operating problems encountered and corrective actions taken;	7 Operating Issues/Problems
(c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;	8 Maintenance
(d) a summary of any effluent quality assurance or control measures undertaken in the reporting period;	6 Effluent Quality
(c) a summary of the calibration and maintenance carried out on all effluent monitoring equipment;	8 Maintenance
(I) a description of efforts made and results achieved in meeting the Effluent Objective of Condition 6;	6 Effluent Quality
(g) a tabulation of the quantity of centrate returned to the headwork of the Works during the reporting period;	4 Treatment Flows
(h) a summary of chemical characterization data for samples of centrate collected in accordance with Table 7 of Condition 9 during the reporting period;	5 Influent Quality
(i) a summary of the contaminant mass loadings associated with centrate return during the reporting period, based on the corresponding monitoring results in accordance with Table 7, and an assessment of the impacts on the available treatment capacity and nitrification performance of the STP;	5 Influent Quality
(j) a tabulation of the quantity of septage added to the works for co-treatment during the reporting period;	4 Treatment Flows
(k) a summary of chemical characterization data for samples of septage collected in accordance with Table 6 of Condition 9 during the reporting period;	5 Influent Quality
(I) a summary of the contaminant mass loadings associated with septage additions during the reporting period based on the corresponding monitoring results in accordance with Table 6. and an assessment of the impacts on the available treatment capacity and nitrification performance of the STP;	5 Influent Quality
(m) 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;	9 Sludge Generation Appendix B
(n) a summary of any complaints received during the reporting period and any steps taken to address the complaints;	10 Summary of Complaints
(o) a summary of all bypass. spill or abnormal discharge events;	7 Operating Issues/Problems Appendix C
(p) any other information the District Manager requires from time to time;	Spill Approval from MECP required before Digester Flame Arrestor maintenance.

Collection ECA #172-W601 - Schedule E	
4.6.3 If applicable, includes a summary of all required monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.	Operating Issues and Problems
4.6.4 Includes a summary of any operating problems encountered and corrective actions taken.	Operating Issues and Problems
4.6.5 Includes a summary of all calibration, maintenance, and repairs carried out on any major structure, Equipment, apparatus, mechanism, or thing forming part of the Municipal Sewage Collection System.	Maintenance
4.6.6 Includes a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.	Summary of Complaints
4.6.7 Includes a summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat.	Maintenance
4.6.8 Includes a summary of all Collection System Overflow(s) and Spill(s) of Sewage, including: a) Dates; b) Volumes and durations; c) If applicable, loadings for total suspended solids, BOD, total phosphorus, and total Kjeldahl nitrogen, and sampling results for E.coli; d) Disinfection, if any; and e) Any adverse impact(s) and any corrective actions, if applicable.	Operating Issues and Problems Appendix D
4.6.9 Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable: a) A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted. b) Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timelines. c) An assessment of the effectiveness of each action taken. d) An assessment of the ability to meet Procedure F-5-1 or Procedure F-5-5 objectives (as applicable) and if able to meet the objectives, an overview of next steps and estimated timelines to meet the objectives. e) Public reporting approach including proactive efforts.	Maintenance Operating Issues and Problems