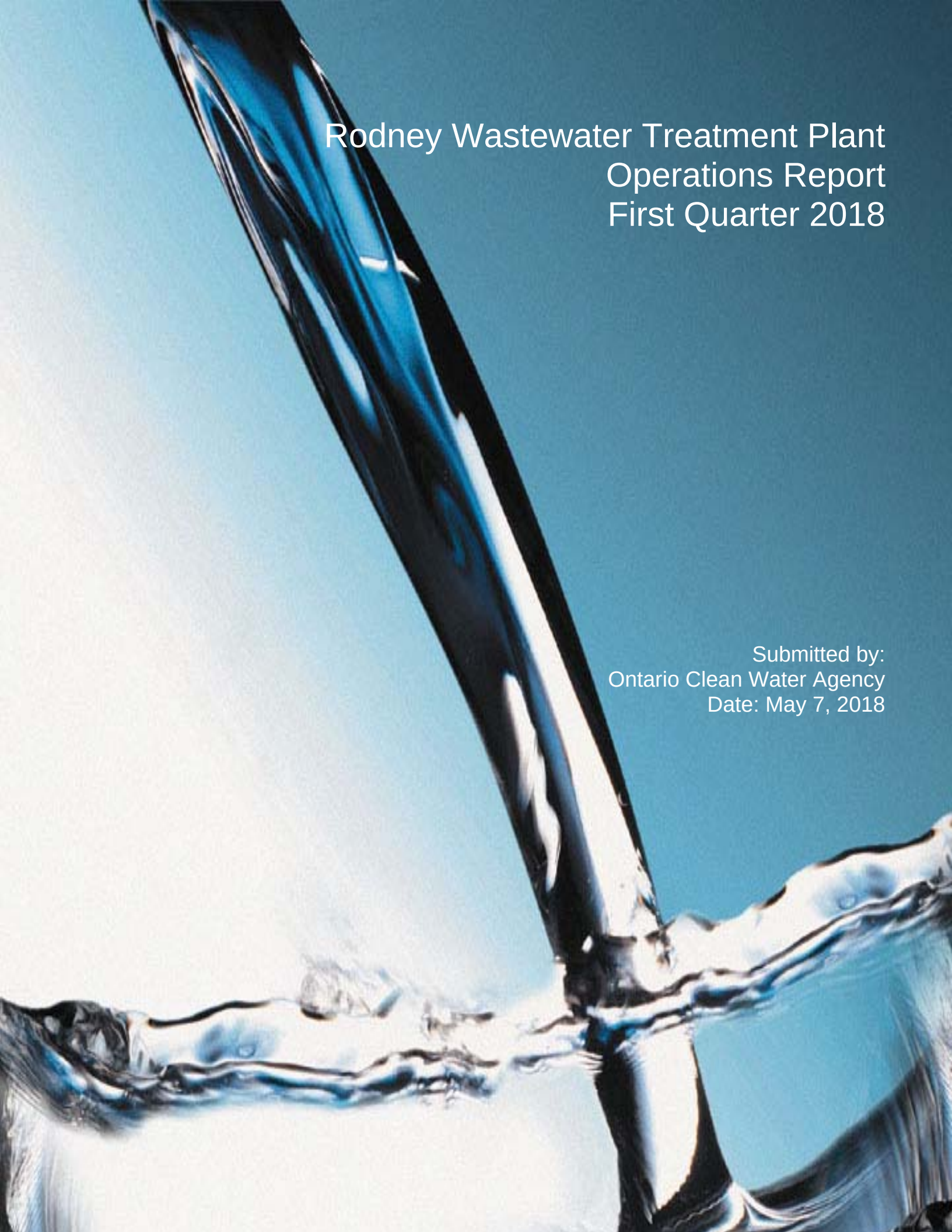


Rodney Wastewater Treatment Plant
Operations Report
First Quarter 2018

Submitted by:
Ontario Clean Water Agency
Date: May 7, 2018

Facility Information:

