Renfrew Water Pollution Control Plant
2015 Annual Report

Please find below the **2015 Annual Performance Report** and other supporting documents for the **Renfrew** Water Pollution Control Plant. This report is offered under two approvals; Amended Environmental Compliance Approval (ECA) # 1320-8Q8QAS - issued April 03, 2012 and Amended ECA # 2707-9K2T9X - issued June 24, 2014.

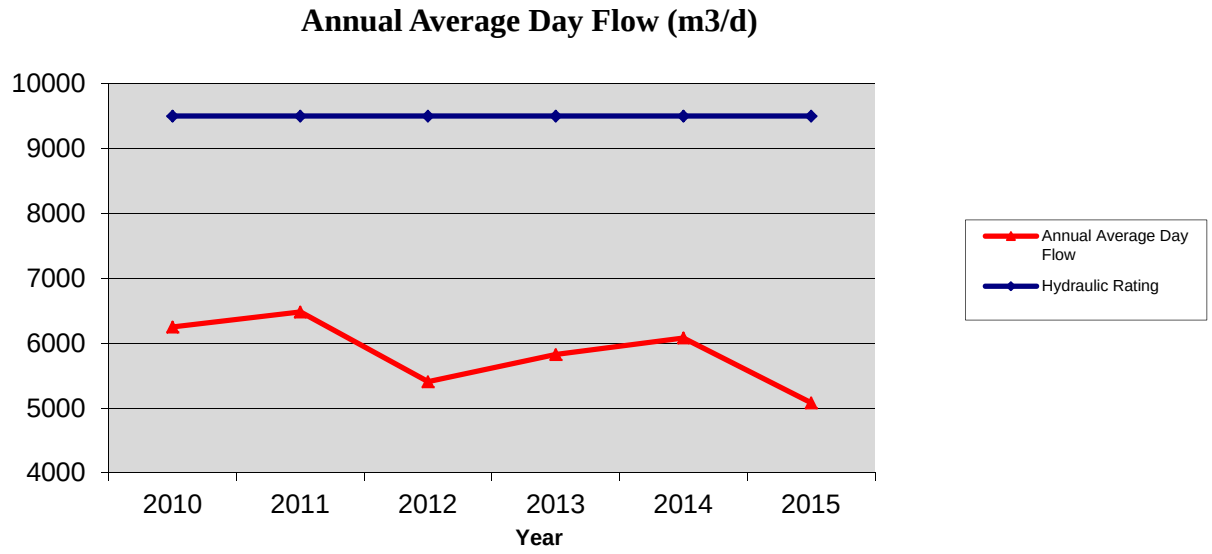
This report covers the period from **January 01 to December 31, 2015** inclusive.

a. A summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the *Works*;

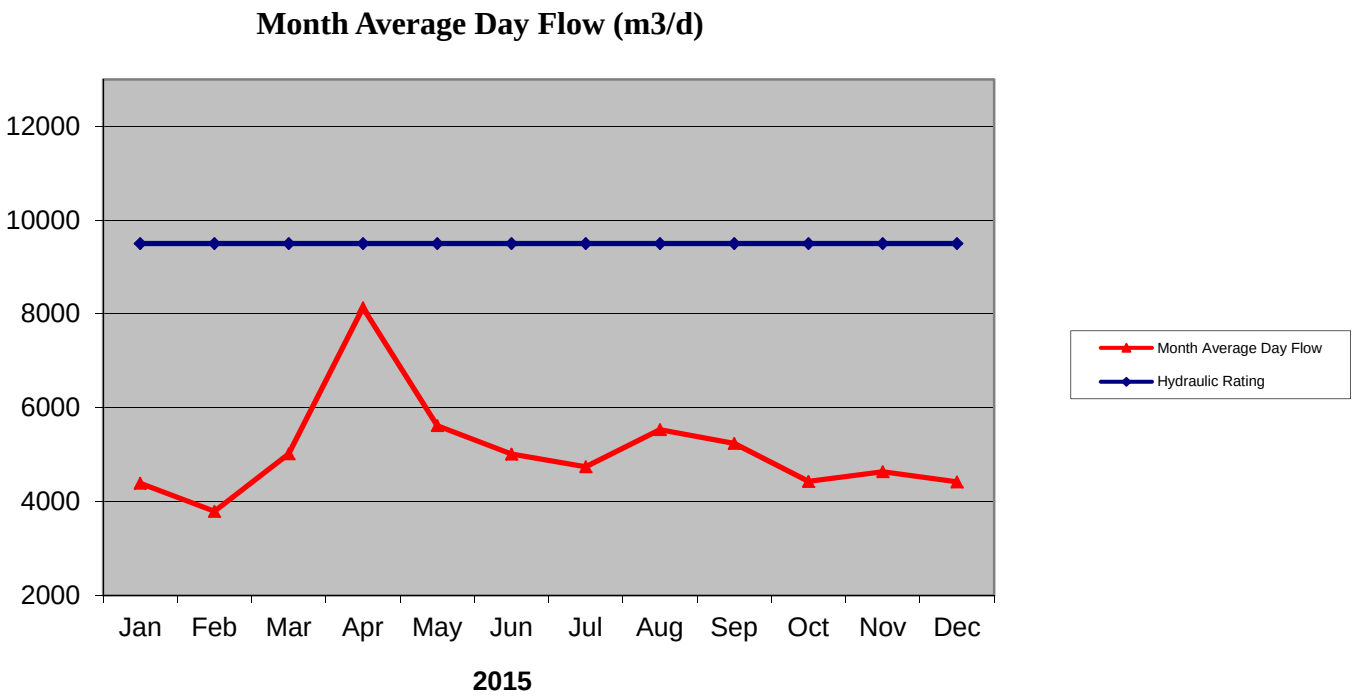
Attached is OCWA's 2015 Performance Assessment Report (PAR). This report summarizes the flow data, chemical and bacteriological results. Also attached are: a customized report outlining monthly pH, temperature and ammonia values in the final effluent and a customized report for Daphnia magna and Rainbow Trout.

Capacity Assessment

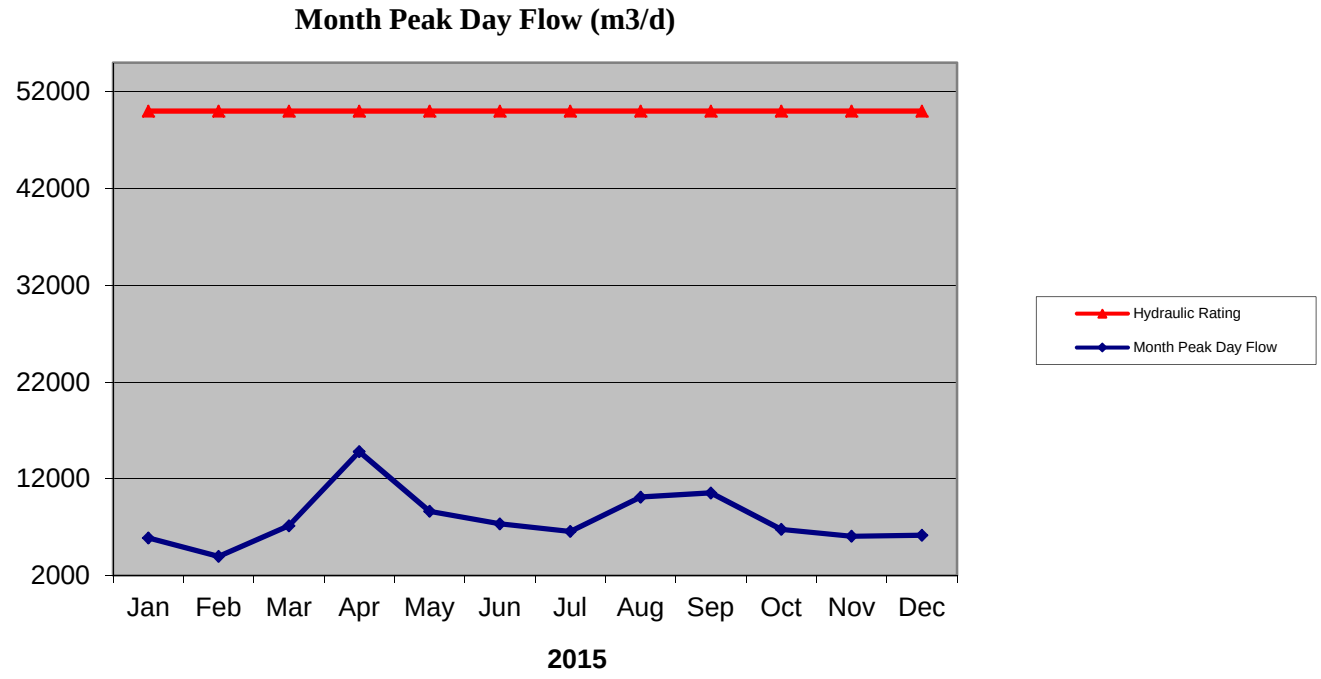
Year	2010	2011	2012	2013	2014	2015
Average Day Flow (m^3/d)	6250	6481	5406	5825	6081	5081
Design Capacity (m^3/d)	9500	9500	9500	9500	9500	9500
% of capacity (based on average daily flows)	**65.8**	**68.2**	**56.9**	**61.3**	**64.0**	**53.5**
Maximum Day Flow (m^3/d)	23722	26086	26856	20413	30403	14804



In 2015, the annual average day flow was at approximately 53.3 % of the plant design, representing a 10.5% decrease from 2014.



In 2015, the monthly average day flow did not exceed the design rated capacity of the works.



In 2015, the monthly peak day flow did not exceed the design rated capacity of the works.

Plant Performance:

The ECA establishes the following **effluent limits**;

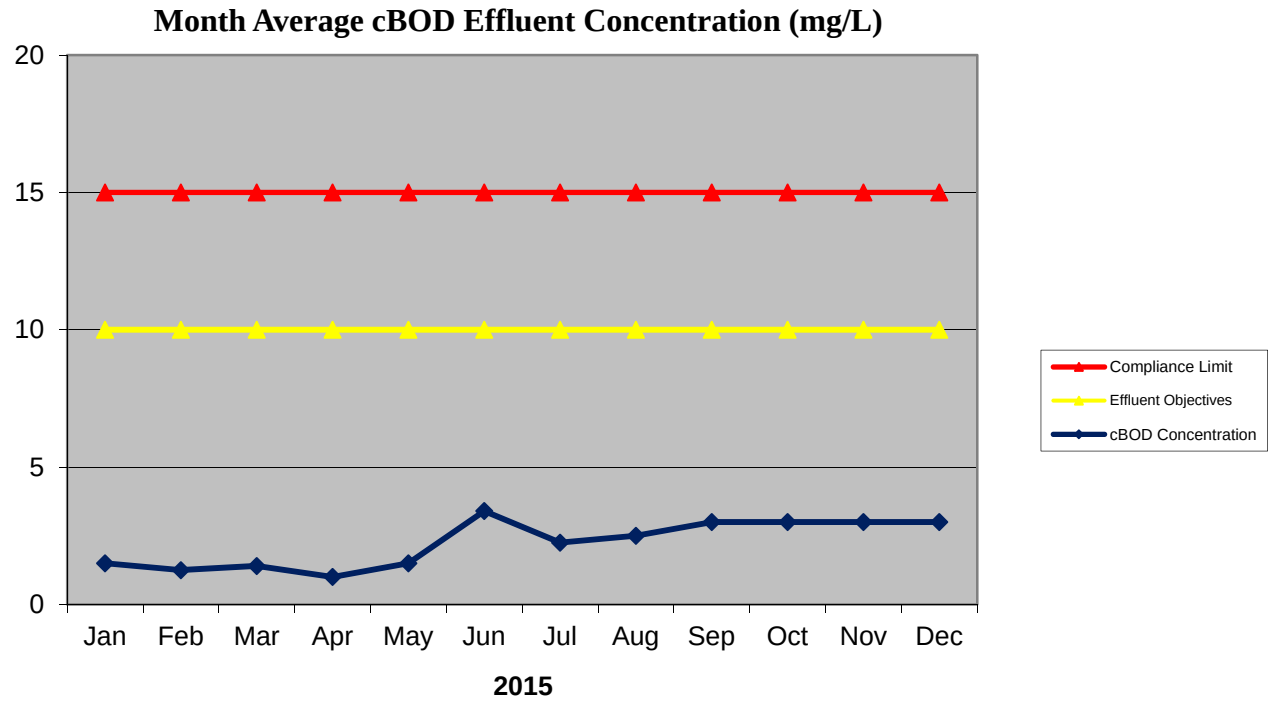
	Maximum Effluent Concentration	Maximum Effluent Loading Concentration	Comment
cBOD	15 mg/L	142.5 kg/d	Month Average of all samples taken.
Suspended Solids	15 mg/L	142.5 kg/d	Month Average of all samples taken.
Total Phosphorus	0.75 mg/L	7.1 kg/d	Month Average of all samples taken.
Non-Acutely Lethal to Rainbow Trout and Daphnia Magna			
pH of the effluent maintained between 6.0 to 9.5 inclusive, at all times.			

