The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
July 2019 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 July 2019; 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.

JULY 2019 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**
$CBOD_5$	2.1 mg/L	25 mg/L	15 mg/L	13.8 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	4.3 mg/L	25 mg/L	15 mg/L	29.9 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.15 mg/L	1.0 mg/L	0.9 mg/L	1.06 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	7.73 mg/L 5.44 mg/L					
Total Cl_2 Residual		<0.01 mg/L (when in use)				
E-Coli		10 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 6.6 to 7.0; average pH was 6.8		
Temperature degrees C				Temperatures ranged from 13.0 to 15.5 C; average temperature of effluent was 14.3 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 July was 6850.0 m^3 /day. This represents 76% of the design average flow. Total treated flow for the month was 212351 m^3.
The Fort Frances WWTP met all effluent compliance criteria for the parameters listed above and additionally was well within the recommended more stringent monthly performance objective levels as outlined in the Environmental Compliance Approval.
**The volume of sewage accepted from the New Gold mine site into the collection system in July will be reported with next months data. Lab analyses have not been provided.

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
- Monthly inspection of spiral screen access hatch, removed wrapped debris
- Weekly manifold wash on the Fournier press
- Drained and inspected teacup, hosed snail
- Chlorinated sampler lines
- Wiped DO probes
- Flushed digester decant line
- Greased clarifier drives
- Replaced shear pin longitudinal collector clarifier 2
- Replaced filter blower 3
- Repaired ruptured polymer line
- Installed spare Netzsch polymer pump so that unit with leaking shaft seal could be shipped back to supplier

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Pulled and cleaned pump 1 at Central Avenue lift station
- Reset PLC and Milltronics controller at Church St. lift station

PROCESS AND OPTIMIZATION ISSUES

The new progressive cavity polymer pump shaft seal developed a leak so it was shipped back to the manufacturer for assessment/repair. The spare pump was installed in its' place.

SLUDGE SUMMARY

Dennis Robinson Limited hauled a calculated total of 97.7 m3 (9 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 18.5 % TS for the month but slump test results from the landfill have not been provided.
The Fournier press ran for 85 hours in July.

COMPLAINTS

There were no complaints during the report period.

BYPASS/OVERFLOW REPORT(S)

There was a bypass event on July 17. The report is available.

COMMENTS

Plant power consumption for the month was 615 (x 180 multiplier) kWh.
The Fournier press has been operated for 852.2 hours in 2019.
Verifications of the bypass alarms and measuring device were completed.

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)