Facility Name:	Rodney Wastewater Treatment Plant
Facility Type:	Municipal
Classification:	Class 2 Wastewater Collection, Class 2 Wastewater Treatment

Operational Description:

The collection system consists of sewers and one submersible pumping station. The treatment facility main elements are an extended aeration process designed for combined carbon removal and nitrification. The discharge of secondary clarifier: effluent is filtered and disinfected with ultraviolet light before being re-aerated and discharged to the Sixteen Mile Creek. The waste activated sludge is discharged to a lagoon for storage. Dual-point chemical addition alum: is used for phosphorus removal. Sodium hydroxide is added for control of alkalinity.

Service Information

Areas: Serviced:	Village of Rodney

Design Capacity:

Total Design Capacity:	590 m^3/day
Total Annual Flow (2017 Data):	127,060 m^3/year
Average Day Flow (2017 Data):	348.1 m^3/day
Maximum Day Flow (2017 Data):	588 m^3/day

Treatment Process Features:

Effluent Receiver:	Sixteen Mile Creek to Lake Erie
Major Process:	Extended aeration
Phosphorus Removal:	Continuous, Use of alum
Additional Treatment:	Effluent filtration
Discharge Mode:	Continuous discharge
Effluent Disinfection Practice:	UV Disinfection
Sludge Stabilization:	Lagoon storage

Contacts:

Regional Manager:	Dale LeBritton	519: 476-5898
Sr. Operations Manager:	Sam Smith	226-377-1540
Business Development Manager:	Susan Budden	519: 318-3271

SECTION 1: COMPLIANCE SUMMARY

FIRST QUARTER:

There were no compliance issues to report for the first quarter.

SECTION 2: INSPECTIONS

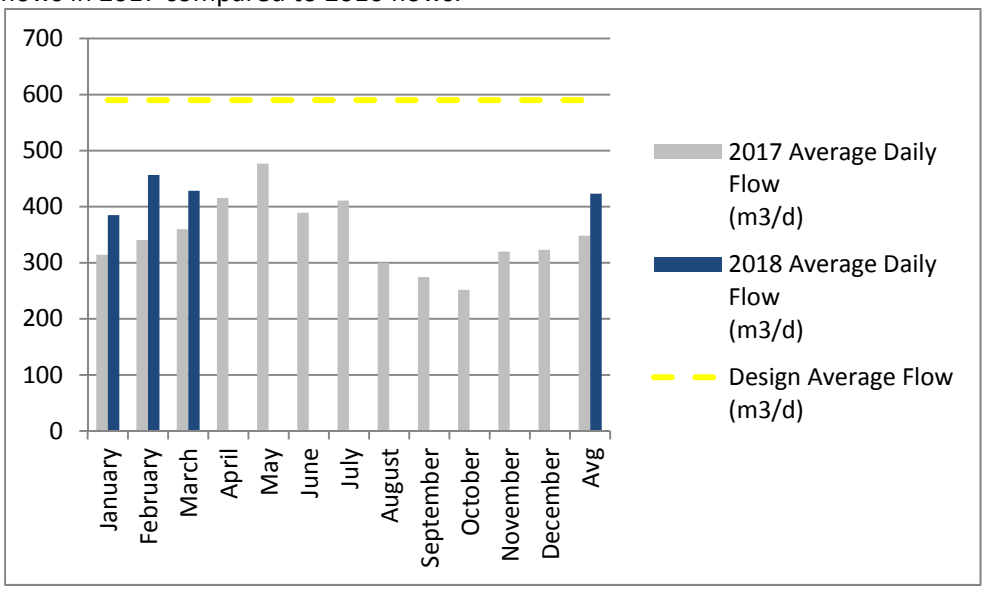
FIRST QUARTER:

There were no MOECC or MOL inspections during this quarter.