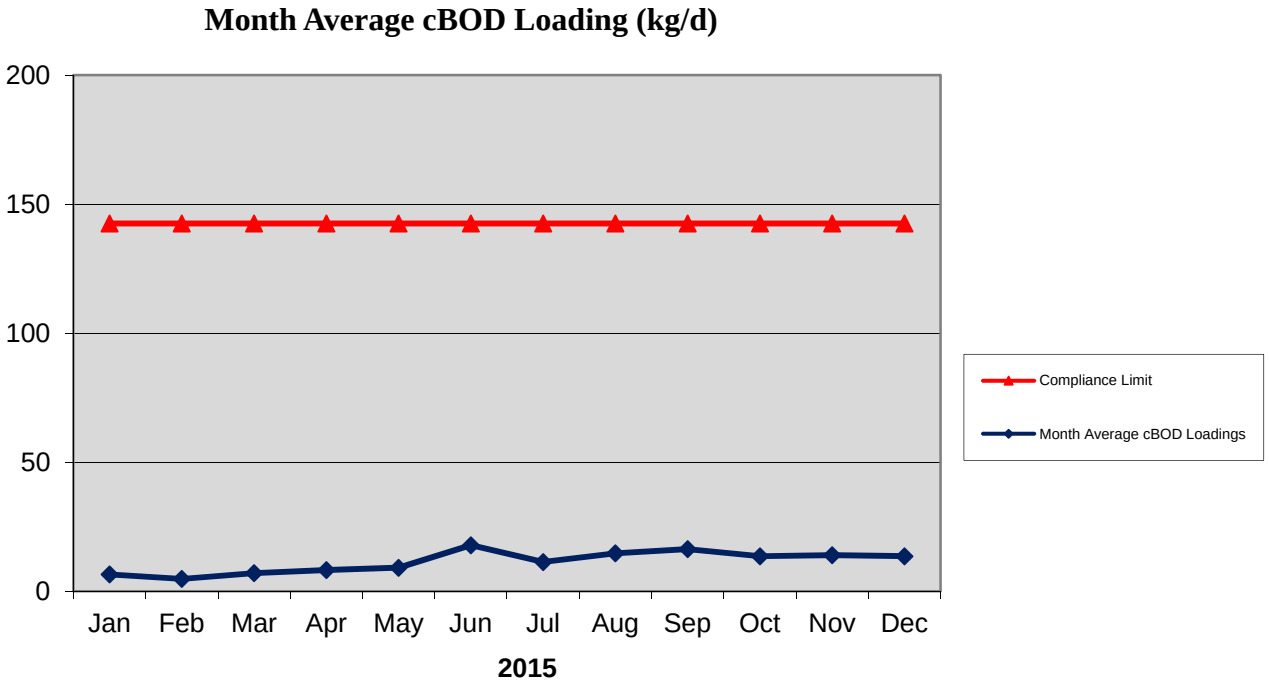
A review of data indicates the Renfrew WPCP had a treatment efficiency of:

Parameter	Maximum Month Average Effluent Concentration		Maximum Month Average Effluent Loading		Was Effluent Compliance Limit Met?
	Achieved	Compliance Limit	Achieved	Compliance Limit	
cBOD	< 3.4 mg/L	15 mg/L	17.84 kg/d	142.5 kg/d	**YES**
Suspended Solids	8.25 mg/L	15 mg/L	41.52 kg/d	142.5 kg/d	**YES**
Total Phosphorus	0.108 mg/L	0.75 mg/L	0.53 kg/d	7.1 kg/d	**YES**

Parameter	Achieved	Compliance Limit	Was Effluent Compliance Limit Met?
pH	6.18 – 7.50	6.0 – 9.5	**YES**
Daphnia Magna (%)	zero mortality	Non-acutely Lethal – 50%	**YES**
Rainbow Trout (%)	zero mortality	Non-acutely Lethal – 50%	**YES**
E coli	The geometric mean density of E. Coli in effluent should not exceed 200 organisms per 100 ml		**YES**

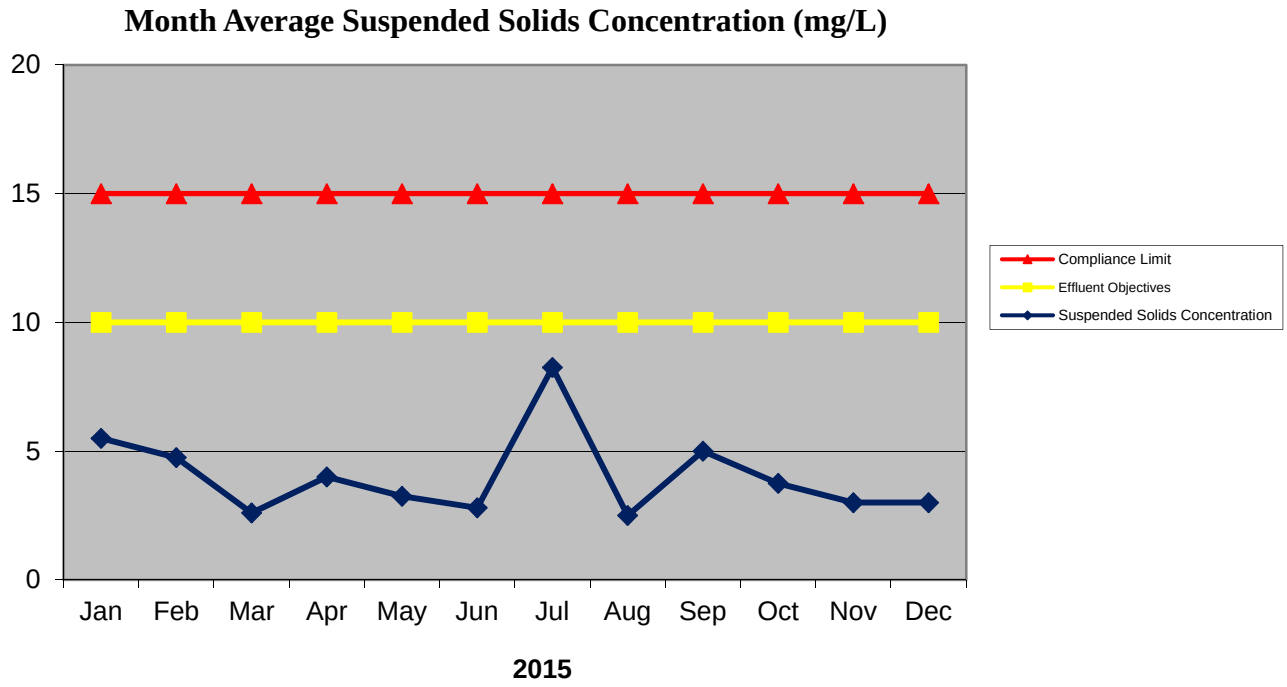
Effluent Biochemical Oxygen Demand (cBOD)

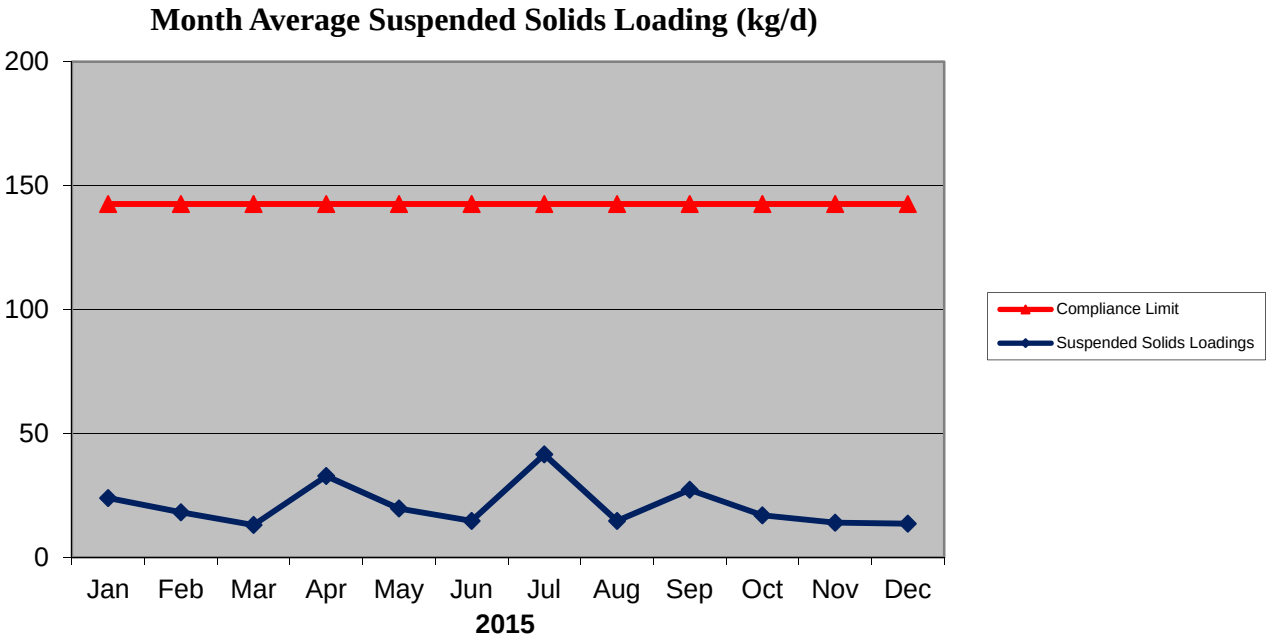




Effluent cBOD concentrations: limit and objective were met.
Effluent cBOD loading limit was met

