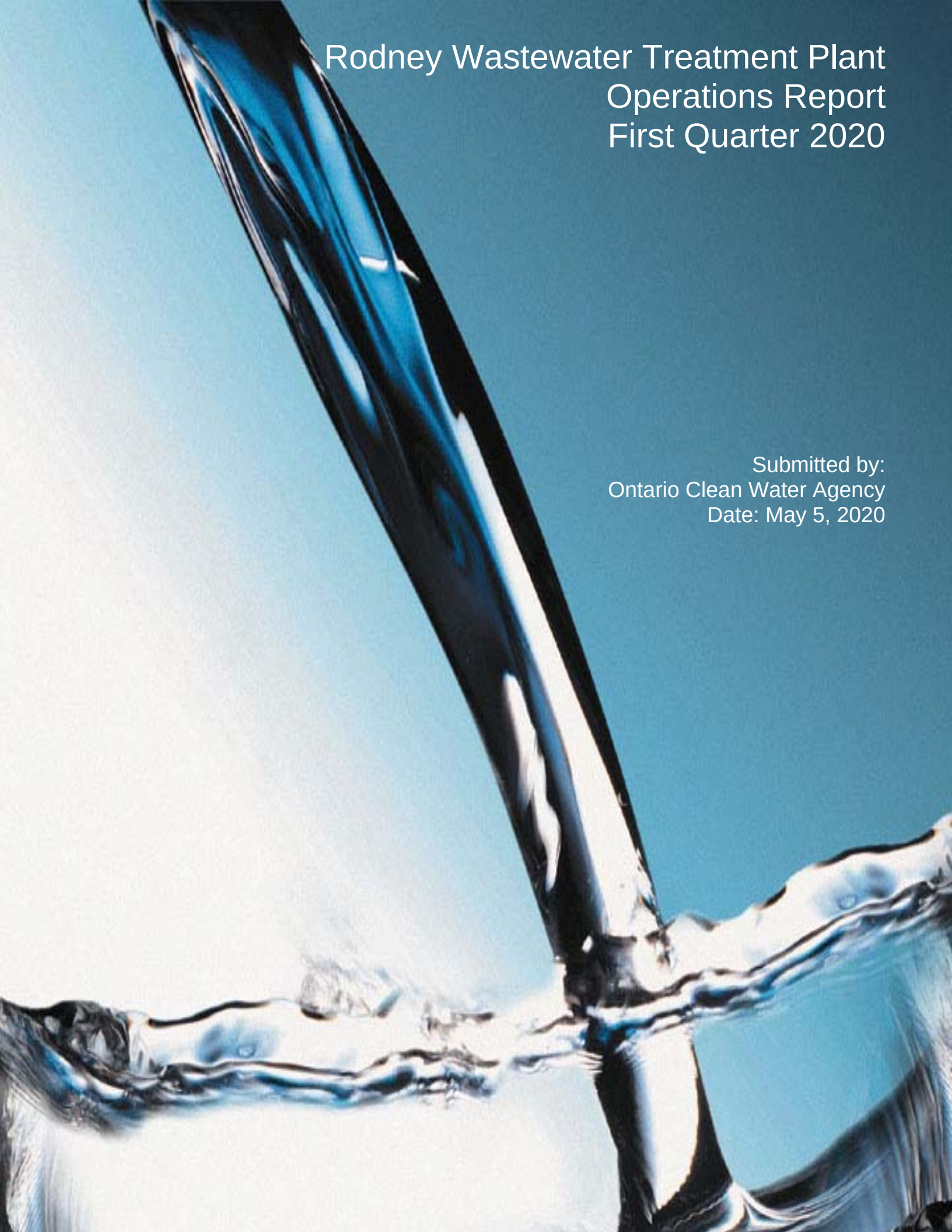


Rodney Wastewater Treatment Plant
Operations Report
First Quarter 2020

Submitted by:
Ontario Clean Water Agency
Date: May 5, 2020

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

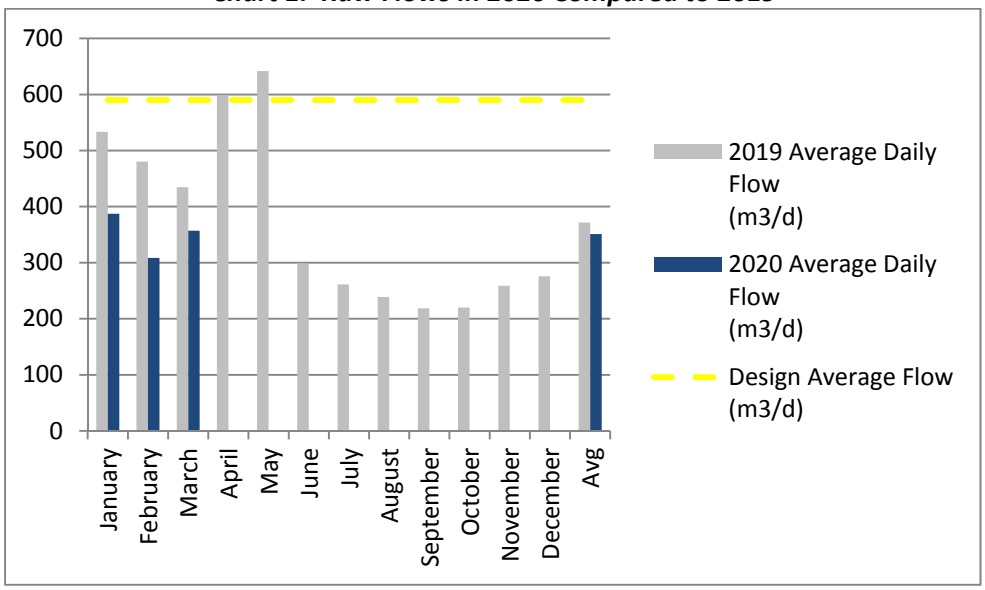
FIRST QUARTER:

There were no MECP or MOL inspections during this quarter.