SECTION 3: PERFORMANCE ASSESSMENT REPORT

The average daily flow for the wastewater treatment plant in 2018 so far is 423.3m3/d. The average daily flow in 2017 was 348.1m3/d, therefore the flow for 2018 so far is up by 21.6% when compared to 2017. The plant is currently at 72% of its rated capacity of 590m^3/d.

Chart 1. Raw flows in 2017 compared to 2016 flows.



Raw samples are taken on a biweekly basis following the ECA requirements. The table below shows the raw sample results for 2018.

Table 1. Raw water sample results for 2018.

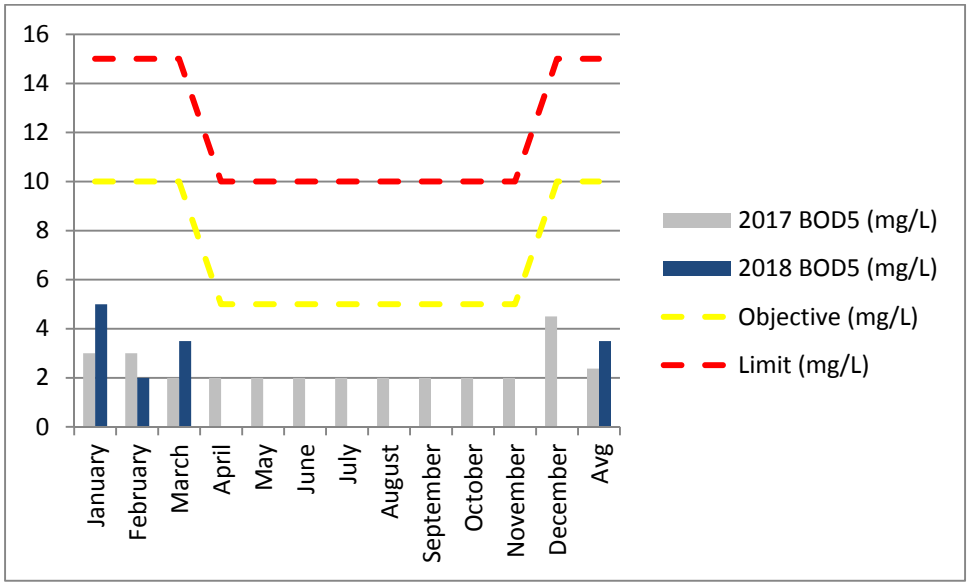
	BOD5 (mg/L)	TKN (mg/L)	TP(mg/L)	TSS (mg/L)
January Results	139.3	36.3	3.97	154
February Results	87	24.9	2.74	94
March Results	96	17.7	2.13	55
April Results	-	-	-	-
May Results	-	-	-	-

June Results	-	-	-	-
July Results	-	-	-	-
August Results	-	-	-	-
September Results	-	-	-	-
October Results	-	-	-	-
November Results	-	-	-	-
December Results	-	-	-	-
Annual Average	107.4	26.3	2.94	101

The effluent is sampled on a weekly basis following the requirements of the ECA.

