Renfrew Wastewater System

Waterworks #120000603

Annual Report

Prepared For: Town of Renfrew

Reporting Period of January 1st – December 31st 2024

Issued: March 13, 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	4237-ACPJ6Y	October 13, 2016	N/A
CLI-ECA	183-W601	January 22, 2024	2

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1 Revision History

Date	Rev#	Revisions	Revised By
March 13, 2025	0	Annual report issued	Lauren Lacombe, OCWA

2 Operations and Compliance Reliability Indices

Compliance Event	Details
Ministry of Environment Inspections	No MECP Inspections during the reporting period
Ministry of Labour Inspections	One (1) MOL Inspection during the reporting period
Non-Compliance	There were no non-compliance events during the reporting period
Community Complaints	There were 15 Community Complaints during the reporting period
Spills	There was one (1) spill during the reporting period - See Appendix C for details of Abnormal Sewage Discharge Events
Overflows	There were two (2) overflow events during the reporting period - See Appendix C for details of Abnormal Sewage Discharge Events
Bypass	There were no bypasses during the reporting period

3 Process Description

The Renfrew wastewater collection system consists of a gravity fed collection system of separated sewers, partially separated sewers, nominally separated sewers, combined sewers and six (6) sewage pumping stations that discharge to the wastewater treatment facility located at 301 Mutual Avenue in Renfrew, Ontario. The sewage pumping stations (SPS) are located on Arthur Avenue, O'Brien Road, Lisgar Avenue, June Street, Coleraine Drive and Forestview (Hunter Gate) Crescent. There are authorized overflow points at the Hunter Gate, and June Street SPS.

Renfrew's Water Pollution Control Plant (WPCP) is a Class III Treatment facility. The plant is equipped with a 25 m^3 septage receiving tank, complete with a chopper pump for the recirculation and mixing of the imported wastewaters, which may then be pumped to the screen influent channel. Raw influent enters the WPCP through one 750 mm influent pipe and influent chamber. The influent chamber contains an overflow weir that diverts flows from the treatment facility in the event of an emergency overflow/bypass. The influent chamber is equipped with a mechanical bar screen for normal operations, and a manual bar screen for use during maintenance activities and overflow/bypass events. The mechanical bar screen is equipped with a screenings washer/compactor. Influent then enters two (2) aerated grit tanks, utilizing automated blowers to provide aeration. The aerated influent travels through

two (2) grit slurry pumps, two (2) grit cyclones and one grit classifier/dewatering unit that separates inorganic particulate material from the influent. The processed particulate is collected in a dumpster to be removed from site.

The influent that has had the inorganic material removed continues throughout the process where biological primary treatment is provided using extended aeration. Influent passes through two (2) three-pass aeration tanks with fine bubble diffuser systems and one anoxic intake zone. The flow is then directed to two (2) two-pass secondary treatment clarifiers equipped with sludge and scum removal mechanisms. Phosphorus is removed from the process with the use of a settling agent called Ferric Chloride, which is introduced at the beginning of the aeration process and in the secondary clarifiers.

Sludge is removed from the process by two (2) waste activated sludge (WAS) pumps from secondary clarifier. The sludge is then stabilized in an aerobic digester, before being dewatered via centrifuge. A polymer is added to aid in dewatering process by binding the solids in the process sludge. The dewatered cake is conveyed into a Town-owned dump truck and hauled to the Renfrew Landfill Site, located at 376 Bruce Street in Renfrew, ON. There are no sludge storage facilities onsite at Renfrew WPCP.

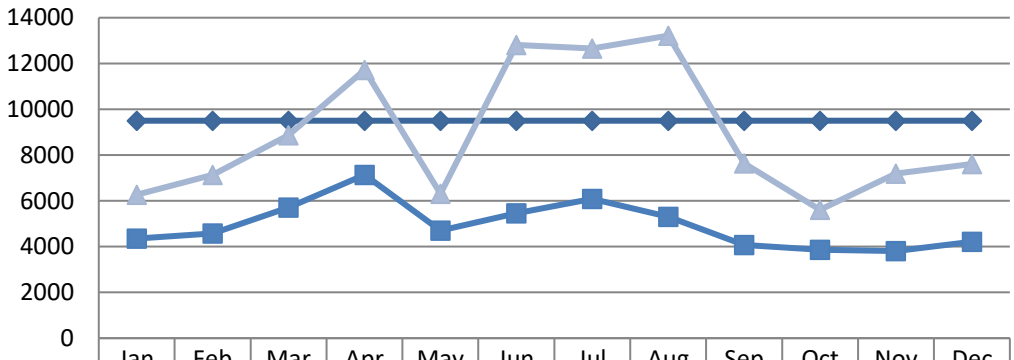
Disinfection of final effluent is achieved via ultraviolet (UV) light disinfection. The UV bulbs are cleaned by built-in automated wipers. Final effluent discharges to the Bonnechere River.

The facility is equipped with back-up power in the form of a 750 kW standby diesel generator. Three portable backup power generators are available for use at the six (6) sewage pumping stations.

4 Treatment Flows

4.1 Raw Influent Flow (m³/d)

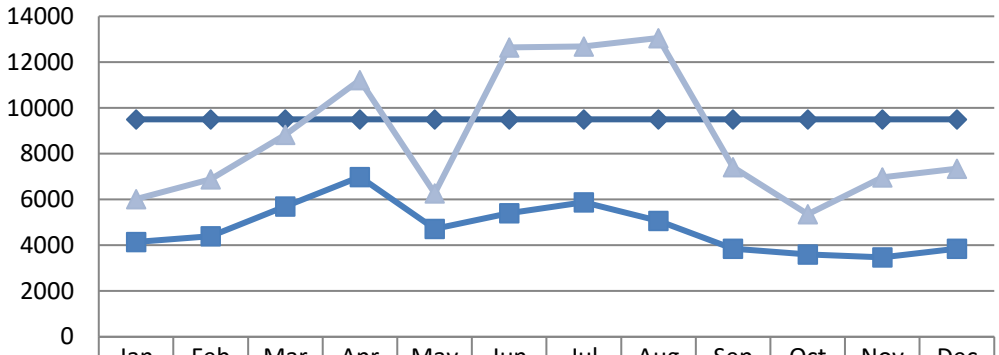
For 2024, the annual average raw flow was 4,941 m³/d or 52% of the rated capacity.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500
Average Monthly Flow	4355	4577	5714	7137	4709	5462	6080	5306	4079	3860	3806	4211
Maximum Monthly Flow	6272	7136	8874	11713	6310	12803	12655	13217	7634	5610	7191	7604

