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March 11, 2016

Town of Fort Frances  
320 Portage Avenue  
Fort Frances Ontario  
P9A 3M5

Attention: Mr. Doug Herr  
Environmental and Facilities Superintendent

Dear Doug:

**Re: Fort Frances Wastewater Treatment Facility  
February 2016 Monthly Report**

As per the operating agreement, the attached document is the February 2016 monthly report for the Fort Frances Wastewater Treatment Facility.

The report highlights the influent and effluent quality and the process parameters. Additionally, the routine operation and maintenance activities conducted by the operators are summarized.

If you have any questions regarding this report do not hesitate to contact Mr. Larry Wachter – Operations Manager.

Yours truly,



Kelly Cunningham  
Senior Operator

For Larry Wachter  
Operations Manager

**The Corporation of the Town of Fort Frances  
Wastewater Treatment Plant  
(Sewage Plant)  
February 2016 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 February 2016; 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 <sup>3</sup> /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 received and operates its operation under *Certificate of Approval Number 3-0049-96-006*, in accordance with Section 53 of the Ontario Water Resources Act. The Certificate of Approval 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.

## FEBRUARY 2016 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 <sub>5</sub>	3.5 mg/L	25 mg/L	15 mg/L	18.5 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	4.3 mg/L	25 mg/L	15 mg/L	23.2 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.11 mg/L	1.0 mg/L	0.9 mg/L	0.57 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	8.91 mg/L 4.09 mg/L					
Total Cl <sub>2</sub> Residual		<0.01 mg/L (when in use)				
E-Coli		19.3 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 7.2 to 7.7; average pH was 7.4		
Temperature degrees C				Temperatures ranged from 8.5 – 9.5 average temperature of effluent at 8.8		

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

## WASTEWATER LIQUID PROCESS

The average daily flow for February was 5417.8 m<sup>3</sup>/day. This represents 60% of the design average flow. Total treated flow for the month was 157117 m<sup>3</sup>.

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 Certificate of Approval.

## INVENTORY

Chemical	End of Month Status	Units
Hypochlorite	1150 +/- @ 7.0% + 410 @ 12%	Litres
Alum	17 +/- @ 60 %	Cubic meters
Polymer	20 Bags (500 kg)	Bags (25 kg/bag)

## 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 GBT, mechanical bar screen and grit snail. Lubricated drive chain on grit snail and bar screen
- Regular cleaning of head works EW basket strainer
- Regular cleaning of seal water strainer TFP 9-5
- Greased all blowers
- Changed oil blowers 2, 3, 4 and 5
- Replaced flexible coupler blower 4 outlet
- Cleaned DO probes

### Pump Stations:

- Ran gensets
- Changed seal water strainers
- Cleaned bar screens
- Exercised valves in drywell at Central Avenue lift station
- Reset pumps at Boundary Road lift station

## **OPERATIONAL ISSUES**

There were no operational issues in the report period.

## **SLUDGE SUMMARY**

Asselin Transportation and Storage Limited hauled a total of 251.7 m<sup>3</sup> of thickened digested sludge ( 12.0 m<sup>3</sup>/load average) to the Town of Fort Frances landfill site.

## **COMPLAINTS**

There were no complaints during the report period.

## **BY-PASS REPORT(S)**

There were no bypass events in the report period.

## **COMMENTS**

Plant power consumption for the month was 627 (x 180 multiplier) kWh.  
An incident report was filed regarding no flow measurement during a 6 hour power outage at the wastewater plant on February 28, 29.

## **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)

Month	Sewage Flows Year 2016					Usage % Plant Capacity	Sludge Volume Hauled	Removal Efficiency	
	Avg. Day Flow	Max Day Flow	Total Treated	Total ByPass	Total Volume			CBOD5	0.963422195
	m3	m3	Volume ML	Volume ML	ML			Suspended Solids	0.96253183
January	5668.1	5900	175712		175712	63%	249.9	Total Phosphorus	0.942604857
February	5417.8	5665	157117		157117	60%	251.7		
March						0%			
April						0%			
May						0%			
June						0%			
July						0%			
August						0%			
September						0%			
October						0%			
November						0%			
December						0%			
Sum				0	332829		501.6		
Average	5543		166415		166415	62%	250.8		
Max		5900	175712		175712				
C of A	9000	18000							

Month	CBOD5				Suspended Solids			Total Phosphorus			E. Coli		pH	
	Avg Raw BOD (mg/L)	Avg. Eff. CBOD (mg/L)	Avg. Load CBOD (kg/day)	Avg Raw S.S (mg/L)	Avg. Eff. S.S (mg/L)	Avg. Load S.S (kg/day)	Avg Raw T.P (mg/L)	Avg. Eff. T.P (mg/L)	Avg. Load T.P (kg/day)	Geo Mean Counts /100ml	Monthly Minimum	Monthly Maximum		
January	87.0	2.4	13.5	142.4	6.0	34.7	2.41	0.15	0.83	23.7	7.3	7.9		
February	74.3	3.5	18.5	132.5	4.3	23.2	2.1	0.11	0.57	19.3	7.2	7.7		
March														
April														
May														
June														
July														
August														
September														
October														
November														
December														
Average	80.7	3.0	16.0	137.5	5.2	29.0	2.3	0.13	0.70	21.5	7.3	7.8		
Max	87	3.5	18.5	142.4	6	34.7	2.4	0.15	0.83	23.7	7.3	7.9		
C of A		25	225		25	225		0.9	9	200	6.0	9.5		