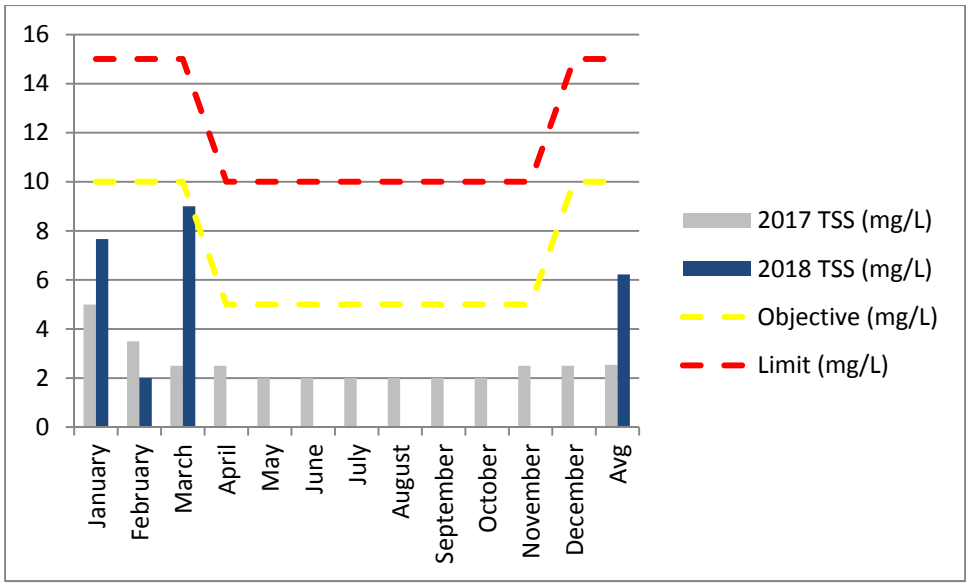
The average effluent BOD5 for 2018 so far is 3.5mg/L, meeting both effluent objectives and limits identified in the ECA. The annual average result for BOD5 in 2017 was 2.4mg/L, therefore the results for 2018 so far are up by 47% when compared to 2017 (refer to Chart 2).

Chart 2. Average Monthly Effluent BOD5 results for 2018 compared to 2017.



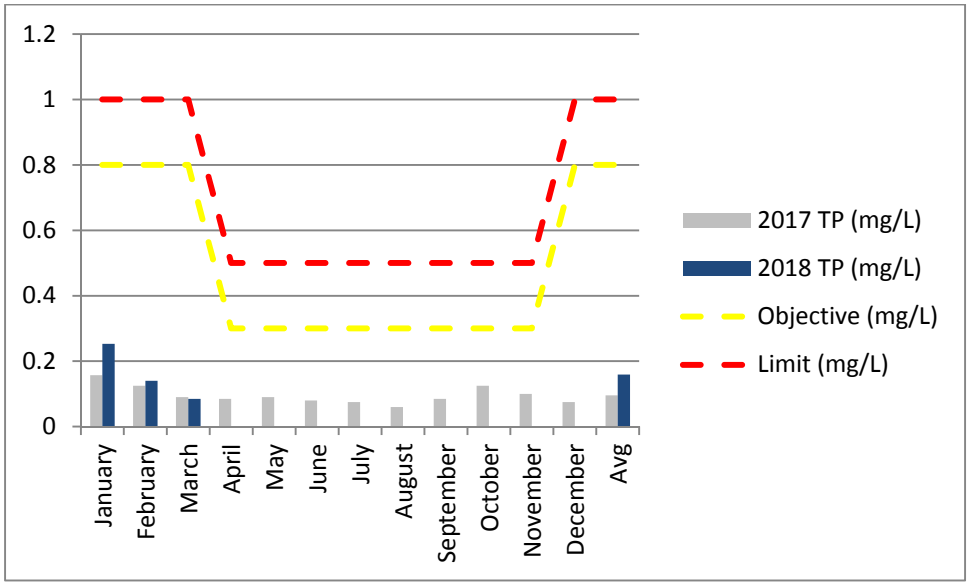
The average effluent TSS for 2018 so far is 6.2mg/L, meeting both effluent objectives and limits identified in the ECA. The annual average result for TSS in 2017 was 2.5mg/L, therefore the results for 2018 so far are up by 144% when compared to 2017 (refer to Chart 3).

Chart 3. Average monthly effluent total suspended solids results for 2018 compared to 2017.