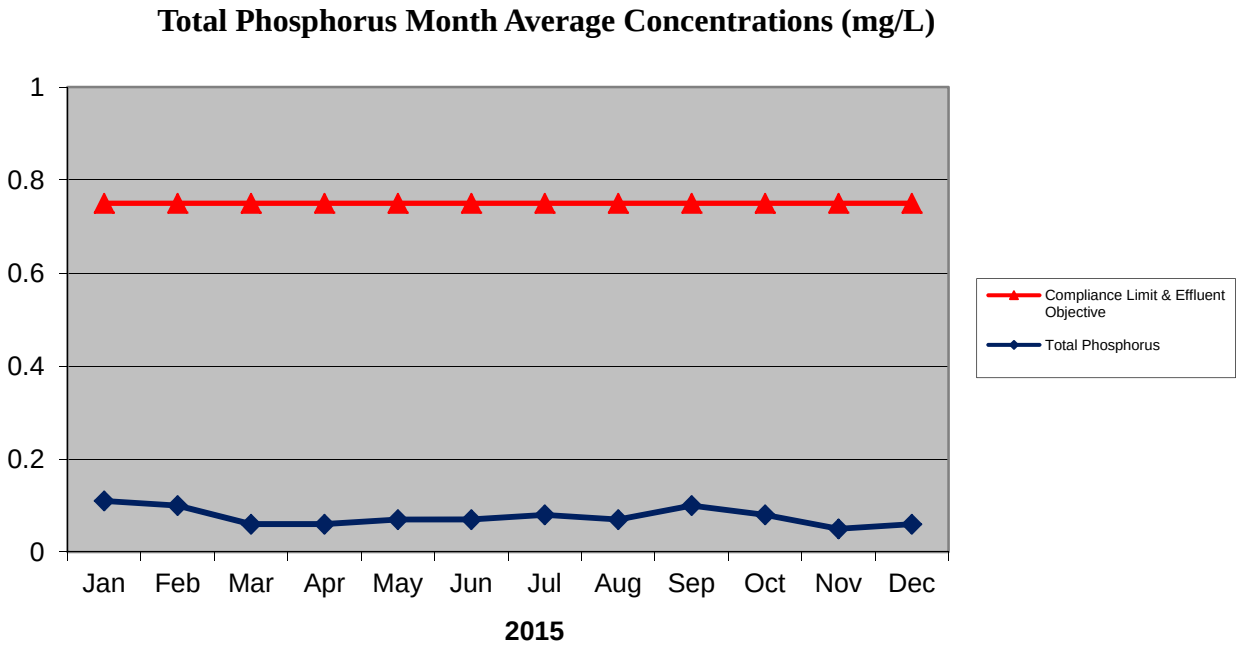
Effluent Suspended Solids

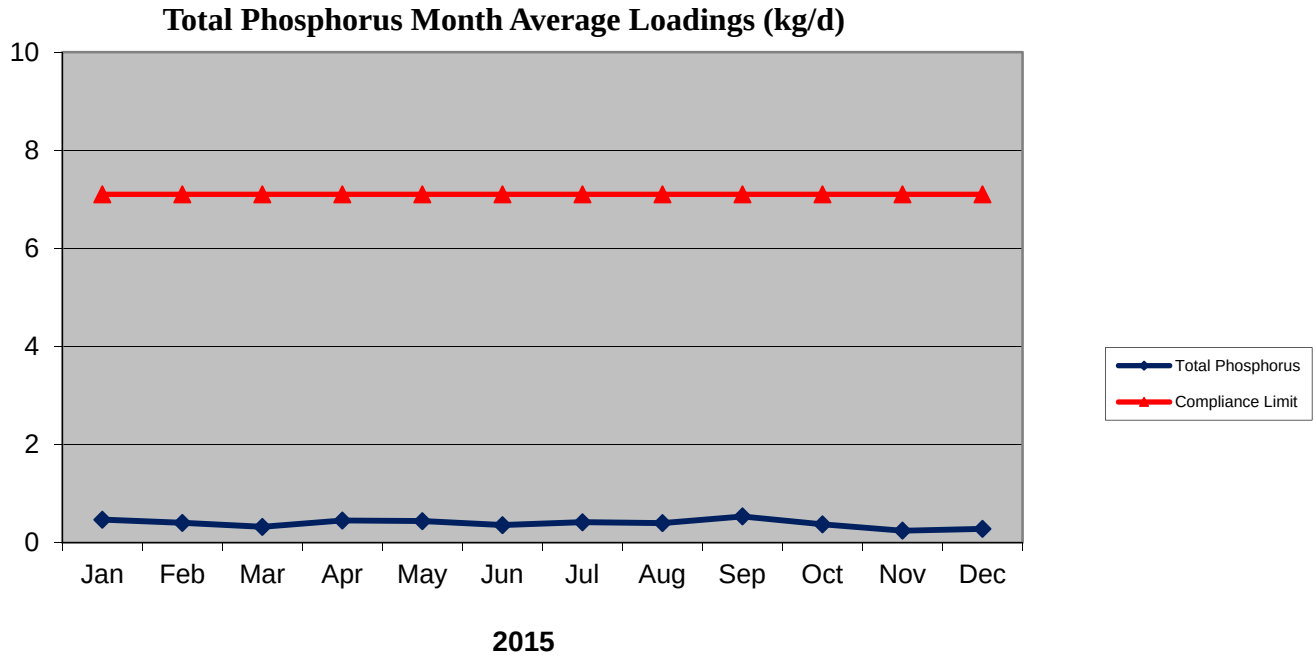




Effluent suspended solids concentration: limit and objective were met.
Effluent suspended solids loading limit was met

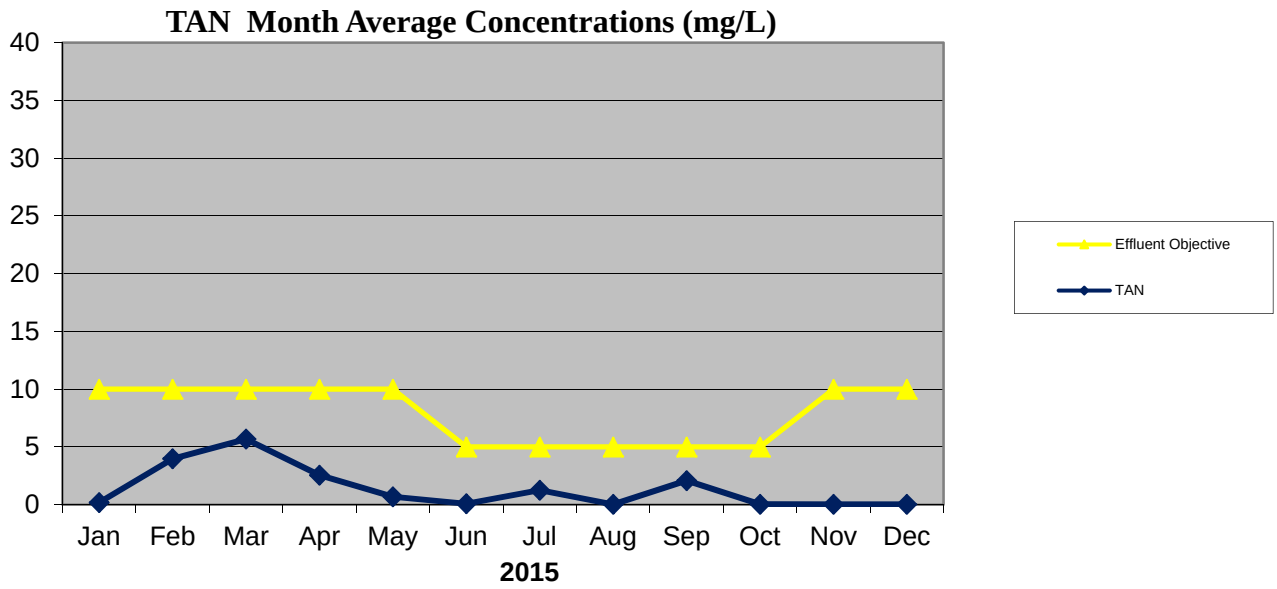
Total Phosphorus





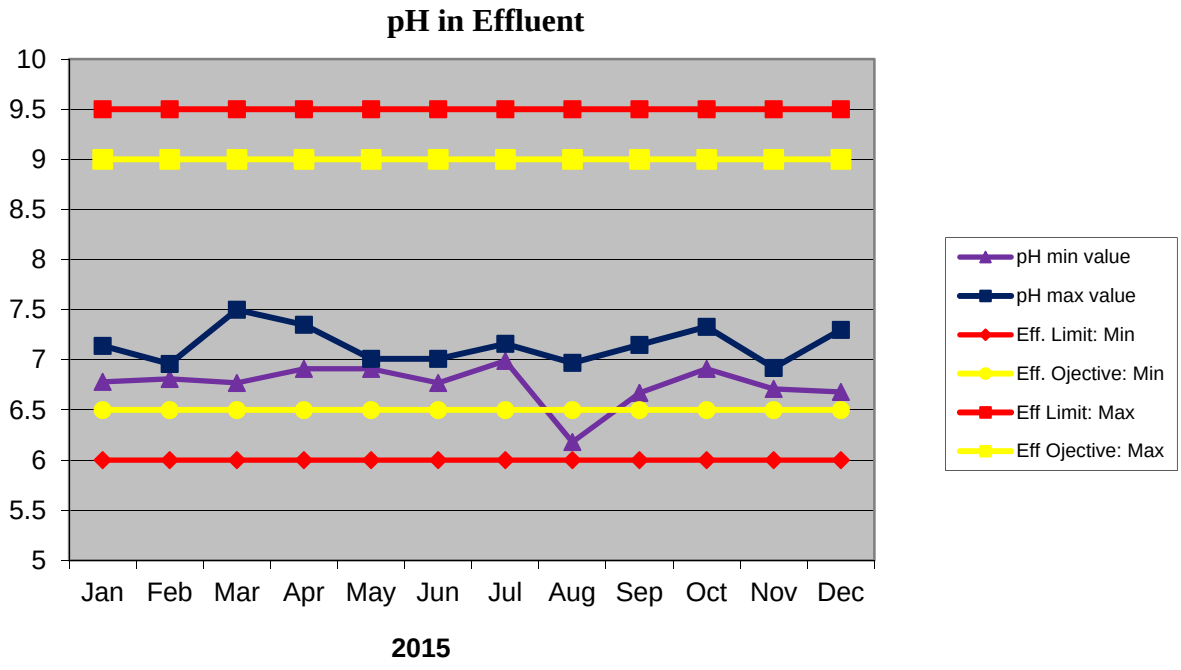
Effluent total phosphorus concentrations: limit and objective were met.
Effluent total phosphorus loading limit was met

Total Ammonia Nitrogen (TAN)



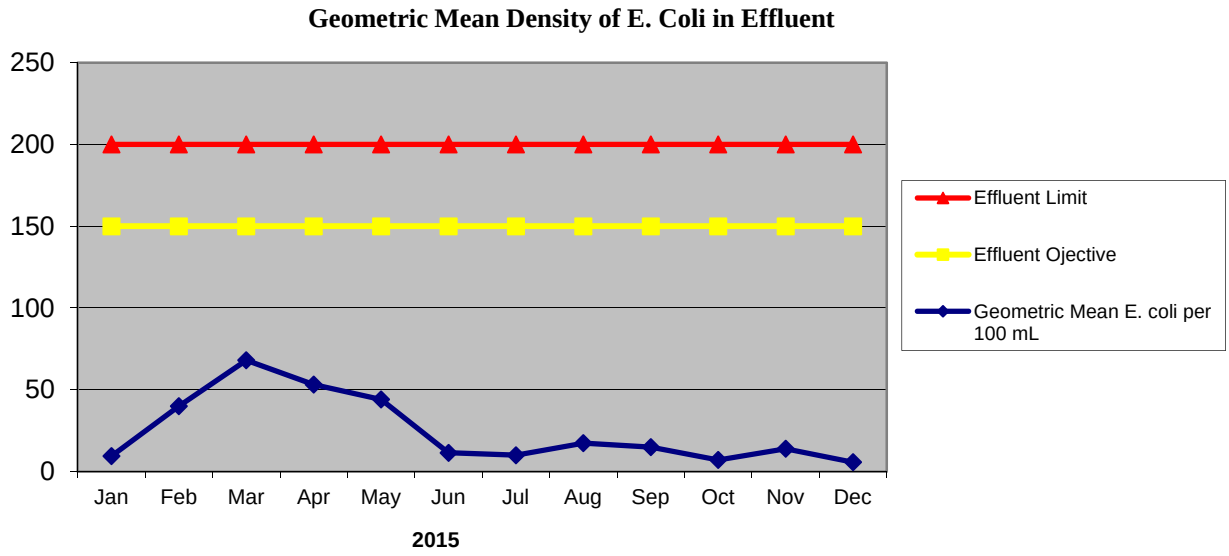
TAN objectives were not met in Feb, Mar Apr Jul and September 2015

pH in Effluent: Minimum and Maximum Values



pH effluent compliance limits (max and min) were met. The min pH objective was not met in Aug 2015.

Bacteriological Analysis



Effluent geo- mean E. coli limit and objective were met.

ECA Effluent Objectives

Parameter	Effluent Concentration		Comment	Were Effluent Objectives Limit Met?
	Month Max. Achieved	**Objective**		
cBOD	< 3.4 mg/L	10 mg/L	Max. Month average	YES
Total Suspended Solids	8.25 mg/L	10 mg/L	Max. Month average	YES
Total Phosphorus	0.108 mg/L	0.75 mg/L	Max. Month average	YES
Total Ammonia Nitrogen	2.09 mg/L	5 (Jun 1 to Oct 31)	Max. Month average	YES
	5.68 mg/L	10 (Nov 1 to May 31)	Max. Month average	YES
E Coli	68.05 geo. mean density	150 cfu / 100 mL	Max. Month average	YES
pH	6.18 – 7.50	6.5 – 9.0	Any one sample	NO

The certificate of approval does not list effluent objectives for loading rates.

b. A description of any operating problems encountered and corrective actions taken;

Problems Encountered:

One (1) diversion event occurred in 2015

c. A summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;

Completion Date	Comments
10/29/2015	DXN 30 Decontactor. Looking to purchase cord and poly handle to use for the spare pump for use when pumping out clarifier or digester cell tank etc.
05/20/2015	Total Chlorine & PH - Emergency EQ Failure - Metcon
03/10/2015	Flushing Water Solenoid Valve - 1". Valve failed, badly worn seat. Spare required on site. T. Williams Plumbing
12/31/2015	Flow Monitoring Services PO #7943
02/12/2015	Failed cooling fan lead to power board over-heating both needing replacement also found the hour meter on the unit to be non-functional.
	Devicenet Controls Upgrade. Existing devicenet modules are failing at an alarming rate. Since they are obsolete no replacement is available and devicenet upgrade is required.
	Miscellaneous Capital #1
	Flyght Progressive Cavity #02 Pump Dewatering. Rotor and stator badly worn - need replacing to increase efficiency.
	UV Hydraulic Wipe System - All 16 sets are leaking.
03/03/2015	Annual Inspection/Maintenance
	Backflow Preventer - Will require installation of a rebuild kit and retesting of the device.
03/31/2015	Grit Blower #2 VFD Failed and fuses blown. Need replacement asap
04/30/2015	Old Sewage Treatment Plant - Dewater tanks to allow for diversion flow
	Grit System Swing Check Valves (4")
09/03/2015	Mixer Aeration Tank #1 Burnt out and failed. New unit installed, new davit arm and winch assembly installed also.
07/13/2015	Grit System Swing Check Valves (4")(Combined with 3352186).
08/14/2015	RAS Pump #2 VFD. 20 HP Variable Frequency Drive
07/22/2015	operations has observed new sounds when system is operating, and recommend factory experts to investigate, Service to main scroll gearbox recommended while factory tech on site
	Conveyor Auger Truck Loading
	Clarifier Gear Boxes - Output shaft seals are leaking.
	UV Channel #1 Electric Actuator.
10/19/2015	Multi Gas Detector - new one required. H&S Item quote , order and receive new gas detector
09/02/2015	Pumping of old plant.
09/11/2015	UV Disinfection System
	Alfa Laval Dewatering Centrifuge
10/16/2015	Flow Monitoring Program - Renfrew Flow Data Extraction
	Aeration Blower #2 - PRV on Discharge
	Aeration Blower #1 Discharge Check Valve
	Aeration Blower #1 - Rotary Lobe Blower
11/18/2015	Grit Pump 01 - Devicenet Module Failure - Emergency Repair
12/15/2015	WWTF Perimeter Security Cameras
	Centrifuge Lifting Sling

e. A summary of any effluent quality assurance or control measure undertaken in the reporting period;

Quality Control & Compliance With Provincial Regulations

OCWA uses internal compliance auditing techniques by teams from within the organization but not from within the facility work team. OCWA operates the Renfrew Water Pollution Control Plant in accordance with provincial regulations. Here is how we do it:

- Use of Accredited Labs. Analytical tests to monitor your water quality are conducted by a laboratory audited by the Canadian Association for Environmental Analytical Laboratories (CAEAL) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analyst(s) performing the test methods.

