

**The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
October 2017 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 October 2017; 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.

OCTOBER 2017 EFFLUENT QUALITY

<i>Parameters</i>	<i>Monthly Actual Concentration mg/L</i>	<i>Compliance Criteria Concentration mg/L</i>	<i>Performance Objective Concentration mg/L</i>	<i>Monthly Actual Loading, kg/d</i>	<i>Compliance Criteria Loading kg/d</i>	<i>Performance Objective Loading kg/d</i>
CBOD ₅	2.0 mg/L	25 mg/L	15 mg/L	11.8 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	2.6 mg/L	25 mg/L	15 mg/L	15.4 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.16 mg/L	1.0 mg/L	0.9 mg/L	0.93 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	7.94 mg/L 6.49 mg/L					
Total Cl ₂ Residual		<0.01 mg/L (when in use)				
E-Coli		8.0 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 7.5 to 8.0; average pH was 7.8		
Temperature degrees C				Temperatures ranged from 16.0 to 17.5 C; average temperature of effluent was 16.8 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 October was 5917.7 m³/day. This represents 66% of the design average flow. Total treated flow for the month was 183450 m³.

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.

INVENTORY

Chemical	End of Month Status	Units
Hypochlorite	1020 +/- @ 8.0% +3x205 L @ 12%	Litres
Alum	4.5 +/- @ 55 %	Cubic meters
Polymer	6 x 205 L drums	Liters

MAINTENANCE

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

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
- Installed tire chains and snow blower on John Deere
- Repaired alum line
- Weekly manifold wash on the Fournier press
- Cleaned check valves both polymer pumps
- Cleaned DO probes
- Drained and inspected teacup
- Cleaned clarifier 2 lids
- Greased flocculator seal bearing
- Crane inspections were completed

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Installed larger antenna at Boundary Road lift station
- Central Avenue lift station pump 1 pulled and cleaned
- Repositioned the antenna at Church Street lift station

PROCESS AND OPTIMIZATION ISSUES

Optimization of the new sludge thickener process continues to be hampered by deficiencies and unfinished work.

SLUDGE SUMMARY

Asselin Storage and Transportation Limited hauled a calculated total of 128.5 m³ (13 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 17.4 % TS for the month.

COMPLAINTS

There were no complaints during the report period.

BYPASS/OVERFLOW REPORT(S)

There were no bypass or overflow events during the reporting period.

COMMENTS

Plant power consumption for the month was 691 (x 180 multiplier) kWh.
Screen and Dewatering Upgrades at the FFWWTP have been under way since May 30, 2016.
Lakeside Controls upgraded the Delta V SCADA system.
Crane inspections were completed.
University of Waterloo reps were on site to gather some data for a study.

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)