

November 4, 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  
October 2016 Monthly Report**

As per the operating agreement, the attached document is the October 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)  
October 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 October 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 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 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>	2.3 mg/L	25 mg/L	15 mg/L	13.2 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	4.6 mg/L	25 mg/L	15 mg/L	27.0 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.21 mg/L	1.0 mg/L	0.9 mg/L	1.2 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	8.48 mg/L 6.90 mg/L					
Total Cl <sub>2</sub> Residual		<0.01 mg/L (when in use)				
E-Coli		12.8 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 7.7		
Temperature degrees C				Temperatures ranged from 15.0 to 17.5 C; average temperature of effluent was 16.2 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 5845.3 m<sup>3</sup>/day. This represents 65% of the design average flow. Total treated flow for the month was 181205 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 Environmental Compliance Approval.

## INVENTORY

Chemical	End of Month Status	Units
Hypochlorite	1120 +/-@ 8.0%	Litres
Alum	4.0 +/- @ 60 %	Cubic meters
Polymer	6 drums	205 L drums

## 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
- Pulled and cleaned RAS pump 1
- Replaced blower 4 with spare and new belts and oil
- Replaced coupler in Blower 4 air line and tightened valve flange
- Hot water flushed and repaired blockage alum lines
- Removed debris from Teacup
- Replaced filters, tensioned belt and greased bearings ASU 101, ASU 01 and ASU 02
- Drained and inspected both clarifiers. Removed 2 links from flight chain in tank 1 and 1 link from tank 2
- Cleared wrapped and packed material from access door on Westech spiral screen

### Pump Stations:

- Ran gensets
- Changed seal water strainers
- PLC reset Boundary Rd lift station
- Pumped down Church St lift station on hand
- Cleaned bar screens

## **OPERATIONAL ISSUES**

There were no operational issues in the report period.

## **SLUDGE SUMMARY**

The Fournier Rotary Press processed 2015.6 m<sup>3</sup> of digested sludge at 1.14% TS. The cake, averaging 19.8% TS was hauled by Asselin Transportation and Storage Limited to the Town of Fort Frances landfill site.

## **COMPLAINTS**

There were no complaints during the report period.

## **BYPASS REPORT(S)**

There was a UV bypass reported on October 2<sup>nd</sup> as there was a 6 hour scheduled power outage that day.

## **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.  
There was a UV bypass reported on October 2<sup>nd</sup> as there was a 6 hour scheduled power outage that day.  
The sludge truck tent was taken down and removed by TOFF crew.  
The TOFF vacuum truck removed debris from both clarifier inlet channels.

## **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					Sludge	Removal Efficiency		
	Avg. Day Flow	Max Day Flow	Total Treated	Total ByPass	Total Volume		Usage		
	m3	m3	Volume ML	Volume ML	ML		% Plant Capacity	CBOD5	0.967607973
January	5668.1	5900	175712		175712		63%	Suspended Solids	0.968245968
February	5417.8	5665	157117		157117		60%	Total Phosphorus	0.914038657
March	7463.4	12988	231365		231365		83%		
April	8462.4	10027	253871		253871		94%		
May	6785.5	8276	210352		210352		75%		
June	9140.5	18874	274216	1306	275522	217.4	102%		
July	8142.5	11184	252416		252416	227.5	90%		
August	6150.3	7937	190658		190658	72.1	68%		
September	6009.5	7299	180285		180285		67%		
October	5845.3	6913	181205		181205		65%		
November							0%		
December							0%		
Sum				1306	2108503	1700.8			
Average	6909		210720		210850	212.6	77%		
Max		18874	274216		275522				
C of A	9000	18000							

	CBOD5				Suspended Solids			Total Phosphorus			Nitrogen			E. Coli	
	Avg. Raw BOD	Avg. Eff. CBOD	Avg. Load CBOD	Avg. Raw S.S	Avg. Eff. S.S	Avg. Load S.S	Avg. Raw T.P	Avg. Eff. T.P	Avg. Load T.P	Avg. Raw TKN	Avg. Eff. Total N	Avg. Raw	Avg. Eff.	Geo Mean	
	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	/100ml	
January	87.0	2.4	13.5	142.4	6.0	34.7	2.41	0.15	0.83					23.7	
February	74.3	3.5	18.5	132.5	4.3	23.2	2.12	0.11	0.57	17.3	8.9	17.3	8.9	19.3	
March	65.2	2.3	16.1	112.4	5.7	47.7	1.87	0.11	0.94	15.1	9.7	15.1	9.7	21.4	
April	57.5	2.4	20.2	110.8	5.6	47.1	1.54	0.13	1.11	12.0	9.7	12.0	9.7	9.3	
May	68.8	2.5	17.2	125.8	4.1	27.8	2.00	0.15	3.19	14.9	10.0	14.9	10.0	14.4	
June	50.5	2.0	18.5	148.1	3.9	40.0	1.40	0.19	1.81	11.8	8.6	11.8	8.6	19.3	
July	49.9	2.0	15.2	124.2	4.0	32.0	1.30	0.18	1.50	11.6	8.4	11.6	8.4	6.3	
August	83.4	2.0	12.2	190.1	2.3	14.3	2.40	0.23	1.40	19.8	10.2	19.8	10.2	5.8	
September	80.5	2.0	12.2	141.8	3.6	21.6	2.00	0.23	1.37	15.9	8.7	15.9	8.7	11.5	
October	105.3	2.3	13.2	160.7	4.6	27.0	2.62	0.21	1.23	17.6	8.5	17.6	8.5	12.8	
November															
December															
Average	72.2	2.3	15.7	138.9	4.4	31.5	2.0	0.17	1.40	15.1	9.2	15.1	9.2	14.4	
Max	105.3	3.5	20.2	190.1	6	47.7	2.6	0.23	3.19	19.8	10.2	19.8	10.2	23.7	
C of A		25	225		25	225		0.9	8.1	200	6.0	200	6.0	200	