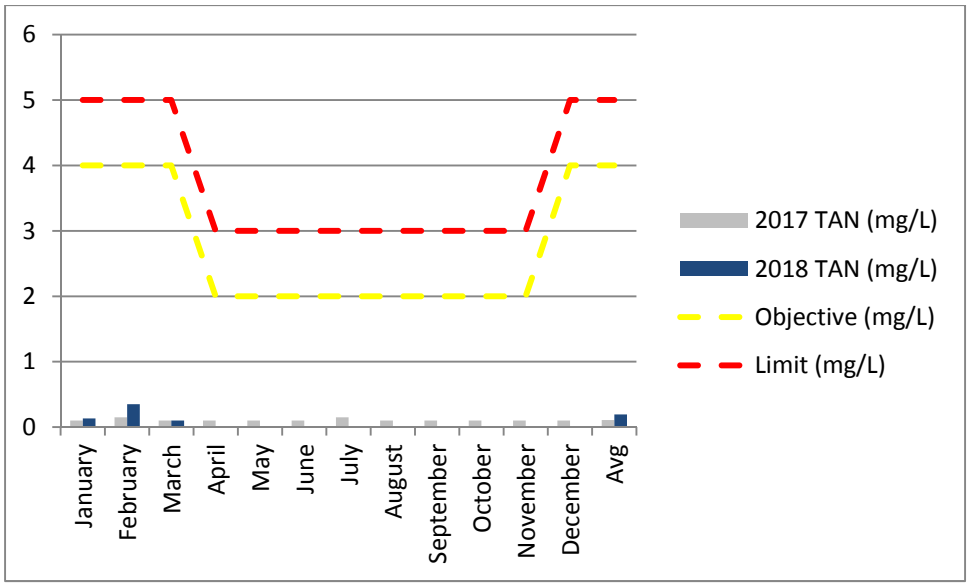
The average effluent TP for 2018 so far is 0.12mg/L, meeting both effluent objectives and limits identified in the ECA. The annual average result for TP in 2017 was 0.1mg/L, therefore the results for 2018 so far are up by 66% when compared to 2017 (refer to Chart 4).

Chart 4. Average monthly effluent total phosphorus results for 2018 compared to 2017.



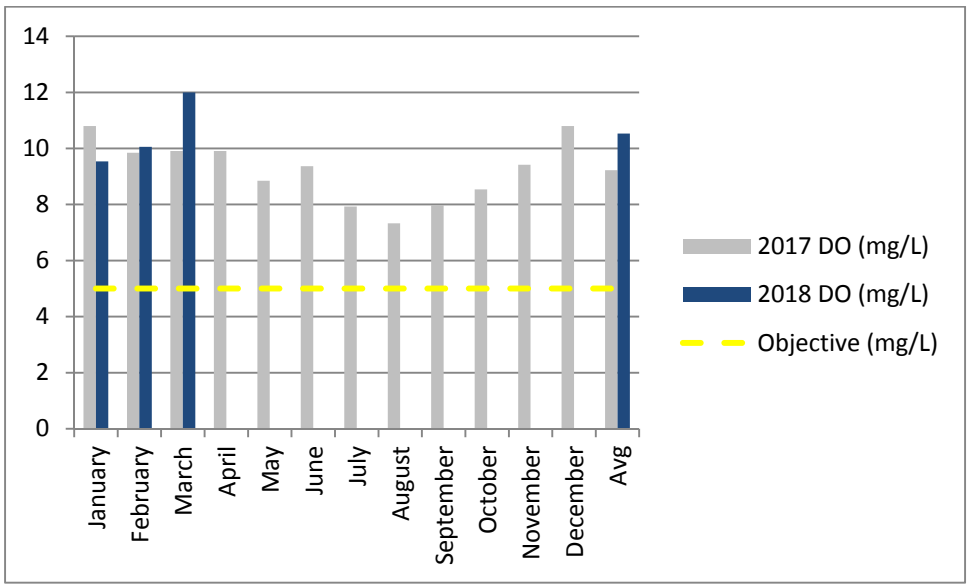
The average effluent TAN for 2018 so far is 0.19mg/L, meeting both effluent objectives and limits identified in the ECA. The annual average result for TAN in 2017 was 0.11mg/L, therefore the results for 2018 so far are up by 79% when compared to 2017 (refer to Chart 5).