- Operation by Licensed Operators. The wastewater treatment plant is operated and maintained by the Ontario Clean Water Agency's competent and licensed staff. The mandatory licensing program for operators of drinking water facilities is regulated under the Ontario Water Resources Act (OWRA) Regulation 129/04. Licensing means that an individual meets the education and experience requirements and has successfully passed the certification exam.

- Sampling and Analytical requirements. OCWA follows a sampling and analysis schedule required by the Certificate of Approval.

- Adherence to Ministry Guidelines and Procedures. To ensure the protection of the Public's health and operational excellence, OCWA adheres to the guidelines and procedures developed by the Ministry of Environment

f. A summary of the calibration and maintenance carried out on all effluent monitoring equipment;

Ensuring the annual calibration of the flow meters is the responsibility of OCWA's Instrumentation and Control Technician. Attached is a copy of the annual calibration reports for your review. Also attached is the calibration work order for the hand-held analyzer used to monitor facility effluent.

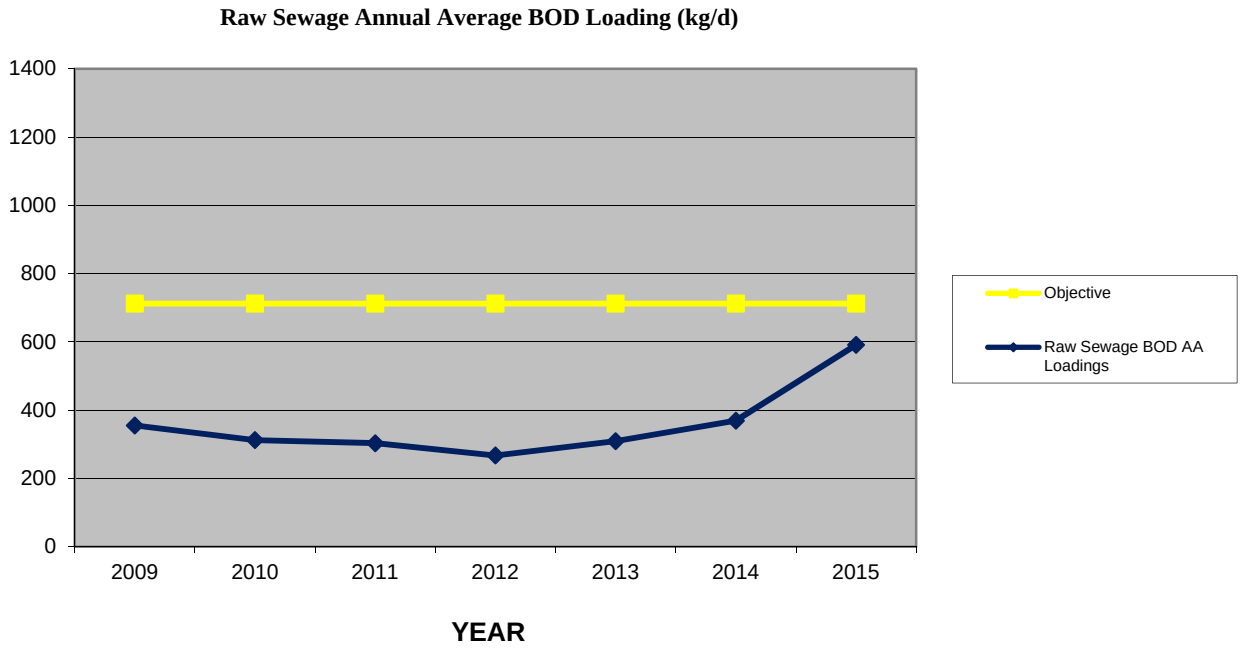
g. A description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6.

For information regarding effluent objectives, please refer to the previous table entitled: **ECA Effluent Objectives**.

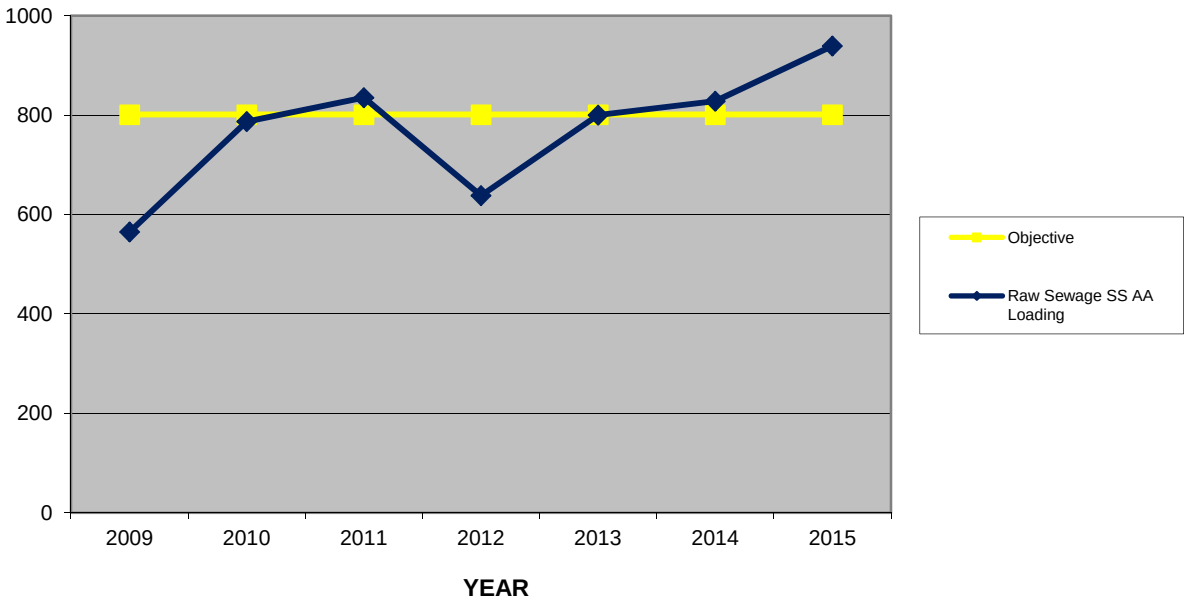
The ECA also lists the following raw sewage loading objectives.

Table 2 – Raw Sewage Loading Objectives (kilograms per day unless otherwise indicated)			
Effluent Parameter	Annual Average Loading Objectives	Annual Average Loading Achieved	Objective Met?
BOD5	712	590.77	Yes
Total Suspended Solids	801	938.72	No
Total Phosphorus	22	16.14	Yes
Total Kjeldahl Nitrogen	125	119.58	Yes

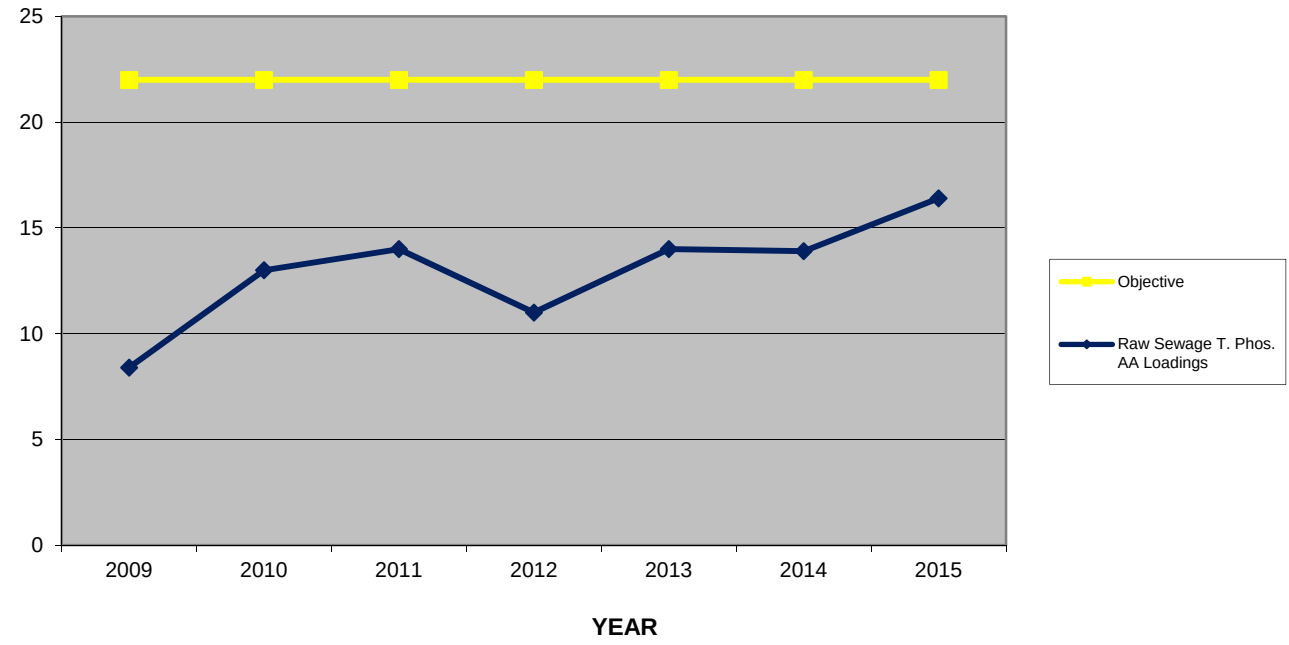
A report is attached that provides month sample results.

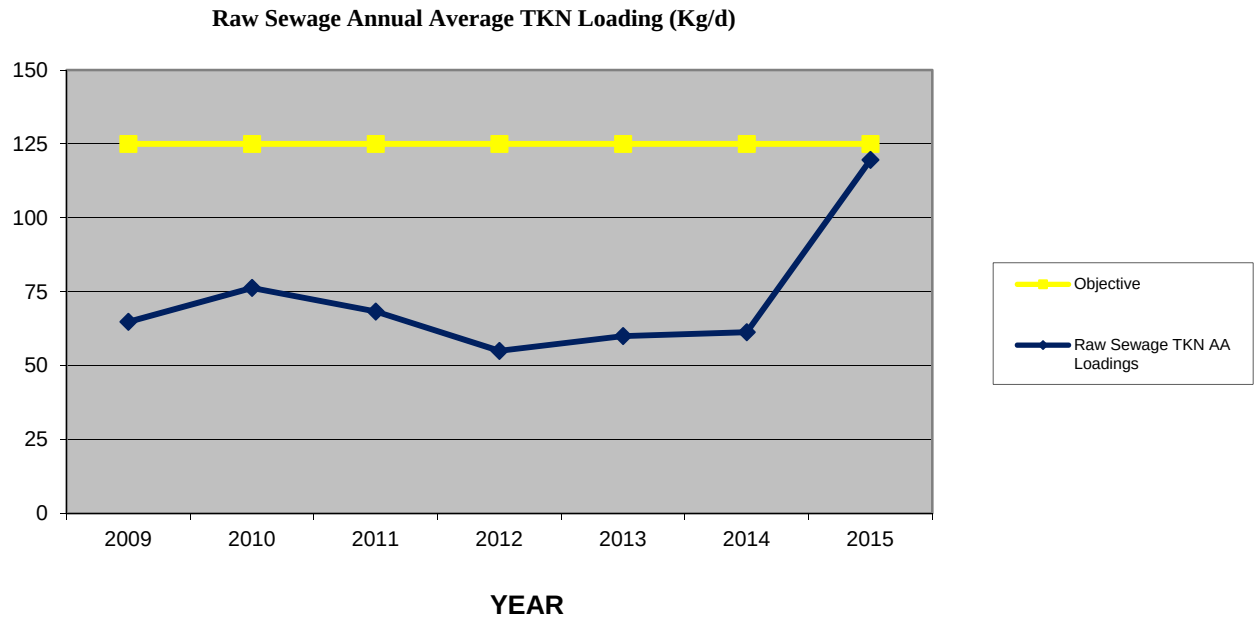


Raw Sewage Suspended Solids Annual Average Loading (Kg/d)



Raw Sewage Annual Average Total Phosphorus Loading (Kg/d)





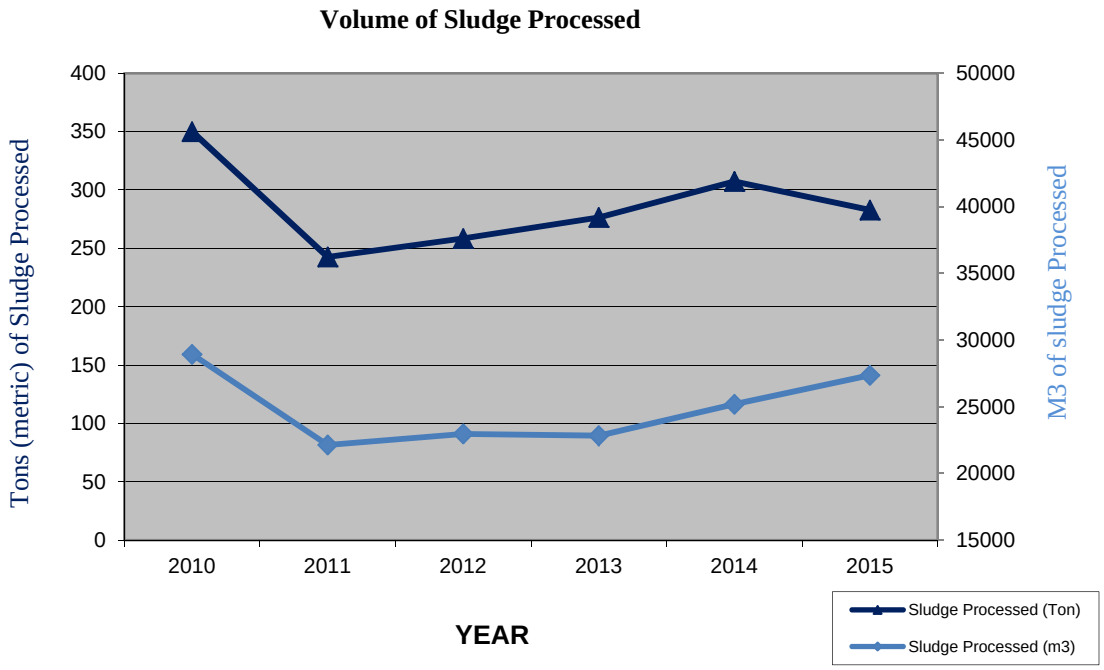
h. A tabulation of the volumes of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed.