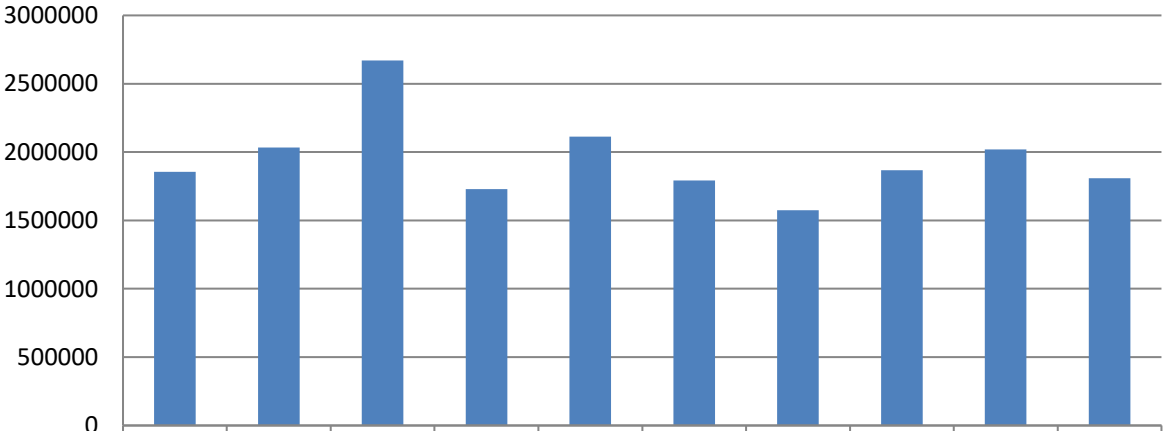
Note: Elevated flows above the rated capacity are directly related to snow melt and wet weather events.

4.2 Treated Effluent Flow



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500
Average Monthly Flow	4142	4393	5690	6988	4715	5403	5873	5064	3856	3605	3471	3848
Maximum Monthly Flow	6015	6881	8827	11217	6263	12645	12691	13054	7414	5354	6969	7349

4.2.1 *Annual Comparison (m^3)*



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total Annual Flow	1855735	2033547	2669781	1729973	2112540	1792972	1575036	1868221	2018837	1808522

4.3 Imported Sewage

4.3.1 *Leachate Flow (m^3/d)*

There was no leachate accepted at this facility in 2024.

4.3.2 *Septage Flow (m^3/d)*

There was no septage accepted at this facility in 2024.

5 Raw Influent Quality

5.1 Annual Average Loading Objectives

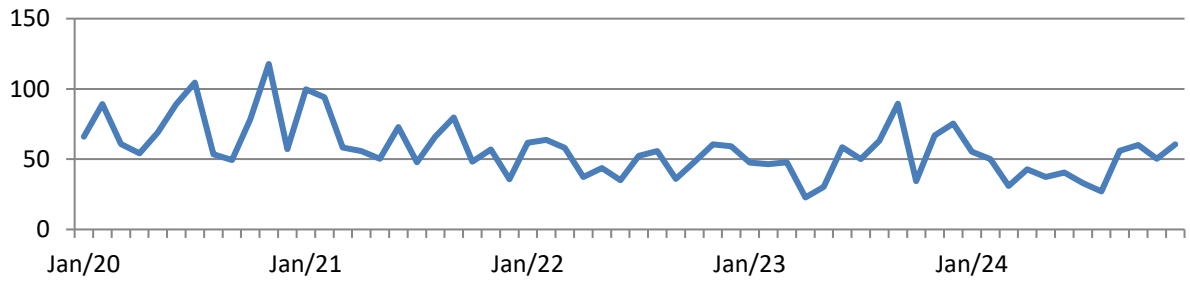
Additional details for the 2024 reporting period and specific monthly minimum, maximum and averages are included in the Performance Report located in Appendix A. Annual Average Loadings for Raw Sewage are detailed below.

Parameter	Annual Average (kg/d)	Objective (kg/d)	Status
BOD5	419.17	712	Met
Total Suspended Solids	384.21	801	Met
Total Phosphorus	10.71	22	Met
Total Kjeldahl Nitrogen (TKN)	115.14	125	Met

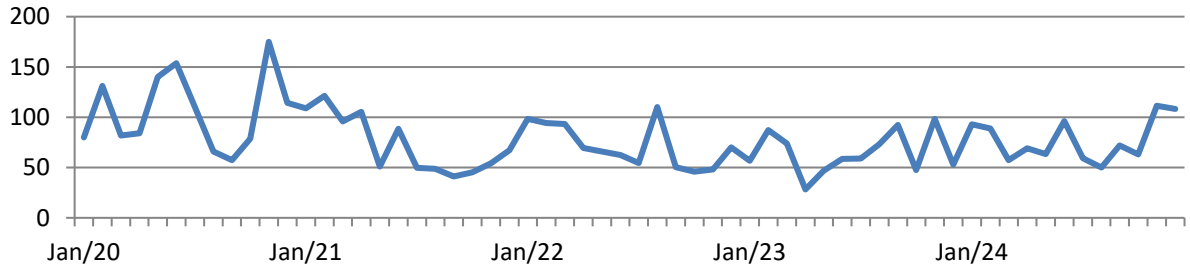
5.2 Influent Trending

Five (5) Year Average Trends from 2020-2024 for Raw Sewage Quality concentrations are graphed below:

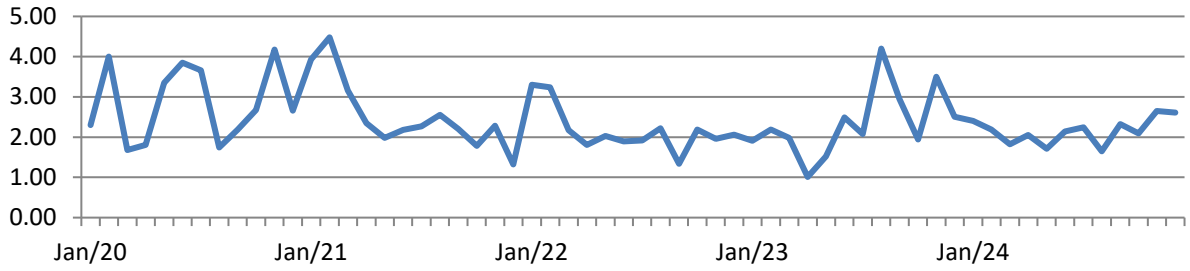
5.2.1 CBOD5



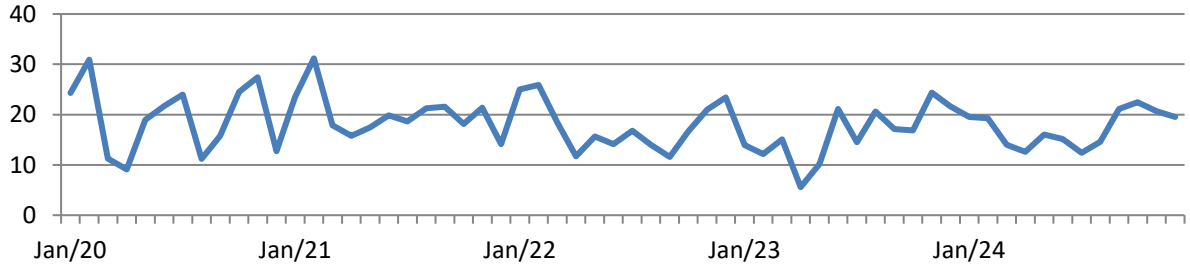
5.2.2 Total Suspended Solids



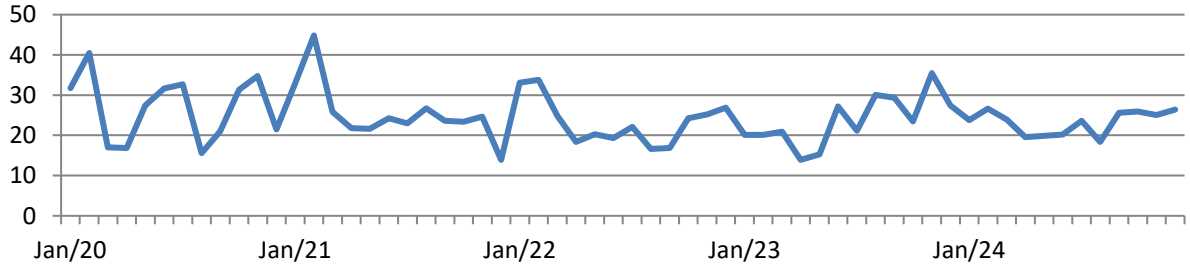
5.2.3 Total Phosphorous



5.2.4 Total Ammonia Nitrogen



5.2.5 Total Keldjal Nitrogen



6 Effluent Quality

In 2024, all effluent parameters remained below the effluent limits and objectives outlined in the facility's ECA.

The Federal Government regulates the quarterly 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.

Monthly effluent results from the Renfrew 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. The systems are operated to achieve 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 treatment process is reviewed and maintained by certified operators, who 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 in Ottawa, ON for analysis, with the exception of pH and temperature. Caduceon has been deemed accredited by the Canadian Association for Laboratory Accreditation (CALA), meeting strict provincial guidelines including an extensive quality assurance/quality control program. By choosing this laboratory, the Ontario Clean Water Agency is ensuring appropriate control measures are undertaken during sample analysis. The pH and temperature parameters 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.

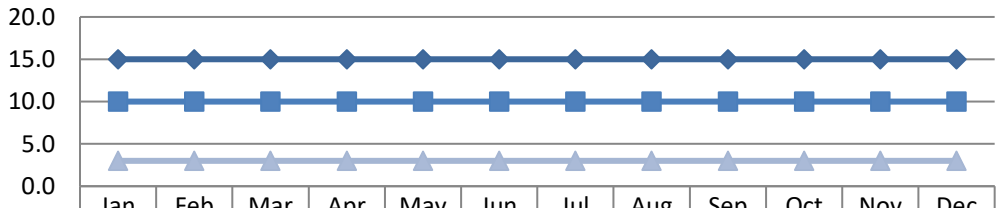
The operations team also has access to a network of operational compliance and process specialists to assist for emerging process issues. This aids in establishing additional control measures to ensure a quality effluent product.

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

6.2 CBOD5

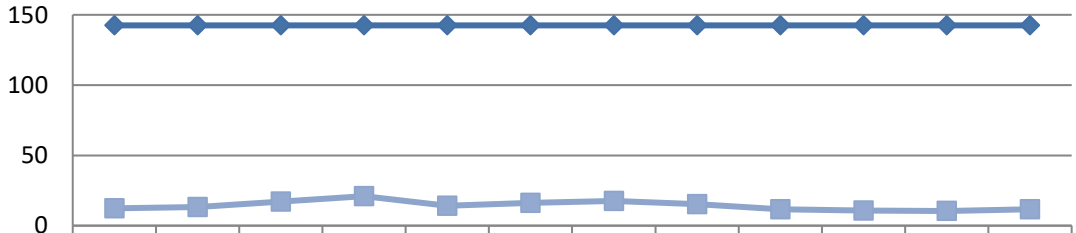
Compliance Limit for this parameter was met.
Compliance Objective for this parameter was met.