Chart 5. Average monthly effluent total ammonia nitrogen results for 2018 compared to 2017.



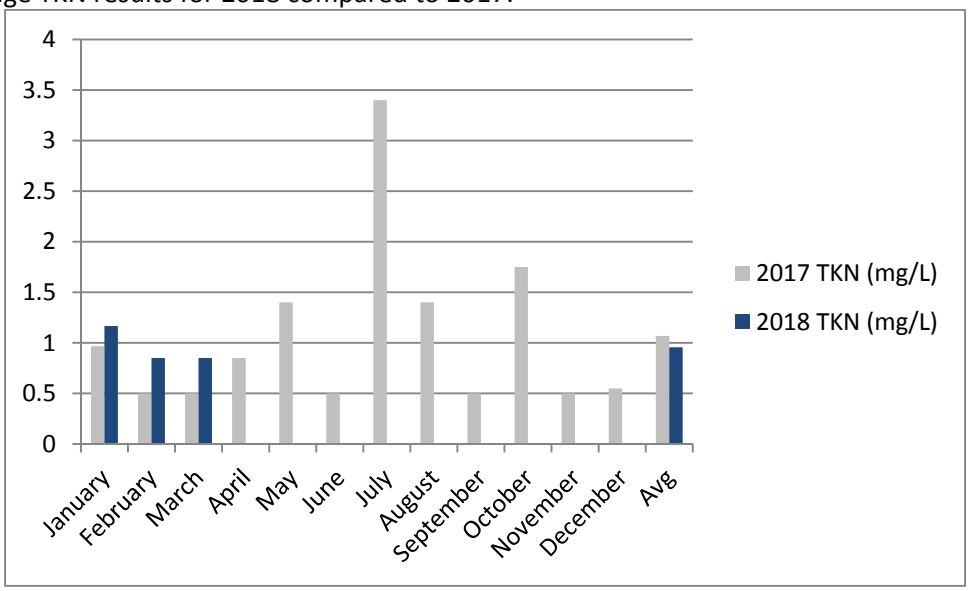
Dissolved oxygen (DO) of the effluent is tested on site at the plant, the ECA identifies a minimum level required as an objective. This objective is 5mg/L. The chart below (chart 7) shows the average DO concentrations, there have been no objective exceedances.

Chart 7. Average Dissolved Oxygen (DO) results for 2018 compared to 2017.



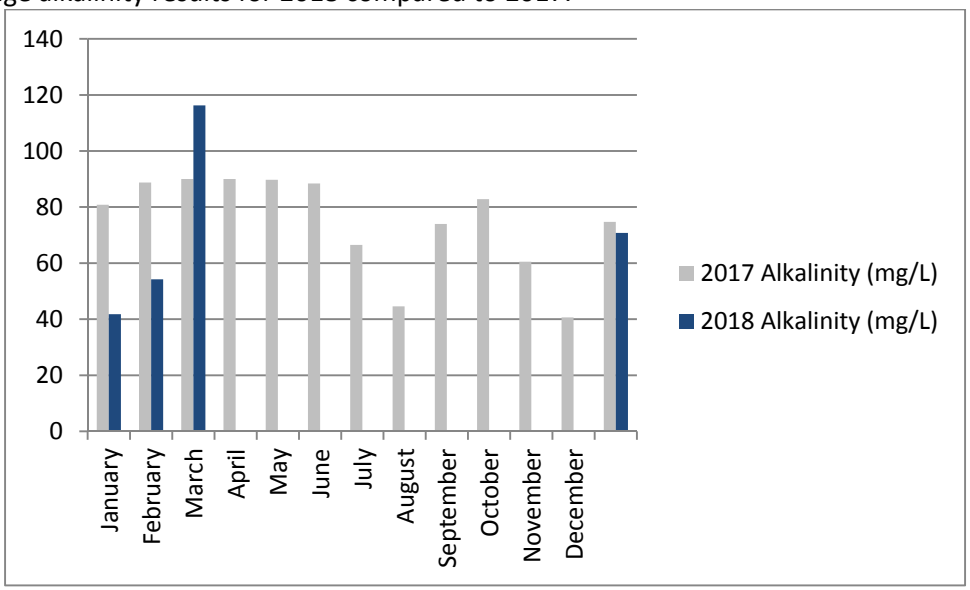
Total Kjeldahl Nitrogen (TKN) is sampled biweekly in accordance with ECA requirements, there are no objective or limits imposed on this parameter. The average effluent TKN for 2018 so far is 0.96mg/L. The annual average result for TKN in 2017 was 1.1mg/L, therefore the results for 2018 so far are down by 10% when compared to 2017 (refer to Chart 8).