The Renfrew WPCP uses aerobic sludge digestion followed by sludge dewatering. Dewatering is done using either centrifuge or Fournier press. The dewatered sludge is land filled.

In 2015:

Centrifuge: Approximately 27,360 m^3 of liquid sludge were processed. This equates to approximately 282.8 metric tons of solids being land filled.

Fournier Press: The Fournier Press was not utilized in 2015.



Volume of sludge processed is not expected to increase significantly in 2015.

Attached you will find a report outlining the volume of sludge processed in 2015 and a Biosolids Quality report.

i. A summary of any complaints received during the reporting period and any steps taken to address the complaints

The Ontario Clean Water Agency is not aware of any complaints lodged in 2015.

j. A summary of all bypass events, spill or abnormal discharge events

Diversion Events: The ECA provides approval for the old sewage treatment plant to be used during high influent raw sewage flow events. These events are referred to as 'Diversion Events' and are reported directly to the Ottawa Office of the Ministry of the Environment District Manager.

Please refer to the attached customized Diversion Report for 2015.

k. A copy of all Notice of Modifications submitted to the District Manager as a result of Schedule B, section (1), with a status report on the implementation of each modification.

There were no Notice of Modifications forms submitted during the reporting period.

l. A report summarizing all modifications completed as a result of Schedule B, section (3).

There were no Notice of Modifications forms submitted during the reporting period.

m. Any other information the Water Supervisor requires from time to time.

There were no requests for additional information received from the Water Supervisor at the time of this report.

List of acronyms

BOD - Biochemical Oxygen Demand
cBOD - carbonaceous Biochemical Oxygen Demand
SS - Suspended Solids
TSS - Total Suspended Solids
TKN –-Total Kjeldahl Nitrogen

List of Attachments:

Performance Assessment Report
Customized Ammonia (unionized), pH and Temperature Report
Acute Lethality Results for Daphnia Magna and Rainbow Trout
Flow Meter Calibration Reports
Customized Volume of Sludge Processed Report
Biosolids Quality Report Pages 1, 2 and 3
Diversion Report 2015

END

Ontario Clean Water Agency
Performance Assessment Report Wastewater/Lagoon

Report extracted 03/09/2016 13:08 **From: 01/01/2015 to 31/12/2015**

Facility: [5863] RENFREW WASTEWATER TREATMENT FACILITY

Works: [5863] RENFREW WASTEWATER TREATMENT FACILITY

	01/2015	02/2015	03/2015	04/2015	05/2015	06/2015	07/2015	08/2015	09/2015	10/2015	11/2015	12/2015	<--Total-->	<--Avg.-->	<--Max.-->	<--Criteria-->
Flows:																
Raw Flow: Total - Raw Sewage Influent (m³)	136146	106179	155572	243970	174174	150409	147004	171532	157219	137357	139122	137051	1855735			
Raw Flow: Avg - Raw Sewage Influent (m³/d)	4391.81	3792.11	5018.45	8132.33	5618.52	5013.63	4742.06	5533.29	5240.63	4430.87	4637.4	4421		5081.01		
Raw Flow: Max - Raw Sewage Influent (m³/d)	5882	3971	7142	14804	8638	7337	6548	10103	10530	6764	6057	6159			14804	
Eff. Flow: Total - Final Effluent (m³)	134868	107125	155515	246009	187913	157451	155995	182301	163406	140247	139739	140218	1910787			
Eff. Flow: Avg - Final Effluent (m³/d)	4350.58	3825.89	5016.61	8200.3	6061.71	5248.37	5032.1	5880.68	5446.87	4524.1	4657.97	4523.16		5230.69		
Eff. Flow: Max - Final Effluent (m³/d)	5859	3937	7150	14967	10263	7621	6948	9919	10929	6986	6317	6318			14967	
Carbonaceous Biochemical Oxygen Demand: CBOD:																
Raw: Avg cBOD5 - Raw Sewage Influent (mg/L)	81.75	102.25	102.8	58.5	76.25	107.4	94.75	87.25	72.6	116.75	69.75	111.6		90.138	116.75	
Raw: # of samples of cBOD5 - Raw Sewage Influent	4	4	5	4	4	5	4	4	5	4	4	5	52			
Eff: Avg cBOD5 - Final Effluent (mg/L)	< 1.5	< 1.25	1.4	< 1	1.5	< 3.4	< 2.25	< 2.5	< 3	< 3	< 3	< 3		< 2.233	3.4	15
Eff: # of samples of cBOD5 - Final Effluent	4	4	5	4	4	5	4	4	5	4	4	5	52			
Loading: cBOD5 - Final Effluent (kg/d)	< 6.526	< 4.782	7.023	< 8.2	9.093	< 17.844	< 11.322	< 14.702	< 16.341	< 13.572	< 13.974	< 13.569		< 11.412	17.844	
Percent Removal: cBOD5 - Raw Sewage Influent (mg/L)	98.165	98.778	98.638	98.291	98.033	96.834	97.625	97.135	95.868	97.43	95.699	97.312			98.778	
Biochemical Oxygen Demand: BOD5:																
Raw: Avg BOD5 - Raw Sewage Influent (mg/L)	114.75	123.75	130	77.5	100.75	135	100.75	113.75	80.6	137.25	91.75	157.6		113.621	157.6	
Raw: # of samples of BOD5 - Raw Sewage Influent	4	4	5	4	4	5	4	4	5	4	4	5	52			
Eff: Avg BOD5 - Final Effluent (mg/L)	2.25	3.25	2	< 1.75	< 2	< 3.4	< 3.25	< 2.75	< 3.2	< 3.5	< 3	5.6		< 2.996	5.6	
Eff: # of samples of BOD5 - Final Effluent	4	4	5	4	4	5	4	4	5	4	4	5	52			
Loading: BOD5 - Final Effluent (kg/d)	9.789	12.434	10.033	< 14.351	< 12.123	< 17.844	< 16.354	< 16.172	< 17.43	< 15.834	< 13.974	25.33		< 15.139	25.33	
Percent Removal: BOD5 - Raw Sewage Influent (mg/L)	98.039	97.374	98.462	97.742	98.015	97.481	96.774	97.582	96.03	97.45	96.73	96.447			98.462	
Total Suspended Solids: TSS:																
Raw: Avg TSS - Raw Sewage Influent (mg/L)	224.25	179	233	127.25	218.5	252.8	119.75	145.5	116.8	170	161	205.6		179.454	252.8	
Raw: # of samples of TSS - Raw Sewage Influent (mg/L)	4	4	5	4	4	5	4	4	5	4	4	5	52			
Eff: Avg TSS - Final Effluent (mg/L)	< 5.5	< 4.75	< 2.6	< 4	< 3.25	< 2.8	< 8.25	< 2.5	< 5	< 3.75	< 3	< 3		< 4.033	< 8.25	15
Eff: # of samples of TSS - Final Effluent (mg/L)	4	4	5	4	4	5	4	4	5	4	4	5	52			
Loading: TSS - Final Effluent (kg/d)	< 23.928	< 18.173	< 13.043	< 32.801	< 19.701	< 14.695	< 41.515	< 14.702	< 27.234	< 16.965	< 13.974	< 13.569		< 20.858	< 41.515	
Percent Removal: TSS - Raw Sewage Influent (mg/L)	97.547	97.346	98.884	96.857	98.513	98.892	93.111	98.282	95.719	97.794	98.137	98.541			98.892	
Total Phosphorus: TP:																
Raw: Avg TP - Raw Sewage Influent (mg/L)	4.393	3.563	3.718	1.865	3.215	3.866	2.385	2.938	1.798	3.47	2.743	3.864		3.151	4.393	
Raw: # of samples of TP - Raw Sewage Influent (mg/L)	4	4	5	4	4	5	4	4	5	4	4	5	52			
Eff: Avg TP - Final Effluent (mg/L)	0.108	0.105	0.064	0.055	0.073	< 0.068	0.083	0.068	0.098	0.083	0.053	0.062		< 0.076	0.108	0.75
Eff: # of samples of TP - Final Effluent (mg/L)	4	4	5	4	4	5	4	4	5	4	4	5	52			
Loading: TP - Final Effluent (kg/d)	0.468	0.402	0.321	0.451	0.439	< 0.357	0.415	0.397	0.534	0.373	0.245	0.28		< 0.39	0.534	
Percent Removal: TP - Raw Sewage Influent (mg/L)	97.553	97.053	98.279	97.051	97.745	98.241	96.541	97.702	94.549	97.622	98.086	98.395			98.395	
Nitrogen Series:																
Raw: Avg TKN - Raw Sewage Influent (mg/L)	25.7	28.65	26.78	15.4	19.875	24.4	22.075	20.525	18.2	28.5	22.75	27.48		23.361	28.65	
Raw: # of samples of TKN - Raw Sewage Influent	4	4	5	4	4	5	4	4	5	4	4	5	52			
Eff: Avg TAN - Final Effluent (mg/L)	0.19	3.983	5.678	2.558	0.693	< 0.088	< 1.255	< 0.033	2.09	0.035	< 0.028	< 0.03		< 1.388	5.678	
Eff: # of samples of TAN - Final Effluent	4	4	5	4	4	5	4	4	5	4	4	5	52			
Loading: TAN - Final Effluent (kg/d)	0.827	15.237	28.484	20.972	4.198	< 0.462	< 6.315	< 0.191	11.384	0.158	< 0.128	< 0.136		< 7.374	28.484	
Disinfection:																
Eff: GMD E. Coli - Final Effluent (cfu/100mL)	9.457	40	68.049	53.183	44.093	11.487	10	17.424	14.958	7.135	13.963	5.742		24.624	68.049	
Eff: # of samples of E. Coli - Final Effluent	4	4	5	4	4	5	4	4	5	4	4	5	52			

Ontario Clean Water Agency
Time Series Info Report

Report extracted 03/14/2016 17:49

From: **01/01/2015 to 31/12/2015**

Facility Org Number: **5863**
Facility Works Number: **120000603**
Facility Name: **RENFREW WASTEWATER TREATMENT FACILITY**
Facility Owner: **Municipality: The Corporation of the Town of Renfrew**
Facility Classification: **Class 3 Wastewater Treatment**
Receiver: **Bonnechere River**
Service Population:
Total Design Capacity: **9500.0 m3/day**

	01/2015	02/2015	03/2015	04/2015	05/2015	06/2015	07/2015	08/2015	09/2015	10/2015	11/2015	12/2015	Total	Avg	Max	Min
Final Effluent / pH - ---																
Count IH	4	4	5	4	4	5	4	5	5	4	4	5	53			
Max IH	7.14	6.96	7.5	7.35	7.01	7.01	7.16	6.97	7.15	7.33	6.92	7.3			7.5	
Min IH	6.78	6.81	6.77	6.91	6.91	6.77	6.99	6.18	6.67	6.91	6.71	6.68				6.18
Final Effluent / Temperature - °C																
Count IH	4	4	5	4	4	5	4	5	5	4	4	5	53			
Mean IH	7.825	6.325	7	8.025	12.65	16.38	19.6	20.46	19.82	16.65	13.75	11.44		13.487		
Final Effluent / Un-ionized Ammonia: NH3 - mg/L																
Count IH	4	4	5	4	4	5	4	4	5	4	4	5	52			
Mean IH	0	0.004	0.011	0.006	0.001	0	0.005	0	0.007	0	0	0		0.003		