6.2.1 Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
ECA Objective	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Monthly Average	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

6.2.2 Loading (kg/d)

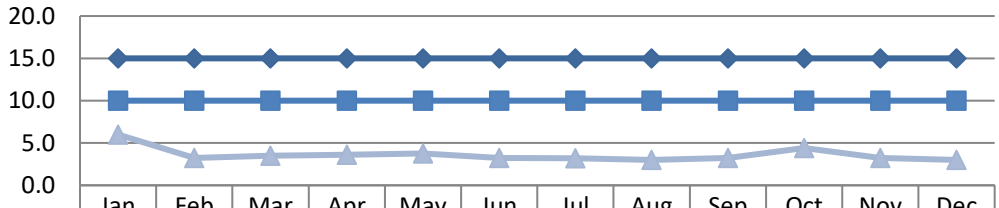


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
Average	12.4	13.2	17.1	21.0	14.1	16.2	17.6	15.2	11.6	10.8	10.4	11.5

6.3 Total Suspended Solids

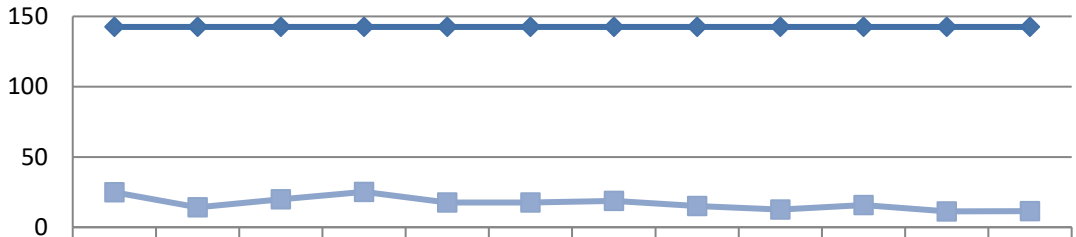
Compliance Limit for this parameter was met.
Compliance Objective for this parameter was met.

6.3.1 Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
ECA Objective	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Monthly Average	6.0	3.3	3.5	3.6	3.8	3.3	3.2	3.0	3.3	4.4	3.3	3.0

6.3.2 Loading (kg/d)

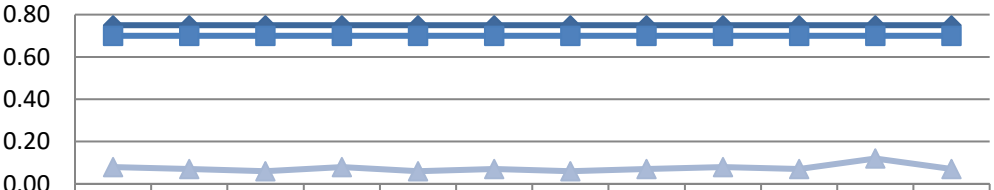


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
Average	24.9	14.3	19.9	25.2	17.7	17.6	18.8	15.2	12.5	15.9	11.3	11.5

6.4 Total Phosphorus

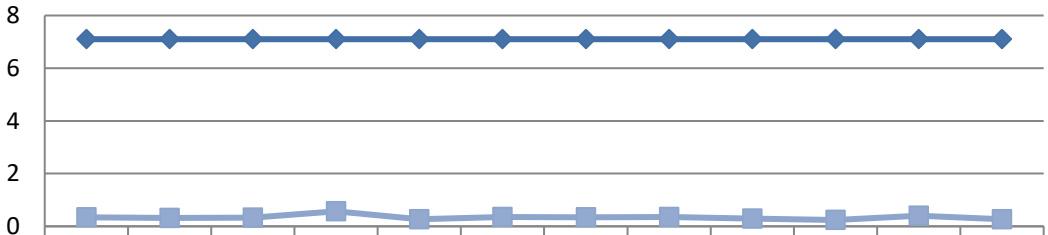
Compliance Limit for this parameter was met.
Compliance Objective for this parameter was met.

6.4.1 Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
ECA Objective	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Monthly Average	0.08	0.07	0.06	0.08	0.06	0.07	0.06	0.07	0.08	0.07	0.12	0.07

6.4.2 Loading (kg/d)

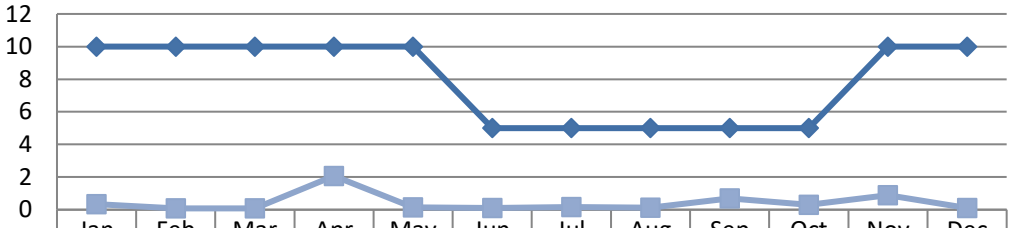


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Average	0.34	0.32	0.33	0.57	0.27	0.36	0.34	0.35	0.29	0.24	0.40	0.27

6.5 Total Ammonia Nitrogen

There is no Compliance Limit for this parameter.
Compliance Objective for this parameter was met.

6.5.1 Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Objective	10	10	10	10	10	5	5	5	5	5	10	10
Average	0.35	0.08	0.08	2.07	0.14	0.10	0.17	0.12	0.70	0.31	0.89	0.11

6.6 E-coli

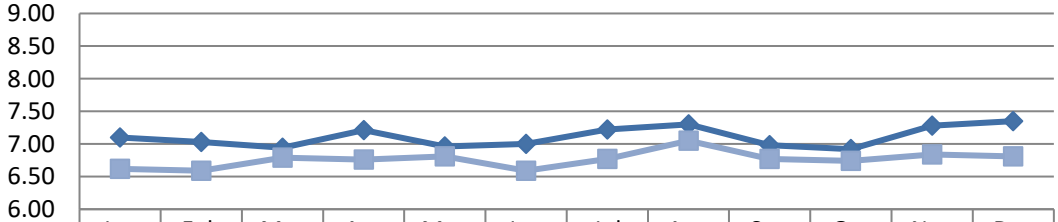
Compliance Limit for this parameter was met.
Compliance Objective for this parameter was met.

