

January 31st, 2024

M. Jean-François Durocher

Water Inspector – Provincial Officer

Ministry of the Environment, Conservation and Parks

Subject:

2023 - Performance Report for the Fournier Wastewater Facility

M. Durocher,

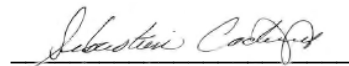
The following document includes the 2023 Performance Report for the Fournier Wastewater Facility, covering the period from January 1st to December 31st, 2023 inclusive.

In this Performance Report a summary of the Fournier Wastewater Facility will be discuss.

- Volumes and daily flow rates of wastewater
- Results of raw sewage and final effluent parameters
- Summary of operation and environmental challenges
- Maintenance and calibration of monitoring equipment.

This document follows condition 7 of the Certificate of Approval No. 1128-5S6KLC approved on December 23rd, 2003.

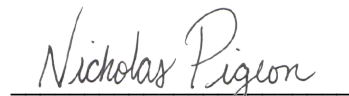
Sincerely,



(Prepared by)

Sebastien Cadieux,

Senior Water & Wastewater Operator/Compliance Officer



(Reviewed & Approved)

Nicholas Pigeon,

Director of Water & Wastewater (Acting)

2023 Annual Performance Report for the Fournier Wastewater Facility

a) A summary and interpretation of all raw sewage and effluent monitoring data and a comparison to effluent objectives outlined in Condition 5, including an overview of the success and adequacy of the works;

The volumes of the final effluent are estimated using the run times and theoretical pump rates. The average daily flow (ADF) of wastewater entering the Fournier Wastewater Facility was 58.9 m³/Day from January to December 2023.

The average treated effluent daily flow was of 61.4 m³/day.

The Fournier Wastewater Treatment Facility did not encounter any major challenges during 2023 and satisfied the effluent limits for Carbonaceous BOD₅ and Total Suspended Solids.

Raw sewage analyses were performed quarterly for the Fournier Wastewater Facility.

1) Total Nitrogen (Kjeldahl) and ammonia

The treated final Effluent concentration of Ammonia averaged 12.29 mg/L in 2023.

2) Total Phosphorus

The treated final effluent concentration of Total Phosphorus averaged 5.66 mg/L in 2023. There is no effluent limit for total phosphorus at the Fournier Wastewater Treatment Facility.

3) Carbonaceous Biological Oxygen Demand (CBOD5)

The treated final effluent concentration of CBOD5 average 2.50 mg/L in 2023, which is below the effluent objective limit of 10 mg/L.

4) Suspended Solids

The average treated final effluent concentration for Total Suspended Solids was 7.75 mg/l in 2023, which is below the effluent objective limit of 10 mg/L.

5) E.Coli

The average treated final effluent concentration for E.Coli was 40167 CFU/100mL in 2023.

b) A summary and interpretation of all groundwater monitoring data and comparison to the established baseline background groundwater quality;

Groundwater monitoring is done according to Section 4.3 Tables 3 to 6 of Certificate of Approval No. 1128-5S6KLC. The Nation municipality, Environmental department is in charge for the sampling of the groundwater monitoring wells and the Engineering Firm EXP is following the program with a report that is submitted to the MECP.

c) A delineation of the septic effluent impacted groundwater plume and the documentation of the movement and anticipated arrival of the plume at monitoring wells MW99-4 and MW99-5

Groundwater monitoring is done according to Section 4.3 Tables 3 to 6 of Certificate of Approval No. 1128-5S6KLC. See EXP Engineering report.

d) A tabulation of the daily volumes of effluent disposed through the subsurface system during the reporting period;

The volumes of the final Effluent are estimated using the run times and theoretical pump rates of the Effluent pumps. See the Fournier Wastewater Facility – Analytical Survey 2023, Table at the end of this report.

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

In addition to regular preventative maintenance, the following operational duties were performed.

- **June,**
 - Flushed and clean sanitary sewer system with hydroVac
 - Cleaning of wet wells A and B with the Nation's hydro Vac.
 - Flushing of sanitary sewer collection system with the hydroVac, Nation's personnel.
- **July,**
 - Lifted pump #2. Removed debris from impeller.
- **September,**
 - Lamoureux Pumping on site with vacuum truck to pump influent settling chambers. Pumped 40 000 gallons of sludge.
 - Started maintenance of sand filter bed. Removed all feeding lines, inspect all under piping system, replaced all media in sand filter bed.
- **December,**
 - Repair pipe on recirculation system at Fournier Field.

f) A description of any operating challenges encountered and corrective actions taken;

There were no operating challenges encountered during the 2023 period.

Appendix I: FOURNIER WASTEWATER FACILITY - ANALYTICAL SURVEY – 2023.

APPENDIX I

2.1.1

Waste Water - Analytical survey



Fournier

2023		Limit Objectives	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	total
RAW SEWAGE															
Total Flow	m ³		1613	1415	903	2767.0	1876.5	1356.6	2053.2	2012.0	1446.6	2025.3	1775.8	2314.1	21557.8
Daily Ave. Flow	m ³ /d	97.6	52.0	48.8	29.1	92.2	60.5	45.2	66.2	64.9	48.2	65.3	59.2	74.6	58.9
Max Flow	m ³ /d		70.5	57.3	91.6	109.6	88.7	48.2	95.8	76.9	53.8	134.0	64.4	89.4	134.0
Min. Flow	m ³ /d		41.8	42.9	37.6	76.0	48.2	42.0	42.0	50.2	46.2	47.3	55.8	60.4	37.6
CBOD ₅	mg/l			250			162			209			125		187
TSS	mg/l			230			146			146			205		182
TKN	mg/l			88.3			53.4			118			79.4		85
Ptot	mg/l			10.5			6.46			9.63			7.1		8.4
EFFLUENT															
Total Flow	m ³		1498.1	1569.1	1828.3	2888.6	2842.0	1797.5	2149.2	1706.9	696.3	1397.2	1506.5	2566.4	22446.3
Daily Ave. Flow	m ³ /d		48.3	56.0	59.0	96.3	91.7	59.9	69.3	55.1	23.2	45.1	50.2	82.8	61.4
CBOD ₅	mg/L	10.0	0	0	0	3	0	5	15	0	0	0	4	3	2.50
TSS	mg/L	10.0	5	7	3	13	3	15	10	4	13	5	10	5	7.75
Alkalinity	mg/L		251	223	288	265	205	259	298	245	243	223	231	280	250.92
Nitrite	mg/L		0	0	0.12	0	0	0.3	0	0	0	1.63	0.34	0	0.20
Nitrate	mg/L		7.9	12.7	5.59	5.34	8.12	2.89	0	2.49	0	30.4	15.5	16.4	8.94
Total Ammonia	mg/L		11.1	13.2	23.7	12.5	5.1	13.9	22.7	16.1	5.3	7.68	5.24	10.9	12.29
TKN	mg/L		12.8	16.1	28.8	15.2	6.2	20.7	31.5	18.4	8.4	9.5	7.6	15.1	15.86
Total Phosphorus	mg/L		2.28	5.22	8.11	5.39	2.57	10.3	11.7	4.6	4.89	4.39	3.91	4.56	5.66
E Coli.	cfu/100mL		4300	220000	37000	27000	16000	9000	90000	700	0	40000	1000	37000	40167