Ontario Clean Water Agency
Time Series Info Report

Report extracted 03/16/2016 12:55

From: 01/01/2015 to 31/12/2015

Facility Org Number: 5863
Facility Works Number: 120000603
Facility Name: RENFREW WASTEWATER TREATMENT FACILITY
Facility Owner: Municipality: The Corporation of the Town of Renfrew
Facility Classification: Class 3 Wastewater Treatment
Receiver: Bonnechere River
Service Population:
Total Design Capacity: 9500.0 m3/day

	01/2015	02/2015	03/2015	04/2015	05/2015	06/2015	07/2015	08/2015	09/2015	10/2015	11/2015	12/2015	Total	Avg	Max	Min
Final Effluent / DM_Percent_Mortality - %																
Max Lab		0													0	
Mean Lab		0												nul		
Min Lab		0														0
Final Effluent / RBT_Percent_Mortality - %																
Max Lab		0			0			0			0				0	
Mean Lab		0			0			0			0			nul		
Min Lab		0			0			0			0					0

Franklin Empire Inc,
900 Major Bennett Dr.
Peterborough ON K9J 6X6, CANADA

Tel: (705) 745-1626
Fax: (705) 745-3493
E-mail: pi-tech@feinc.com
Website: www.feinc.ca

OCWA Renfrew

2015 WWTP Calibrations

CALIBRATION REPORT

Report No.: FIT-602001

Date: Oct. 30, 2015

SITE:	Renfrew WWTP	**SERVICE DATE:**	Oct. 30, 2015
PROCESS AREA:	Digested Sludge		
INSTR. TAG:	FIT-602001	**TECHNICIAN:**	M Manley
MANUFACTURER:	ROSEMOUNT		
MODEL:	8712DR12N0M4	**JOB REFERENCE:**	
SERIAL No.:	0860252720		
SENSOR No.:	870155551		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	SIMULATOR	**Type or EGU:**	mA	m3/day
Min:	0.00	**Min:**	4.00	0.00
Max:	30 FEET/SEC.	**Max:**	20.00	1000.00
DN (mm):	2 INCH			

COIL: 12.7 ohms Open to Ground

CALIBRATION # 0939005409368005

			Before Calibration		**After Calibration**	
Input (Y pos)	**Input %**	**Calc. O/P (mA)**	**Output (mA)**	**%Error**	**Output (mA)**	**%Error**
0.00	0.00%	4.00	4.01	0.25%	4.01	0.25%
3.00	10.00%	5.60	5.60	0.00%	5.60	0.00%
10.00	33.33%	9.33	9.34	0.07%	9.34	0.07%
30.00	100.00%	20.00	20.00	0.00%	20.00	0.00%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Rosemount	
Model:	Model 87	8714D	
Serial No.:	134409128	332294	
Last Cal. Date:	April 8, 2015	April 13, 2015	

Comments:

1,2,GND, 17,18,19
W,B,S,S,W,B

AS FOUND: PASS **AS LEFT:** PASS

CERTIFIED BY:

CALIBRATION REPORT

Report No.: FIT-601001

Date: Oct. 30, 2015

SITE:	Renfrew WWTP	**SERVICE DATE:**	Oct. 30, 2015
PROCESS AREA:	To Centrifuge		
INSTR. TAG:	FIT-601001	**TECHNICIAN:**	M Manley
MANUFACTURER:	ROSEMOUNT		
MODEL:	8712DR12N0M4	**JOB REFERENCE:**	
SERIAL No.:	0860232719		
SENSOR No.:	870155550		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	SIMULATOR	**Type or EGU:**	mA	m3/day
Min:	0.00	**Min:**	4.00	0.00
Max:	30 FEET/SEC.	**Max:**	20.00	1000.00
DN (mm):	2 INCH			

COIL: 12.8 ohms Open to Ground

CALIBRATION # 0915405409132005

			Before Calibration		**After Calibration**	
Input (Y pos)	**Input %**	**Calc. O/P (mA)**	**Output (mA)**	**%Error**	**Output (mA)**	**%Error**
0.00	0.00%	4.00	4.01	0.25%	4.01	0.25%
3.00	10.00%	5.60	5.61	0.18%	5.61	0.18%
10.00	33.33%	9.33	9.34	0.07%	9.34	0.07%
30.00	100.00%	20.00	20.01	0.05%	20.01	0.05%

Calibration Equipment

Type:	DMM	Simulator	
Manufacturer:	Fluke	Rosemount	
Model:	Model 87	8714D	
Serial No.:	134409128	332294	
Last Cal. Date:	April 8, 2015	April 13, 2015	

Comments:

1,2,GND, 17,18,19
W,B,S,S,W,B

AS FOUND: PASS **AS LEFT:** PASS

CERTIFIED BY:

CALIBRATION REPORT

Report No.: FIT-721003

Date: Oct. 30, 2015

SITE:	Renfrew WWTP	**SERVICE DATE:**	Oct. 30, 2015
PROCESS AREA:	Polymer	**TECHNICIAN:**	M Manley
INSTR. TAG:	FIT-721003	**JOB REFERENCE:**	
MANUFACTURER:	ROSEMOUNT		
MODEL:	8712DR12N0M4		
SERIAL No.:	0860252878		
SENSOR No.:	155699		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	SIMULATOR	**Type or EGU:**	mA	Liter/min
Min:	0.00	**Min:**	4.00	0.00
Max:	30 FEET/SEC.	**Max:**	20.00	160.00
DN (mm):	1.5 INCH			
CALIBRATION #	0926707109243005	**COIL:**	12 ohms	Open to Ground

			Before Calibration		**After Calibration**	
Input (Y pos)	**Input %**	**Calc. O/P (mA)**	**Output (mA)**	**%Error**	**Output (mA)**	**%Error**
0.00	0.00%	4.00	4.00	0.00%	4.00	0.00%
3.00	10.00%	5.60	5.60	0.00%	5.60	0.00%
10.00	33.33%	9.33	9.34	0.07%	9.34	0.07%
30.00	100.00%	20.00	20.00	0.00%	20.00	0.00%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Rosemount	
Model:	Model 87	8714D	
Serial No.:	134409128	332294	
Last Cal. Date:	April 8, 2015	April 13, 2015	

Comments:

1,2,GND, 17,18,19
W,B,S,S,W,B

AS FOUND: PASS **AS LEFT:** PASS

CERTIFIED BY:

CALIBRATION REPORT

Report No.: FIT-722003

Date: Oct. 30, 2015

SITE:	Renfrew WWTP	**SERVICE DATE:**	Oct. 30, 2015
PROCESS AREA:	Polymer	**TECHNICIAN:**	M Manley
INSTR. TAG:	FIT-722003	**JOB REFERENCE:**	
MANUFACTURER:	ROSEMOUNT		
MODEL:	8712DR12N0M4		
SERIAL No.:	0860252879		
SENSOR No.:	155700		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	SIMULATOR	**Type or EGU:**	mA	Liter/min
Min:	0.00	**Min:**	4.00	0.00
Max:	30 FEET/SEC.	**Max:**	20.00	160.00
DN (mm):	1.5 INCH			

COIL: 11.7 ohms Open to Ground

CALIBRATION # 0963907209615005

			Before Calibration		**After Calibration**	
Input (Y pos)	**Input %**	**Calc. O/P (mA)**	**Output (mA)**	**%Error**	**Output (mA)**	**%Error**
0.00	0.00%	4.00	4.00	0.00%	4.00	0.00%
3.00	10.00%	5.60	5.59	-0.18%	5.59	-0.18%
10.00	33.33%	9.33	9.33	-0.04%	9.33	-0.04%
30.00	100.00%	20.00	20.00	0.00%	20.00	0.00%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Rosemount	
Model:	Model 87	8714D	
Serial No.:	134409128	332294	
Last Cal. Date:	April 8, 2015	April 13, 2015	

Comments:

1,2,GND, 17,18,19
W,B,S,S,W,B

AS FOUND: PASS **AS LEFT:** PASS

CERTIFIED BY:

CALIBRATION REPORT

Report No.: FIT-170000

Date: Oct. 30, 2015

SITE:	Renfrew WWTP	**SERVICE DATE:**	Oct. 30, 2015
PROCESS AREA:	Raw		
INSTR. TAG:	FIT-170000	**TECHNICIAN:**	M Manley
MANUFACTURER:	ROSEMOUNT		
MODEL:	8712DR12N0M4	**JOB REFERENCE:**	
SERIAL No.:	0860253445		
SENSOR No.:	156132		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	SIMULATOR	**Type or EGU:**	mA	m3/day
Min:	0.00	**Min:**	4.00	0.00
Max:	30 FEET/SEC.	**Max:**	20.00	75000.00
DN (mm):	12 INCH			
		COIL:	9 ohms	Open to Ground
CALIBRATION #	1061804910357005			

			Before Calibration		**After Calibration**	
Input (Y pos)	**Input %**	**Calc. O/P (mA)**	**Output (mA)**	**%Error**	**Output (mA)**	**%Error**
0.00	0.00%	4.00	4.00	0.00%	4.00	0.00%
3.00	10.00%	5.60	5.59	-0.18%	5.59	-0.18%
10.00	33.33%	9.33	9.33	-0.04%	9.33	-0.04%
30.00	100.00%	20.00	19.99	-0.05%	19.99	-0.05%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Rosemount	
Model:	Model 87	8714D	
Serial No.:	134409128	332294	
Last Cal. Date:	April 8, 2015	April 13, 2015	

Comments:

1,2,GND, 17,18,19
W,B,S,S,W,B
13377252 m3

AS FOUND: PASS **AS LEFT:** PASS

CERTIFIED BY:

CALIBRATION REPORT

Report No.: FIT-260000

Date: Oct. 30, 2015

SITE:	Renfrew WWTP	**SERVICE DATE:**	Oct. 30, 2015
PROCESS AREA:	Digested Sludge		
INSTR. TAG:	FIT-260000	**TECHNICIAN:**	M Manley
MANUFACTURER:	ROSEMOUNT		
MODEL:	8712DR12N0M4	**JOB REFERENCE:**	
SERIAL No.:	0860252718		
SENSOR No.:	155549		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	SIMULATOR	**Type or EGU:**	mA	m3/day
Min:	0.00	**Min:**	4.00	0.00
Max:	30 FEET/SEC.	**Max:**	20.00	1300.00
DN (mm):	2 INCH			

COIL: 12 ohms Open to Ground

CALIBRATION # 0938005909358005

			Before Calibration		**After Calibration**	
Input (Y pos)	**Input %**	**Calc. O/P (mA)**	**Output (mA)**	**%Error**	**Output (mA)**	**%Error**
0.00	0.00%	4.00	4.00	0.00%	4.00	0.00%
3.00	10.00%	5.60	5.60	0.00%	5.60	0.00%
10.00	33.33%	9.33	9.33	-0.04%	9.33	-0.04%
30.00	100.00%	20.00	19.99	-0.05%	19.99	-0.05%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Rosemount	
Model:	Model 87	8714D	
Serial No.:	134409128	332294	
Last Cal. Date:	April 8, 2015	April 13, 2015	

Comments:

1,2,GND, 17,18,19
W,B,S,S,W,B
310599m3

AS FOUND: PASS **AS LEFT:** PASS

CERTIFIED BY:

CALIBRATION REPORT

Report No.: FIT-251002

Date: Oct. 30, 2015

SITE:	Renfrew WWTP	**SERVICE DATE:**	Oct. 30, 2015
PROCESS AREA:	Digested Sludge		
INSTR. TAG:	FIT-251002	**TECHNICIAN:**	M Manley
MANUFACTURER:	ROSEMOUNT		
MODEL:	8712DR12N0M4	**JOB REFERENCE:**	
SERIAL No.:	0860252902		
SENSOR No.:	155714		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	SIMULATOR	**Type or EGU:**	mA	m3/day
Min:	0.00	**Min:**	4.00	0.00
Max:	30 FEET/SEC.	**Max:**	20.00	15120.00
DN (mm):	8 INCH			

COIL: 9.9 ohms Open to Ground

CALIBRATION # 1043906310175005

			Before Calibration		**After Calibration**	
Input (Y pos)	**Input %**	**Calc. O/P (mA)**	**Output (mA)**	**%Error**	**Output (mA)**	**%Error**
0.00	0.00%	4.00	3.99	-0.25%	3.99	-0.25%
3.00	10.00%	5.60	5.59	-0.18%	5.59	-0.18%
10.00	33.33%	9.33	9.31	-0.25%	9.31	-0.25%
30.00	100.00%	20.00	19.96	-0.20%	19.96	-0.20%

Calibration Equipment

Type:	DMM	Simulator	
Manufacturer:	Fluke	Rosemount	
Model:	Model 87	8714D	
Serial No.:	134409128	332294	
Last Cal. Date:	April 8, 2015	April 13, 2015	

Comments:

1,2,GND, 17,18,19
W,B,S,S,W,B
6136828m3

AS FOUND: PASS **AS LEFT:** PASS

CERTIFIED BY:

FRANKLIN EMPIRE

CALIBRATION REPORT

Report No.: FIT-254002

Date: Oct. 30, 2015

SITE:	Renfrew WWTP	**SERVICE DATE:**	Oct. 30, 2015
PROCESS AREA:	Digested Sludge		
INSTR. TAG:	FIT-254002	**TECHNICIAN:**	M Manley
MANUFACTURER:	ROSEMOUNT		
MODEL:	8712DR12N0M4	**JOB REFERENCE:**	
SERIAL No.:	0860252903		
SENSOR No.:	155715		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	SIMULATOR	**Type or EGU:**	mA	m3/day
Min:	0.00	**Min:**	4.00	0.00
Max:	30 FEET/SEC.	**Max:**	20.00	15120.00
DN (mm):	8 INCH			

COIL: 12.7 ohms Open to Ground

CALIBRATION # 1024705909988005

			Before Calibration		**After Calibration**	
Input (Y pos)	**Input %**	**Calc. O/P (mA)**	**Output (mA)**	**%Error**	**Output (mA)**	**%Error**
0.00	0.00%	4.00	4.01	0.25%	4.01	0.25%
3.00	10.00%	5.60	5.61	0.18%	5.61	0.18%
10.00	33.33%	9.33	9.34	0.07%	9.34	0.07%
30.00	100.00%	20.00	20.00	0.00%	20.00	0.00%

Calibration Equipment

Type:	DMM	Simulator	
Manufacturer:	Fluke	Rosemount	
Model:	Model 87	8714D	
Serial No.:	134409128	332294	
Last Cal. Date:	April 8, 2015	April 13, 2015	

Comments:

1,2,GND, 17,18,19
W,B,S,S,W,B
Total 6233362m3

AS FOUND: PASS **AS LEFT:** PASS

CERTIFIED BY: 

Ontario Clean Water Agency
1 Yonge Street, Suite 1700
Toronto, ON M5E-1E5
(416)314-5600 Fax (416)314-8300

Equipment Inventory Detail

Report Date 4/03/2016 09:18 PM **Submitted By**

Equipment ID 0000247622
Description ANALYZER DO & PH PORTABLE

Site	FAC	5863	**Subunit Of**		
Address					
Area	2	ASTERN REGION	**Sub-area**	TA	TTAWA VALLEY HUB
District	RENF	OUNTY OF RENFREW	**Loc**	ABO	ABORATORY
Complex			**Expire Date**		
Operator License			**xpired By**		
Ownership	CL		**Parcel**		
Warranty Usage	0.00				
X Coord			**Y Coord**		
Z Coord			**Map #**		
Loc Qualifier	RENFREW WWTP: IN LAB				

☒ All Systems

Equipment Type	INSTRU	NSTRUMENTATIO	**Manufacturer**	ACH	ACH CO.
Building	LAB	ABORATORY BUILDING / R	**Building Level**		GROUND LEVEL
Service Status	I	N SERVICE (INCL. STANDBY)	**Expected Life**	5	
Avg Monthly Usag	0.00		**otal Usage**	0.00	
Model #	HQ40D		**Warranty Expires**		**MTBF** 0
Serial #	090300029141		**Purchase Date**	3/08/2009	**urchase Cost** .00
Budget #					

Comments
No Comments

Subunits

Equipment ID	Description	q Type	escription

No Existing Subunits

Name Plate

Name Plate	Description	ata

No Name Plate Information For This Asset

Performance Indicators

Perf	escription	alue	M	ormal Range	High
OFFS	FFSET	1.6			V
SLOP	LOPE	00			

Schedules

Activity	esched By	WO Status	Unit	Interval	Next Scheduled	Last Completed	Usage Interval	Usage Next Scheduled	Usage Last Completed	Priority	Assign To	Crew	uthorization
O7622M	cheduled		M	1	01/02/2016 08:00	29/12/2015 11:00	0			3	00754		0306

Group Schedules

Group ID	Activity	nit	Interval	Next Scheduled	Pri	sgn To	Crew	uth

There are no group schedules for this asset

History

Work Order #	Activit	ct Typ	ct Group	Initiated	cheduled	Completed	ource	Maint Type	Priority
3423309	O7622M			5/10/2015	1/12/2015	9/12/2015		NSP	
		5863	.00						
3422122	622M			5/10/2015	2/11/2015	3/11/2015		NSP	
		5863	.00						
3388255	622M			3/08/2015	1/10/2015	7/10/2015		NSP	
		5863	.00						

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3387203	O7622M			12/08/2015	01/09/2015	30/09/2015	NSP
3		5863	0.00				
3353786	O7622M			15/06/2015	03/08/2015	25/08/2015	NSP
3		5863	0.00				
3352882	O7622M			15/06/2015	01/07/2015	28/07/2015	NSP
3		5863	0.00				
3331806	O7622M			04/05/2015	01/06/2015	29/06/2015	NSP
3		5863	0.00				
3320675	O7622M			23/04/2015	01/05/2015	26/05/2015	NSP
3		5863	0.00				
3284923	O7622M			24/02/2015	01/04/2015	28/04/2015	NSP
3		5863	0.00				
3281168	O7622M			19/02/2015	02/03/2015	31/03/2015	NSP
3		5863	0.00				
3261883	O7622M			21/01/2015	02/02/2015	24/02/2015	NSP
3		5863	0.00				
3234765	O7622M			16/12/2014	01/01/2015	27/01/2015	NSP
3		5863	0.00				
3177188	O7622M			05/09/2014	01/12/2014	29/12/2014	NSP
3		5863	0.00				
3176149	O7622M			05/09/2014	03/11/2014	04/11/2014	NSP
3		5863	0.00				
3174141	O7622M			02/09/2014	01/10/2014	28/10/2014	NSP
3		5863	0.00				
3124653	O7622M			13/06/2014	01/09/2014	30/09/2014	NSP
3		5863	0.00				
3123778	O7622M			13/06/2014	01/08/2014	26/08/2014	NSP
3		5863	0.00				
3121868	O7622M			11/06/2014	01/07/2014	29/07/2014	NSP
3		5863	0.00				
3087803	O7622M			15/04/2014	02/06/2014	24/06/2014	NSP
3		5863	0.00				
3086383	O7622M			14/04/2014	01/05/2014	27/05/2014	NSP
3		5863	0.00				
3062253	O7622M			12/03/2014	01/04/2014	29/04/2014	NSP
3		5863	0.00				
3026538	O7622M			13/01/2014	03/03/2014	25/03/2014	NSP
3		5863	0.00				
3025035	O7622M			13/01/2014	03/02/2014	28/02/2014	NSP
3		5863	0.00				
3023944	O7622M			10/01/2014	01/01/2014	28/01/2014	NSP
3		5863	0.00				
2941336	O7622M			11/09/2013	02/12/2013	30/12/2013	NSP
3		5863	0.00				
2940666	O7622M			10/09/2013	01/11/2013	26/11/2013	NSP
3		5863	0.00				
2940022	O7622M			10/09/2013	01/10/2013	29/10/2013	NSP
3		5863	0.00				
2898619	O7622M			25/06/2013	02/09/2013	24/09/2013	NSP
3		5863	0.00				
2897383	O7622M			24/06/2013	01/08/2013	27/08/2013	NSP
3		5863	0.00				
2891078	O7622M			17/06/2013	01/07/2013	30/07/2013	NSP
3		5863	0.00				
2852554	O7622M			05/04/2013	03/06/2013	25/06/2013	NSP
3		5863	0.00				
2845702	O7622M			26/03/2013	01/05/2013	28/05/2013	NSP
3		5863	0.00				

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2841633	O7622M			22/03/2013	01/04/2013	30/04/2013	NSP
3		5863	0.00				
2747960	O7622M			04/01/2013	01/03/2013	26/03/2013	NSP
3		5863	0.00				
2746665	O7622M			03/01/2013	01/02/2013	26/02/2013	NSP
3		5863	0.00				
2745153	O7622M			02/01/2013	01/01/2013	29/01/2013	NSP
3		5863	0.00				
2726684	O7622M			23/11/2012	03/12/2012	27/12/2012	NSP
3		5863	0.00				
2714542	O7622M			02/11/2012	01/11/2012	27/11/2012	NSP
3		5863	0.00				
2697004	O7622M			28/09/2012	01/10/2012	30/10/2012	NSP
3		5863	0.00				
2679199	O7622M			30/08/2012	03/09/2012	25/09/2012	NSP
3		5863	0.00				
2652211	O7622			12/07/2012	01/08/2012	28/08/2012	NSP
3		5863	0.00				
2646323	O7622M			28/06/2012	02/07/2012	31/07/2012	NSP
3		5863	0.00				
2624810	O7622M			24/05/2012	01/06/2012	26/06/2012	NSP
3		5863	0.00				
2610975	O7622M			23/04/2012	01/05/2012	29/05/2012	NSP
3		5863	0.00				
2594472	O7622M			27/03/2012	02/04/2012	24/04/2012	NSP
3		5863	0.00				
2572073	O7622M			24/02/2012	01/03/2012	27/03/2012	NSP
3		5863	0.00				
2547708	O7622M			24/01/2012	01/02/2012	28/02/2012	NSP
3		5863	0.00				
2538023	O7622M			04/01/2012	02/01/2012	30/01/2012	NSP
3		5863	0.00				
2458645	O7622M			22/11/2011	01/12/2011	28/12/2011	NSP
3		5863	0.00				
2449163	O7622M			27/10/2011	01/11/2011	30/11/2011	NSP
3		5863	0.00				
2426209	O7622M			26/09/2011	03/10/2011	26/10/2011	NSP
3		5863	0.00				
2403719	O7622M			16/08/2011	01/09/2011	27/09/2011	NSP
3		5863	0.00				
2385652	O7622M			11/07/2011	01/08/2011	30/08/2011	NSP
3		5863	0.00				
2371168	O7622M			27/06/2011	01/07/2011	26/07/2011	NSP
3		5863	0.00				
2352131	O7622M			26/05/2011	01/06/2011	21/06/2011	NSP
3		5863	0.00				
2333563	O7622M			26/04/2011	02/05/2011	03/05/2011	NSP
3		5863	0.00				
2324967	O7622M			04/04/2011	01/04/2011	13/04/2011	NSP
3		5863	0.00				
2287777	O7622M			16/02/2011	01/03/2011	29/03/2011	NSP
3		5863	0.00				
2270914	O7622M			21/01/2011	01/02/2011	01/02/2011	NSP
3		5863	0.00				
2262238	O7622M			04/01/2011	03/01/2011	28/01/2011	NSP
3		5863	0.00				
2207186	O7622M			08/11/2010	01/12/2010	21/12/2010	NSP
3		5863	0.00				

Ontario Clean Water Agency
1 Yonge Street, Suite 1700
Toronto, ON M5E-1E5
(416)314-5600 Fax (416)314-8300

Equipment Inventory Detail

History

Work Order #	Priority	Activit	Proble	ct Typ	roject	ct Group	sage	Initiated	cheduled	Completed	ource	Maint Type
2192096	3	O7622M			5863		0.00	22/10/2010	01/11/2010	30/11/2010		NSP
2170411	3	O7622M			5863		0.00	3/09/2010	01/10/2010	5/10/2010		NSP
2157403	3	O7622M			5863		0.00	25/08/2010	01/09/2010	3/09/2010		NSP
2134606	3	O7622M			5863		0.00	3/07/2010	02/08/2010	05/08/2010		NSP
2117432	3	O7622M			5863		0.00	4/06/2010	01/07/2010	5/07/2010		NSP
2109139	3	O7622M			5863		0.00	27/05/2010	01/06/2010	22/06/2010		NSP
2093323	3	O7622M			5863		0.00	29/04/2010	03/05/2010	20/05/2010		NSP
2021907	3	O7622M			5863		0.00	25/01/2010	01/02/2010	20/05/2010		NSP
2074820	3	O7622M			5863		0.00	30/03/2010	01/04/2010	20/05/2010		NSP
2054194	3	O7622M			5863		0.00	26/02/2010	01/03/2010	20/05/2010		NSP
1957306	3	O7622M			5863		0.00	27/10/2009	02/11/2009	8/02/2010		NSP
1938550	3	O7622M			5863		0.00	7/09/2009	01/10/2009	8/02/2010		NSP
1979238	3	O7622M			5863		0.00	26/11/2009	01/12/2009	8/02/2010		NSP
2002629	3	O7622M			5863		0.00	04/01/2010	01/01/2010	29/01/2010		NSP
3475604	3	O7622M			5863		0.00	4/01/2016	01/01/2016			NSP

Associated Parts

Part #	Description	Quantity
There are no associated parts for this asset		

Safety Procedures

Message	Description	ctivity	Comments
EEN	NTRY AND EXIT NOTIFICATION		NSURE DIRECT SUPERVISOR OR THEIR DESIGNATE HAVE BEEN NOTIFIED OF ENTRY INTO THE SITE. THE FOLLOWING INFORMATION SHOULD PROVIDE APPROXIMATE TIME AND DURATION. ON COMPLETION OF DUTIES NOTIFICATION TO BE GIVEN THAT SITE HAS BEEN VACATED AND SECURED.
JSP	OB SAFETY PLANNING		AKE TIME TO IDENTIFY HAZARDS AND PLAN HOW EACH HAZARD WILL BE ELIMINATED OR CONTROLLED. WORK PRACTICES MUST BE IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH & SAFETY ACT AND THE ONTARIO CLEAN WATER AGENCY SAFETY MANUAL.
MONTH	MONTHLY PREVENTATIVE MTCE	7622M	INTRODUCTION: This Preventative Maintenance Procedure has been developed to aid field personnel in the care and maintenance of the specified equipment. However, maintenance personnel are expected to look for and correct defects which are not anticipated in this procedure. This document will not provide all the technical information that may be required, and it may be necessary to refer to the manufacturer's manual for further details. The "As Found" and "As Left" readings, as well as any abnormalities found and any repairs carried out, are to be recorded on the Hansen Feedback Sheet. RUNNING CHECK: 1) Check display for error or fault messages.
MONTH	MONTHLY PREVENTATIVE MTCE	7622M	MAINTENANCE PROCEDURE: 1) The meter is designed to be maiantenance-free. If the meter is dirty wipe the surface with a damp cloth.