6.6.1 Geometric Mean (cfu/100mL)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	200	200	200	200	200	200	200	200	200	200	200	200
ECA Objective	150	150	150	150	150	150	150	150	150	150	150	150
Monthly Average	2.30	2.21	22.67	41.92	2.38	3.72	2.64	3.72	1.68	3.44	4.76	5.45

6.7 pH

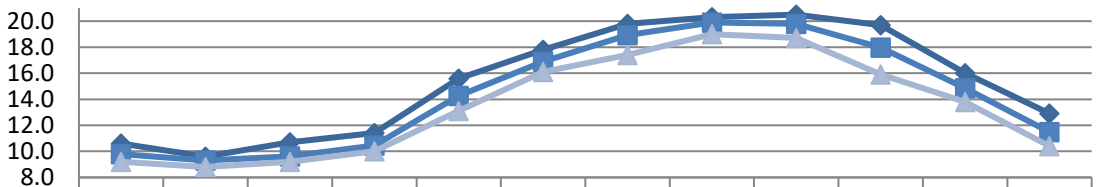
Compliance Limit range for this parameter is 6.0 – 9.5. Compliance Limit was met.
Compliance Objective range for this parameter is 6.5-8.5. Compliance Objective was met.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Month Max	7.10	7.03	6.94	7.21	6.96	7.00	7.22	7.30	6.98	6.92	7.28	7.35
Month Min	6.62	6.59	6.79	6.76	6.81	6.59	6.77	7.05	6.77	6.74	6.84	6.81

6.8 Temperature

There are no compliance limits or objectives defined for Effluent Temperature.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max	10.6	9.6	10.7	11.4	15.6	17.8	19.8	20.3	20.5	19.7	16.0	12.9
Average	9.8	9.3	9.6	10.5	14.3	16.9	18.9	19.9	19.8	18.0	14.9	11.5
Min	9.2	8.8	9.2	10.0	13.1	16.1	17.4	19.0	18.7	15.9	13.8	10.4

6.9 Acute Lethality

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

Quarter	Date	Rainbow Trout	Daphnia Magna
1st Quarter	February 13, 2024	0%	0%
2nd Quarter	May 21, 2024	0%	0%
3rd Quarter	August 20, 2024	0%	0%
4th Quarter	November 19, 2024	0%	0%

7 Operating Issues/Problems

7.1 Facility

There were no design objective exceedances for Influent or Effluent. There were no significant Operating Issues in 2024, although the monthly average Total Ammonia Nitrogen concentration was higher than typical in April. Clarifier #2 was out of service for maintenance, this resulted in 100% of flow being processed through the remaining clarifier #1. This caused increased solids load and solids retention time on the single treatment train, which disrupted the biological balance. Sample results returned to normal after the clarifier was put back in service.

7.2 Collection

Location	Date	Issue	Corrective Action
150 Lochiel Street	Mar 14	Broken Lateral	Sewer lateral was not connected to main during street reconstruction a few months prior. BEI re-connected the lateral.
All SPS	March 22	Power Outage	Confirmed proper operation and power restoral
90 Grigg Street	March 28	Collapsed Pipe	Replaced Lateral
Various locations	April 4	Routine Flushing	Routine sewer flushing and maintenance
Various locations	May 28	Routine Flushing	Routine sewer flushing and maintenance
Hunter Gate SPS	June 23	Hunter Gate Communication	Confirmed communication restored and proper operation of the station.
848 Raglan Street South	June 27	Poor Slope and Sumps	Lateral replaced
Various locations	July 2	Routine Flushing	Routine sewer flushing and maintenance
190 Mask Road	July 17	Blockage at RV Station	Vac truck removed blockage at elbow
Various locations	August 1	Routine Flushing	Routine sewer flushing and maintenance
Various locations	August 27	Routine Flushing	Routine sewer flushing and maintenance
Various locations	Sept 23	Routine Flushing	Routine sewer flushing and maintenance
Various locations	October 24	Routine Flushing	Routine sewer flushing and maintenance
Hinks/Albert Street	November 15	Broken auger cable in Lateral, FOG block	Lateral jetted, Vac truck to cleanout, operators remove cable
Arnprior/Cross Street	November 21	Low Flow Sewer	Vac truck, removed rocks and sludge

7.3 Influent Quality Non-Compliance Summary

Date	Exceedance of	Limit	Value	Corrective Action
There were no Influent Quality Non-Compliance items in 2024				

7.4 Effluent Quality Non-Compliance Summary

Date	Exceedance of	Limit	Value	Corrective Action
There were no Effluent Quality Non-Compliance items in 2024.				

7.5 Overflow, Bypass and Spills Summary

There was one (1) Spill in the collection system in 2024, and two (2) Overflows at the facility caused by extreme rain events. Please see Appendix C for details.

8 Maintenance

Routine planned maintenance activities are scheduled in WMS for both the Collection and Treatment systems, and include:

- Inspect, adjust and calibrate process control equipment to ensure proper operation of wastewater conveyance 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.

Monitoring and inspection of the sewage collection system also includes annual programs for sanitary main flushing and camera work, manhole grouting/ repair/replacement, inflow and infiltration analysis during storm events and providing numerous locates for various projects.

8.1 Normal Maintenance and Repairs - Facility

Work Order	Details
3763301	Replaced Emergency Light Fixtures
4046698	Annual Flow Meter Calibrations
3763015	WAS/Scum Pump Impeller Replacements
3765150	Walkway Membrane Replacement Engineering Design
4046671	Annual HACH Analyzer Inspections
4145609	Unit Heater Motor Replacement
3763036	WAS/Scum Pump Rebuilt
3803505	Outside Door Handle Replacements
3804988	Outside Walkway Lighting Replacement
3903107	Scum Pipe Clamp Replacement
3998838	MOL Corrective Actions – Grating, Handrails and Guarding Purchased
4143532	Glycol Pump Motor Rebuilt
3807029	Boiler Low Water Sensor Replaced
3851246	Hot Water Tank Serviced
4046742	Air Handling Unit Circuit Board Replaced
4234156	Generator Transfer Switch Maintenance
4141577	Grit Pump to Grit Classifier Pipe Replaced
3765240	Multi-meter Analyzer and Probe Kit Replacement Purchased
3803692	RAS Pump 2 Rebuilt
3851384	Clarifier Chain and Rake Replacement Parts Purchased

8.2 Normal Maintenance and Repairs - Collection

Work Order	Details
3847479	Annual Cleaning and Flushing of Sewer Lines
3850468	Cleaning and Flushing sewer line at 271 Oak Street
3903137	145 Simpson Avenue Sewer Backup

Work Order	Details
3951092	Repair Two Hour Meters at Hinks Pump Station
3952229	Cleaning Problem Sewers RV Station line
3998835	Excavation for Sewer Lateral Repair at 848 Raglan Street South
4000034	Flushing and CCTV Camera work on Stevenson Crescent
4001255	Hunter Gate Communication Issue Investigation
4047494	CCTV camera work on Stevenson Crescent
4047500	Sewer Lateral Repair at #848 Raglan St South
4047509	Replace Hour Meter in O'Brien Pump Station
4050970	CCTV Camera Work and Flushing on Stevenson Crescent
4092330	CCTV Camera Work and Flushing on Harry Street/Joe Avenue

8.3 Emergency Maintenance and Repairs - Treatment

Work Order	Details
There were no Emergency Maintenance and Repairs during the reporting period.	

