The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
April 2022 Monthly Operations Report

INTRODUCTION

In accordance with the Agreement between the Ontario Clean Water Agency (Operating Authority) and the Town of Fort Frances, the Fort Frances Sewage Treatment Plant is required to prepare a monthly report. This document covers the reporting month of April 2022; the facility performance report summarizes important information regarding the quality of the effluent, wastewater, analytical test results, maintenance operations, and relevant activities of the WWTP.

DESCRIPTION OF WORKS

Capacity of Works	9000 m^3/day (average flow)
Service Area	Town of Fort Frances and Couchiching Reserve
Service Population	9000
Effluent Receiver	Rainy River
Major Process	Secondary treatment facility complete with a phosphorus removal system; ultra violet disinfection; aerobic sludge stabilization and dewatering

The Fort Frances Sewage Treatment Plant operates under *Environmental Compliance Approval Number 6786-A44PWG*. The ECA outlines the terms and conditions, and the report captures these terms and conditions in the following sections.

LABORATORY

ALS Laboratory Group – Thunder Bay is contracted to conduct the required analytical tests of the influent (raw) and effluent samples; weekly requirement.

APRIL 2022 EFFLUENT QUALITY

Parameters	***Monthly Actual Concentration* mg/L**	***Compliance Criteria Concentration* mg/L**	***Performance Objective Concentration* mg/L**	***Monthly Actual Loading,* kg/d**	***Compliance Criteria Loading* kg/d**	***Performance Objective Loading* kg/d**
$CBOD_5$	2.8 mg/L	25 mg/L	15 mg/L	31.0 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	3.7 mg/L	25 mg/L	15 mg/L	44.4 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.33 mg/L	1.0 mg/L	0.9 mg/L	3.81 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	9.88 mg/L 3.53 mg/L					
Total Cl_2 Residual		<0.01 mg/L (when in use)				
E-Coli	742.1 count/100 ml (geometric mean)		200 count/100ml (geometric mean)		E-coli not to exceed 150 organisms/100ml (monthly geometric mean density)	
pH			pH range 7.0 to 7.6; average pH was 7.3			
Temperature degrees C			Temperatures ranged from 6.0 to 7.0 C; average temperature of effluent was 6.5 C			

Compliance criteria are mandatory requirements of the ECA and performance objectives are a goal to be achieved using best reasonable efforts.

WASTEWATER LIQUID PROCESS

The average daily flow for April was 12204.4 m^3 /day. This represents 136% of the design average flow. Total treated flow for the month was 366133 m^3. The Fort Frances WWTP met the effluent compliance criteria, except for E-Coli geometric mean, as outlined in the Environmental Compliance Approval.

MAINTENANCE

The operators performed the routine operations and maintenance at the treatment plant and pumping stations. The activities are highlighted as follows and a summary will be included:

Treatment Plant:

- Alternated lead/lag pumps
- Adjusted fluidizing water to head cell and grit snail as needed
- Greased all blowers
- Regular cleaning of head works EW basket strainer
- Greased Grit Snail and lubricated drive chain. Hosed Snail
- Monthly inspection of spiral screen access hatch, removed wrapped debris
- Weekly manifold wash and restrictor cleaning on the Fournier press
- Inspected teacup
- Replaced lamps UV bank B and acid washed all 3 banks
- Repaired a plugged check valve on administration building sump pump 2

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Pulled and cleaned all 3 pumps at Central Avenue lift station
- Pulled and cleaned pump 1 at Central Avenue lift station a second time
- Cannect Electric disconnected both pumps at White Pine lift station
- Both pumps were pulled out of White Pine lift station drywell with assistance from FFPC
- A TOFF employee drove both pumps from White Pine lift station that had been flooded to Thunder Bay for repair.
- Cannect Electric replaced some flooded and compromised wiring and devices in White Pine lift station drywell
- Installed a new sump pump and check valve in the White Pine lift station drywell

PROCESS AND OPTIMIZATION ISSUES

An extreme rainfall and snow melt event that began on April 22 resulted in all pumping stations and the wastewater plant receiving flows that exceeded their capacity. The drywell at White Pine lift station flooded in the early morning hours of April 23 so that the pumps, electrical devices and wiring were engulfed in wastewater and inoperative. Operations staff worked with TOFF crews and TOFF management to get vacuum trucks and portable pumps to the site through the day. The TOFF was able to arrange for an Atlas Dewatering rental pump and piping to be delivered to the site. TOFF crew and TOFF management worked with operational staff to have

the Atlas pump setup and operational at 1915 hours on April 23. It remains onsite until the drywell pumps and equipment are either repaired or replaced and can resume pumping duties.

SLUDGE SUMMARY

Dennis Robinson Limited hauled a calculated total of 102.4 m3 (10 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 21.8 % TS for the month but slump test results from the landfill site have not been provided.
The Fournier press ran for 126.1 hours in the past month.

COMPLAINTS

There were no complaints during the report period.

BYPASS/OVERFLOW REPORT(S)

There were 4 bypass events in the last ten days of the reporting period.

COMMENTS

Plant power consumption for the month was 438 (x 180 multiplier) kWh.
The Fournier press has been operated 476.5 hours in 2022.
Operators replaced UV lamps in Bank B and acid washed all UV sleeves on April 21/22 after receiving an unusual extremely high E. coli sample result on April 20 for the weekly sample taken April 11. Plant flows for the last 9 days of the month were close to or over the rated capacity of the UV treatment system.
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REPORTS

ALS – Environmental Analytical Reports (on-file at plant)
Fort Frances WPCP Equipment Run Time Report (on-file at plant)
Bypass Report (on-file at plant as per occurrence)

Incident Report (on-file at plant as per occurrence)