Chart 8. Average TKN results for 2018 compared to 2017.



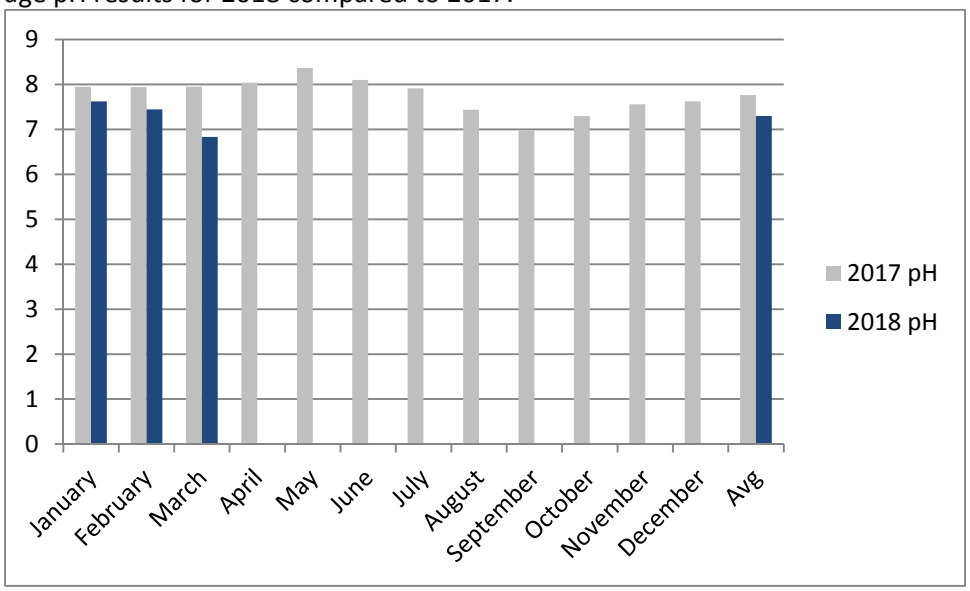
Alkalinity is sampled at least biweekly in accordance with ECA requirements; there are no objective or limits imposed on this parameter. It is recommended that at least 50mg/L is present in the effluent. The average effluent alkalinity for 2018 so far is 70.1mg/L. The annual average result for alkalinity in 2017 was 74.7mg/L, therefore the results for 2017 so far are down by 5.3% when compared to 2017 (refer to Chart 9).

Chart 9. Average alkalinity results for 2018 compared to 2017.