8.4 Emergency Maintenance and Repairs - Collection

Work Order	Details
3901559	Emergency Excavation for Sewer Lateral Repair
3951093	Emergency Excavation to Repair RV Station Sewer Lateral
3952871	Emergency Excavation for Blocked sewer Lateral at RV Dump

8.5 Flow Meter Calibrations and Maintenance

Location	Date of Calibration	Additional Maintenance
Digested Sludge FIT-602001	June 4, 2024	N/A
To Centrifuge FIT-601001	June 4, 2024	N/A
Polymer FIT-721003	June 4, 2024	N/A
Polymer FIT-722003	June 4, 2024	N/A
Raw FIT-170000	June 4, 2024	N/A
RAS FIT-251002	June 4, 2024	N/A
WAS FIT-260000	June 4, 2024	N/A
FIT-260001	June 4, 2024	N/A
Digested Sludge FIT-254002	June 4, 2024	N/A
Final Effluent FIT-Final Effluent	June 4, 2024	N/A

8.6 Notice of Modifications – Treatment

Date	Process	Modification	Status
There were no modifications made to the treatment facility during the reporting period.			

8.7 Notice of Modifications – Collection

Work Order	Details	Significant Drinking Water Threat (Y/N)
There were no alterations in the collection system during the reporting period.		

9 Sludge Generation

Please note Section 10.4 (g) of Environmental Compliance Approval 4237-ACPJ6Y asks to include discussion on lagoon cells. The Renfew Wastewater Treatment facility does not utilize a lagoon process.

9.1 Processed Volume

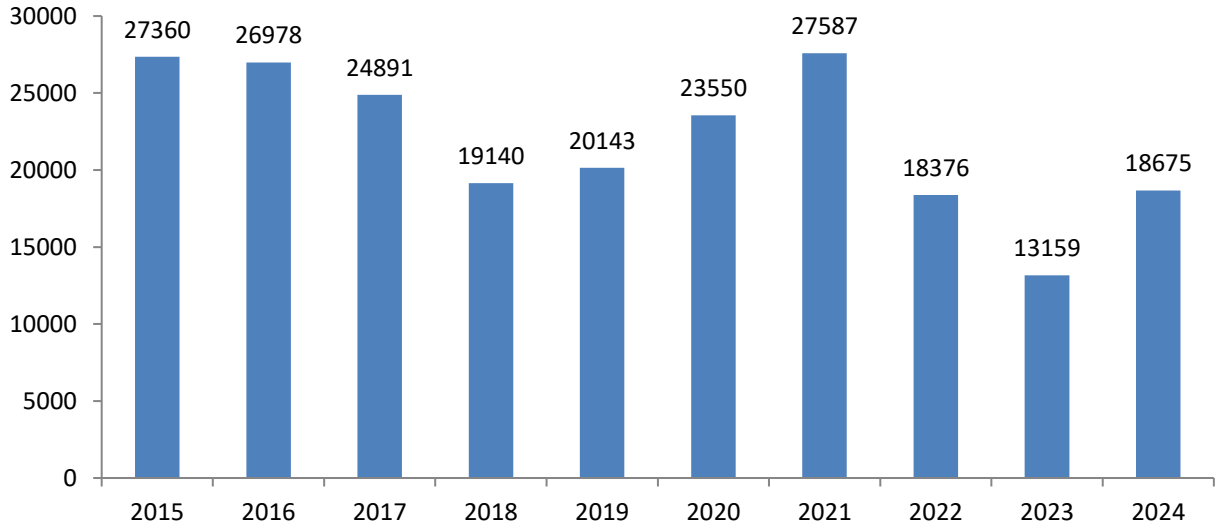
The Renfrew WPCP uses aerobic sludge digestion followed by sludge dewatering.

Dewatering Process	Sludge Volume Processed (m3)	Mass Hauled to Landfill (Kg)
Centrifuge	18675	1341670

9.2 Sludge Disposal Summary

The dewatered sludge was hauled off site to the Renfrew Landfill Site, ECA# A410401.

9.3 Annual Comparison (m³/year)



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

9.4 Quality

The biosolids sampling results are summarized in Appendix B. All results met the established guidelines.

10 Summary of Complaints

10.1 Summary of Complaints - Facility

Location	Date	Nature of Complaint	Actions Taken
There were no community complaints during the reporting period for this facility.			

10.2 Summary of Complaints - Collection

Throughout the reporting period, Operations staff responded to 15 community complaints. Details can be found in the table below.

Location	Date	Nature of Complaint	Actions Taken
252 Stewart Street	Mar 12	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber
150 Lochiel Street	Mar 12	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber
271 Oak Street	Mar 20	Blocked Sewer	Vac truck cleaned sewer lateral and surrounding sewer mains
OLF School – 228 Mason Avenue	April 9	Blocked Sewer	Sewer lateral block, augered and flushed.
414-426 Sidney Avenue	April 16	Blocked Sewer	Manholes checked and operational, flushed with water. This sewer has been added to the Weekly Problem Sewer Checklist.
145 Simpson Street	April 17	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber
190 Lochiel Street	May 21	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber
439 Haig Avenue	May 26	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber
147 Barnett Street	June 19	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber
119 Bank Street	July 5	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber
290 Thompson Street	July 27	Smell of Sewage	Sewers flushed on Ross Street and Thompson Street
263 Francis Street	Sept 24	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber. Homeowner cleared service with a snake.
23 Bonnechere Street South	Oct 8	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber
150 Elgin Street	Oct 28	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber

98 Argyle Street	December 13	Blocked Sewer	Checked sewer main above and below residence for flow, flow is present, advised homeowner to contact plumber