Safety Procedures

Message	Description	ctivity	Comments
			Use a cotton-tipped applicator to clean or dry the connectors if they get wet. 2) For information about cleaning the probes , see the instruction sheet that comes with the IntelliCAL probe. 3) Inspect probe, cable and unit for damage. 4) Battery Replacement Note: Insert 4 AA batteries (alkaline or nickek metal hydride but do not mix batteries) follow polarity marked inside battery housing. (As required)
WPROT	WORK PROTECTION		SOLATE AND DE-ENERGIZE THE EQUIPMENT IN ACCORDANCE WITH THE LOCK-OUT PROCEDURE.

Warranty Information

Warranty #	Type	fg	ffect Date	Expire Date	Details

There are no warranties

Contacts

There are no contacts for this asset.

Miscellaneous

RISK FACTO	Weight	Ownership	Est. Life Expect.
Risk of Failure/Failure Occurence(FO)	1	☒ Client ☐ OCWA	10 Years(s)
Length of Time to Affect Improvement (LT)	1	Replacement Cost:	1500.00
Difficulty to Treat (DT)	1	Risk Rating =	123.75

TRADE TYPE REQ.	Daily #	Daily DMA	Weekly #	Weekly DMA	onthly #	onthly DMA	Month #	Month DMA	Months DMA	Year DMA	Years DMA
Mechanic	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Elect/Inst.	0	0.00	0	0.00	1	1.00	0	0.00	0	0.00	0	0.00	0	0.00
Operator	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00

End of Report

Ontario Clean Water Agency
Time Series Info Report

Report extracted 03/15/2016 13:00

From: **01/01/2015 to 31/12/2015**

Facility Org Number: **5863**

Facility Works Number: **120000603**

Facility Name: **RENFREW WASTEWATER TREATMENT FACILITY**

Facility Owner: **Municipality: The Corporation of the Town of Renfrew**

Facility Classification: **Class 3 Wastewater Treatment**

Receiver: **Bonnechere River**

Service Population:

Total Design Capacity: **9500.0 m3/day**

	01/2015	02/2015	03/2015	04/2015	05/2015	06/2015	07/2015	08/2015	09/2015	10/2015	11/2015	12/2015	Total	Avg	Max	Min
Raw Sewage Influent / Loadings BOD - kg/d																
Count IH	4	4	5	4	4	5	4	4	5	5	4	5	53			
Mean IH	499.002	469.505	682.157	571.108	632.51	670.411	476.637	847.273	410.089	604.33	448.596	739.515		590.774		
Raw Sewage Influent / Loadings Suspended Solids - kg/d																
Count IH	4	4	5	4	4	5	4	4	5	5	4	5	53			
Mean IH	978.941	682.667	1192.199	959.546	1385.71	1250.834	592.612	1056.982	606.017	781.282	788.347	964.28		938.722		
Raw Sewage Influent / Loadings Total Phosphorus - kg/d																
Count IH	4	4	5	4	4	5	4	4	5	5	4	5	53			
Mean IH	19.039	13.555	18.961	14.129	20.372	19.253	11.541	20.627	9.482	15.708	13.504	17.501		16.143		
Raw Sewage Influent / Loadings TKN - kg/d																
Count IH	4	4	5	4	4	5	4	4	5	5	4	5	53			
Mean IH	111.326	108.684	140.459	118.482	127.665	121.569	105.073	143.671	93.996	126.873	109.367	125.186		119.575		

Ontario Clean Water Agency
Time Series Info Report

Report extracted 03/31/2016 08:28

From: **01/01/2015 to 31/12/2015**

Facility Org Number: **5863**

Facility Works Number: **120000603**

Facility Name: **RENFREW WASTEWATER TREATMENT FACILITY**

Facility Owner: **Municipality: The Corporation of the Town of Renfrew**

Facility Classification: **Class 3 Wastewater Treatment**

Receiver: **Bonnechere River**

Service Population:

Total Design Capacity: **9500.0 m3/day**

	01/2015	02/2015	03/2015	04/2015	05/2015	06/2015	07/2015	08/2015	09/2015	10/2015	11/2015	12/2015	Total	Avg	Max	Min
Centrifuge / Sludge Volume Processed - m³																
Count IH	17	12	19	17	9	19	16	15	15	15	15	15	184			
Total IH	2482	1635	2937	2566	1174	3008	2588	2304	2105	2239	2285	2037	27360			
Centrifuge / Mass Processed - kg																
Total IH	24190	17369	29829	26667	13800	37472	23807	26253	20331	22073	21325	19729	282845			
Centrifuge / Cake Total Solids - %																
Mean IH	19.75	19.333	19.3	20.333	21	20.8	19.5	20.5	19	19	20.25	18.75		19.75		
Max IH	21	20	20	22	21	21	21	26	21	19	21	19			26	
Min IH	19	19	18	19	21	20	18	17.5	18	19	20	18				17.5

Ontario Clean Water Agency | Biosolids Quality Report - Liquid | Digestor Type: Aerobic

Facility: RENFREW WASTEWATER TREATMENT FACILITY
Works: 5863
Period: 01/01/2015 to 12/31/2015

Facility Works Number: *12000603*
Facility Name: *RENFREW WASTEWATER TREATMENT FACILITY*
Facility Owner: *Municipality: The Corporation of the Town of Renfrew*
Facility Classification: *Class 3 Wastewater Treatment*
Receiver: *Bonnechere River*

Month	Total Sludge Hauled (m3)	Avg. Total Solids (mg/L)	Avg. Volatile Solids (mg/L)	Avg. Total Phosphorus (mg/L)	Ammonia (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	TKN (mg/L)	Ammonia + Nitrate (mg/L)	Potassium (mg/L)
T/s	IH Month.Tota	Month Mean	Month Mean	Month Mean	Month Mean	Month Mean	Month Mean	Month Mean	Month Mean	Month Mean
Jan		9,720.000	5,720.000	231.000	59.000	10.000	10.000	470.000	34.500	33.000
Feb		9,640.000	5,800.000	171.000	65.000	10.000	10.000	590.000	37.500	30.000
Mar		10,600.000	6,620.000	253.000	56.000	10.000	10.000	590.000	33.000	30.000
Apr		8,460.000	4,810.000	190.000	65.000	10.000	10.000	560.000	37.500	43.000
May		8,650.000	4,540.000	219.000	62.000	10.000	10.000	540.000	36.000	50.000
Jun		13,200.000	9,400.000	272.000	48.000	10.000	10.000	567.000	29.000	49.000
Jul		9,510.000	5,270.000	210.000	31.700	10.000	10.000	462.000	20.850	34.000
Aug		10,000.000	5,600.000	227.000	20.000	10.000	10.000	451.000	15.000	32.000
Sep		8,320.000	4,410.000	174.000	2.770	7.200	0.400	328.000	4.985	27.100
Oct		10,300.000	5,420.000	200.000	9.800	0.100	0.100	387.000	4.950	33.000
Nov		9,500.000	5,260.000	180.000	13.200	0.100	0.100	344.000	6.650	32.600
Dec		10,300.000	5,840.000	192.000	3.410	0.600	0.100	420.000	2.005	36.900
Average		9,850.000	5,724.167	209.917	36.323	7.333	6.725	475.750	21.828	35.883

Ontario Clean Water Agency | Biosolids Quality Report - Liquid | Digestor Type: Aerobic

Facility: RENFREW WASTEWATER TREATMENT FACILITY
Works: 5863
Period: 01/01/2015 to 12/31/2015

Month	Arsenic (mg/L)	Cadmium (mg/L)	Cobalt (mg/L)	Chromium (mg/L)	Copper (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Lead (mg/L)	Selenium (mg/L)	Zinc (mg/L)
Parameter Short Name	**As**	**Cd**	**Co**	**Cr**	**Cu**	**Hg**	**Mo**	**Ni**	**Pb**	**Se**	**Zn**
T/s	**Mean**	**Mean**	**Mean**	**Mean**	**Mean**	**Mean**	**Month Mean**	**Mean**	**Mean**	**Mean**	**Mean**
Jan	0.020	0.008	0.030	0.500	2.520	0.050	0.040	0.170	0.200	0.020	2.400
Feb	0.020	0.008	0.020	0.500	2.590	0.050	0.050	0.160	0.200	0.020	2.230
Mar	0.020	0.008	0.030	0.570	3.050	0.050	0.060	0.180	0.240	0.020	2.510
Apr	0.020	0.008	0.040	0.600	2.810	0.050	0.050	0.210	0.290	0.020	2.830
May	0.020	0.008	0.040	0.650	2.860	0.050	0.040	0.240	0.300	0.020	3.310
Jun	0.030	0.010	0.050	0.740	3.500	0.050	0.050	0.210	0.260	0.030	3.490
Jul	0.020	0.008	0.030	0.650	2.920	0.050	0.050	0.190	0.190	0.020	2.940
Aug	0.020	0.010	0.040	0.650	3.080	0.060	0.050	0.200	0.180	0.030	3.550
Sep	0.100	0.030	0.030	0.510	2.640	0.005	0.050	0.170	0.200	0.100	3.080
Oct	0.100	0.030	0.040	0.620	3.140	0.004	0.050	0.210	0.300	0.100	3.640
Nov	0.100	0.030	0.030	0.540	2.750	0.003	0.050	0.200	0.200	0.100	2.980
Dec	0.100	0.030	0.030	0.580	2.880	0.003	0.060	0.190	0.200	0.100	2.660
Average	0.047	0.016	0.034	0.593	2.895	0.035	0.050	0.194	0.230	0.048	2.968
Max. Permissible Metal Concentrations (mg/kg of	170	34	340	2,800	1,700	11	94	420	1,100	34	4,200
Metal Concentrations in Sludge (mg/kg)	4.822	1.591	3.469	60.152	293.909	3.596	5.076	19.712	23.350	4.907	301.354

Ontario Clean Water Agency
Time Series Info Report

Report extracted 03/30/2016 17:46

From: 01/01/2015 to 31/12/2015

Facility Org Number: 5863
Facility Works Number: 120000603
Facility Name: RENFREW WASTEWATER TREATMENT FACILITY
Facility Owner: Municipality: The Corporation of the Town of Renfrew
Facility Classification: Class 3 Wastewater Treatment
Receiver: Bonnechere River
Service Population:
Total Design Capacity: 9500.0 m3/day

	01/2015	02/2015	03/2015	04/2015	05/2015	06/2015	07/2015	08/2015	09/2015	10/2015	11/2015	12/2015	Total	Avg	Max	Min
Biosolids Holding Tank / E. Coli: EC - cfu/100mL																
Count Lab	0	0	0	0	0	0	0	0	1	1	1	1	4			
Max Lab									380000	80000	290000	260000			380000	
Mean Lab									380000	80000	290000	260000		252500		
Min Lab									380000	80000	290000	260000				80000

Record of Bypassing/Overflows Daily Report
Ontario Clean Water Agency

Facility Name: **RENFREW WASTEWATER TREATMENT F**
Facility Works Number: **120000603**
Facility Owner: **Title Holder: Municipality**
Facility Classification: **Class 3 Wastewater Treatment**
Receiver: **Bonnechere River**
Service Population:
Total Design Capacity: **9500.0 m3/day**
Period Being Reported: **01/2015** **12/2015**

Station Name: **Diversion Flow**

Date (mm/dd/yyyy hh:mm)	Start Time (hhmm)	Stop Time (hhmm)	Duration (hr)	Volume (m3)	Disinfection Provided	Reason	BOD5 (mg/L)	TSS (mg/L)	TP (mg/L)	E.Coli (cfu/100mL)
7/25/2015 0:00	17:10	17:35	0.45	0.2	No	Precipitation	78	331	3.81	not available
Diversion Flow: raw sewage flow that is diverted into the holding tank of the old sewage treatment plant. Diverted wastewater is tranferred back to the WPCP for full treatment.										