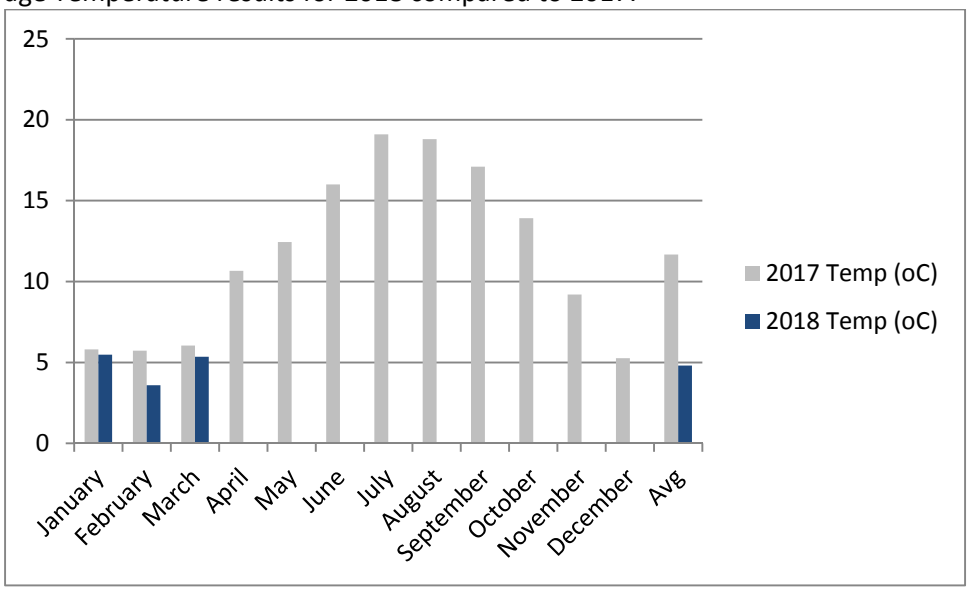
pH is sampled at least biweekly in accordance with ECA requirements; there are no objective or limits imposed on this parameter. It is recommended that the pH is in the range of 6.5-8.5. The average effluent pH for 2018 so far is 7.30. The annual average result for pH in 2017 was 7.77, therefore the results for 2018 so far are down by 6% when compared to 2017 (refer to Chart 10).

Chart 10. Average pH results for 2018 compared to 2017.



Temperature is measured at least biweekly in accordance with ECA requirements; there are no objective or limits imposed on this parameter. The temperature of the effluent fluctuates based on outdoor temperatures. The average effluent temperature for 2018 so far is 4.8°C. The annual average temperature in 2017 was 11.6°C, therefore the results for 2018 so far are down by 59% when compared to 2017 (refer to Chart 11).

Chart 11. Average Temperature results for 2018 compared to 2017.



SECTION 4: OCCUPATIONAL HEALTH & SAFETY

FIRST QUARTER:
There were no Health and Safety issues identified this quarter.

SECTION 5: GENERAL MAINTENANCE

FIRST QUARTER:
JANUARY:
03: Fixed bar screen motor by replacing worn out gear.
04: Released seized scum arm in clarifier by putting it into reverse and loosening it enough to lift off scum trough
08: Nevtro onsite to replace front casing on RAS pump #1, pump now running normal.
10: Used hot water to thaw frozen alum line.
10: Pressue washed UV channel
19: Replaced lights in clarifier
23: Pulled filters, sprayed out with power washer, found one had a hole patched with titanium putty. All filters are now in good working condition.
24: Inspected UV lights (UV lights are in good working condition and are ready to be put back in service in the spring).

FEBRUARY:
01: Flushed RAS system
05: Flushed RAS system due to blockage
07: Transfer alum to day tank
08: Flushed RAS system
15: Farmington onsite to quote clarifier arm rebuild
20: Divert to lagoon due to high flow
26: Waste valve stuck in open causing low clarifier level
27: Flowmetrix onsite to look at waste flow meter, system shorted out causing failure.

MARCH:
08: Monthly generator inspection and pumping station.
13: Monthly inspection of surface mixers completed.
26: Transferred Alum to day tank.
28: Inspections and tests completed on UV system and Alarm dialer.

SECTION 6: ALARM SUMMARY

FIRST QUARTER:
JANUARY:
No alarms this month.

FEBRUARY:
No alarms this month.

MARCH:
No alarms this month.

SECTION 7: COMMUNITY COMPLAINTS & CONCERNS

FIRST QUARTER:

There were no complaints or concerns for the first quarter.