Appendix A

Appendix A – Performance Assessment Report

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report

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

5863 RENFREW WASTEWATER TREATMENT FACILITY 120000603

	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	135,015.00	132,732.00	177,144.00	214,099.00	145,973.00	163,872.00	188,480.00	164,476.00	122,357.00	119,658.00	114,169.00	130,547.00	1,808,522.00			0.00
Raw Flow: Avg - Raw Sewage Influent m³/d	4,355.32	4,576.97	5,714.32	7,136.63	4,708.81	5,462.40	6,080.00	5,305.68	4,078.57	3,859.94	3,805.63	4,211.19		4,941.32		9,500.00
Raw Flow: Max - Raw Sewage Influent m³/d	6,272.00	7,136.00	8,874.00	11,713.00	6,310.00	12,803.00	12,655.00	13,217.00	7,634.00	5,610.00	7,191.00	7,604.00			13,217.00	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	128,410.00	127,388.00	176,388.00	209,629.00	146,156.00	162,083.00	182,065.00	156,985.00	115,675.00	111,740.00	104,133.00	119,274.00	1,739,926.00			0.00
Eff. Flow: Avg - Final Effluent m³/d	4,142.26	4,392.69	5,689.94	6,987.63	4,714.71	5,402.77	5,873.06	5,064.03	3,855.83	3,604.52	3,471.10	3,847.55		4,753.90		9,500.00
Eff. Flow: Max - Final Effluent m³/d	6,015.00	6,881.00	8,827.00	11,217.00	6,263.00	12,645.00	12,691.00	13,054.00	7,414.00	5,354.00	6,969.00	7,349.00			13,054.00	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	55.20	50.00	31.00	42.80	37.25	40.50	33.00	27.00	56.00	60.20	50.25	60.60		45.32	60.60	0.00
Raw: # of samples of cBOD5 - Raw Sewage Influent	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
Eff: Avg cBOD5 - Final Effluent mg/L	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00		< 3.00	<	15.00
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	53.00			0.00
Loading: cBOD5 - Final Effluent kg/d	< 12.427	< 13.178	< 17.070	< 20.963	< 14.144	< 16.208	< 17.619	< 15.192	< 11.568	< 10.814	< 10.413	< 11.543		< 14.26	< 20.96	142.500
Percent Removal: cBOD5 - Raw Sewage Influent %	94.57	94.00	90.32	92.99	91.95	92.59	90.91	88.89	94.64	95.02	94.03	95.05		92.91	95.05	0.00
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw Sewage Influent mg/L	111.40	78.25	66.75	60.80	60.00	109.25	44.80	60.25	73.25	115.40	114.75	116.80		84.31	116.80	0.00
Raw: # of samples of BOD5 - Raw Sewage Influent	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
Eff: Avg BOD5 - Final Effluent mg/L	< 3.80	< 3.00	< 3.00	< 6.40	< 3.25	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00		< 3.42	< 6.40	
Eff: # of samples of BOD5 - 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: BOD5 - Final Effluent kg/d	< 15.741	< 13.178	< 17.070	< 44.721	< 15.323	< 16.208	< 17.619	< 15.192	< 11.568	< 10.814	< 10.413	< 11.543		< 16.24	< 44.72	
Percent Removal: BOD5 - Raw Sewage Influent %	96.59	96.17	95.51	89.47	94.58	97.25	93.30	95.02	95.90	97.40	97.39	97.43		95.50	97.43	0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage Influent mg/L	93.00	89.00	57.50	< 69.00	63.25	96.25	59.20	50.00	72.00	63.20	111.50	108.20		77.68	111.50	0.00
Raw: # of samples of TSS - Raw Sewage Influent	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
Eff: Avg TSS - Final Effluent mg/L	< 6.00	< 3.25	< 3.50	< 3.60	< 3.75	< 3.25	< 3.20	< 3.00	< 3.25	< 4.40	< 3.25	< 3.00		3.66	6.00	15.00
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	53.00			0.00
Loading: TSS - Final Effluent kg/d	< 24.854	< 14.276	< 19.915	< 25.155	< 17.680	< 17.559	< 18.794	< 15.192	< 12.531	< 15.860	< 11.281	< 11.543		17.40	25.16	142.500
Percent Removal: TSS - Raw Sewage Influent %	93.55	96.35	93.91	< 94.78	94.07	96.62	94.59	94.00	95.49	93.04	97.09	97.23		95.06	97.23	0.00
Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage Influent mg/L	2.40	2.20	1.82	2.05	1.71	2.14	2.24	1.66	2.32	2.09	2.65	2.61		2.16	2.65	0.00
Raw: # of samples of TP - Raw Sewage Influent	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
Eff: Avg TP - Final Effluent mg/L	0.08	0.07	0.06	0.08	0.06	0.07	0.06	0.07	0.08	0.07	0.12	0.07		0.09	0.12	0.75
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	53.00			0.00
Loading: TP - Final Effluent kg/d	0.340	0.318	0.327	0.573	0.271	0.365	0.341	0.354	0.289	0.238	0.399	0.269		0.44	0.57	7.100
Percent Removal: TP - Raw Sewage Influent %	96.59	96.70	96.84	96.00	96.64	96.85	97.41	95.77	96.76	96.85	95.66	97.32		96.62	97.41	0.00
Nitrogen Series																
Raw: Avg TKN - Raw Sewage Influent mg/L	23.80	26.60	23.90	19.56	19.88	20.18	23.62	18.35	25.63	25.96	25.05	26.40		23.24	26.60	0.00
Raw: # of samples of TKN - Raw Sewage Influent	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
Eff: Avg TAN - Final Effluent mg/L	0.35	< 0.08	< 0.08	< 2.07	< 0.14	< 0.11	< 0.17	< 0.13	0.70	0.31	< 0.89	< 0.11		0.44	2.07	10.00
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	1.450	< 0.362	< 0.441	< 14.450	< 0.636	< 0.567	< 1.010	< 0.633	2.699	1.110	< 3.089	< 0.423		2.11	14.45	
Disinfection																
Eff: GMD E. Coli - Final Effluent cfu/100mL	2.30	2.21	22.67	41.92	2.38	3.72	2.64	3.72	1.68	3.44	4.76	5.45				200.00
Eff: # of samples of E. Coli - 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

Appendix B

Appendix B - Biosolids Quality Report

Biosolids Quality Report **Facility: RENFREW WASTEWATER TREATMENT FACILITY**

Solids & Nutrients **Period: 01/01/2024 to 12/31/2024** **Works: 5863 / Digestor Type: Aerobic**

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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

Facility Works Number:	120000603	Receiver:	Bonnechere River
Facility Owner:	Municipality: The Corporation of the	Service Population:	
Facility Classification:	Class 3 Wastewater Treatment	Total Design Capacity:	9500 m3/day

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	16,400.00	10,100.00	519.00	7.00	14.90	0.50	957.00	10.95	73.50
Feb	16,000.00	10,000.00	445.00	6.00	4.10	0.40	1,040.00	5.05	93.50
Mar	15,800.00	9,800.00	448.00	9.00	19.80	0.40	1,170.00	14.40	94.00
Apr	14,000.00	8,480.00	438.00	12.00	7.70	0.40	1,140.00	9.85	85.00
May	14,300.00	9,520.00	572.00	17.00	0.40	0.40	1,250.00	8.70	101.00
Jun	13,800.00	9,980.00	400.00	106.00	0.50	0.40	1,220.00	53.25	89.50
Jul	12,200.00	7,240.00	349.00	10.00	3.80	0.40	763.00	6.90	54.60
Aug	14,100.00	7,770.00	403.00	1.00	103.00	0.40	586.00	52.00	51.00
Sep	12,800.00	6,890.00	364.00	2.00	38.60	0.10	599.00	20.30	41.00
Oct	11,300.00	6,350.00	388.00	1.00	80.70	0.40	677.00	40.85	43.00
Nov	12,800.00	7,370.00	395.00	4.00	45.40	0.40	739.00	24.70	53.90
Dec	13,700.00	7,890.00	348.00	12.00	23.40	0.40	723.00	17.70	48.60
Average	13,933.33	8,449.17	422.42	15.58	28.53	0.38	905.33	22.05	69.05
Total	167,200.00	101,390.00	5,069.00	187.00	342.30	4.60	10,864.00	264.65	828.60

Biosolids Quality Report

Facility: RENFREW WASTEWATER TREATMENT FACILITY

Metals & Criteria

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

Works: 5863 / Digestor Type: Aerobic

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	0.08	0.92	5.30	0.01	0.18	0.35	0.30	0.10	6.35
Feb	0.10	0.03	0.06	1.00	6.20	0.01	0.18	0.41	0.30	0.10	6.90
Mar	0.10	0.03	0.09	0.90	6.05	0.01	0.18	0.35	0.30	0.10	6.15
Apr	0.10	0.03	0.06	0.70	4.90	0.00	0.18	0.29	0.20	0.10	5.10
May	0.10	0.03	0.05	0.85	5.99	0.00	0.18	0.38	0.20	0.10	6.24
Jun	0.10	0.03	0.04	0.96	6.54	0.00	0.18	0.40	0.30	0.10	6.94
Jul	0.10	0.03	0.03	0.70	4.39	0.00	0.18	0.28	0.30	0.10	4.31
Aug	0.10	0.03	0.09	0.86	4.76	0.01	0.18	0.35	0.30	0.10	4.86
Sep	0.10	0.03	0.06	1.04	4.72	0.00	0.18	0.49	0.30	0.10	5.05
Oct	0.10	0.03	0.03	0.85	4.38	0.01	0.18	0.28	0.20	0.10	4.12
Nov	0.10	0.03	0.06	1.03	5.41	0.01	0.18	0.34	0.30	0.10	5.26
Dec	0.10	0.03	0.06	0.90	4.68	0.00	0.18	0.30	0.20	0.10	4.42
Average	0.10	0.03	0.06	0.89	5.28	0.01	0.18	0.35	0.27	0.10	5.48
Max. Permissible Metal Concentrations (mg/kg of Solids)	170.00	34.00	340.00	2,800.00	1,700.00	11.00	94.00	420.00	1,100.00	34.00	4,200.00
Metal Concentrations in Sludge (mg/kg)	7.18	2.15	4.25	64.06	378.71	0.38	12.92	25.24	19.14	7.18	392.94

Appendix C

Appendix C - Details of Abnormal Sewage Discharge Events

Event Details Summary

Facility Bypass

Date	Location	Details	Volume (m^3)	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 (m^3)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
2024-07-05	Renfrew WPCP	An extreme rain event caused a sudden spike in the raw flow entering the sewage treatment plant	8.5	23:56	00:12	16 min	Bonnechere River	Chlorine pucks in channel
2024-07-24	Renfrew WPCP	An extreme rain event caused a sudden spike in the raw flow entering the sewage treatment plant	4.89	15:19	15:23	4 min	Bonnechere River	Chlorine pucks in channel

Spills of Sewage

Date	Location	Details	Volume (m^3)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
2024-02-09	271 Oak Street	A plug from an apartment building cleanout line let go, resulting in a spill of sewage. Upon further investigation the service and main were partially blocked. A vac truck was used to remove the blockage from the lines, and the contaminated soil was removed from site.	20 L	11:06	11:07	1 min	Ground	No

Appendix D

Appendix D - ECA Annual Report Requirements

Facility ECA #4237-ACPJ6Y Section 10 (4)	**Section in Report**
a. a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Effluent Limits Condition, including an overview of the success and adequacy of the Works;	Treatment Flows, Raw Sewage Quality, Effluent Quality
b. a description of any operating problems encountered and corrective actions taken;	Operating Issues/Problems
c. a summary of all maintenance carried out on any major structure, equipment, apparatus,	Maintenance
d. a summary of any effluent quality assurance or control measures undertaken in the reporting period;	Effluent Quality
e. a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and	Maintenance
f. a description of efforts made and results achieved in meeting the objectives of Effluent Objectives Condition.	Raw Sewage Quality, Effluent Quality
g. an estimate of the 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;	Sludge Generation
h. a summary of any complaints received during the reporting period and any steps taken to address the complaints;	Summary of Complaints
i. a summary of all Bypass, Overflow, spill or abnormal discharge events;	Appendix D
j. a copy of all Notice of Modifications to Sewage Works submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification;	Maintenance
k. a report summarizing all modifications completed as a result of Schedule B, Section 3; and	Maintenance
l. any other information the Water Supervisor requires from time to time	N/A

Collection ECA #183-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