SECTION 3: PERFORMANCE ASSESSMENT REPORT

The average daily flow for the wastewater treatment plant in 2020 is 350.92m3/d. The average daily flow in 2019 was 371.7 m3/d, therefore the flow for 2020 is down by 5.6% when compared to 2019. The plant is currently at 59.5% of its rated capacity of 590m^3/d.

Chart 1. Raw Flows in 2020 Compared to 2019



Raw samples are taken on a biweekly basis following the ECA requirements. The table below shows the raw sample results for 2020.

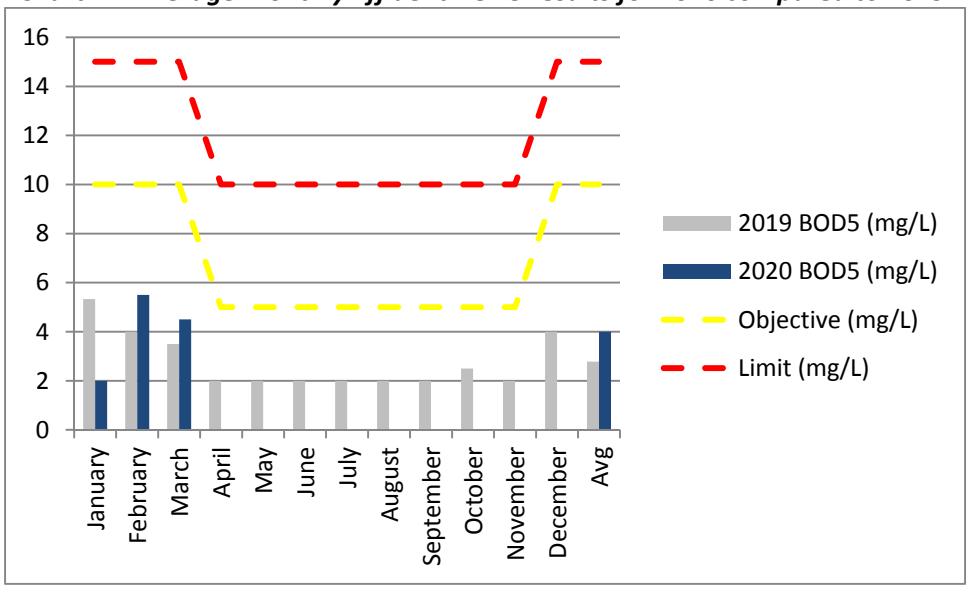
Table 1. Raw water sample results for 2020.

	BOD5 (mg/L)	TKN (mg/L)	TP(mg/L)	TSS (mg/L)
January Results	203.5	34.6	4.455	137.5
February Results	118.5	25.55	3.555	100.5
March Results	100	25.45	2.475	105
April Results				
May Results				
June Results				
July Results				
August Results				
September Results				
October Results				
November Results				
December Results				
Annual Average	140.667	28.533	1.86	114.333

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

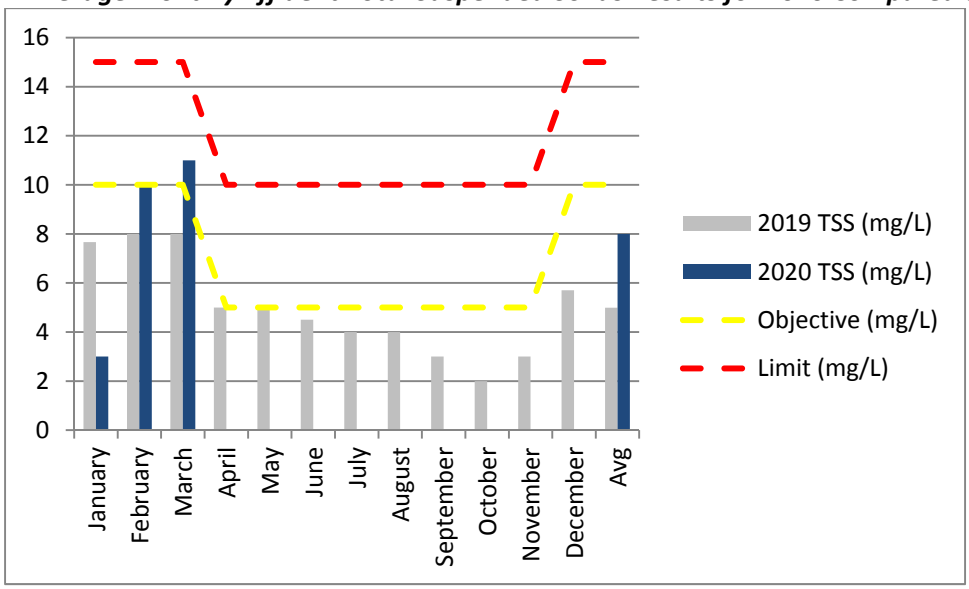
The average effluent BOD5 for 2020 is 4mg/L, meeting both effluent objectives and limits identified in the ECA. The annual average result for BOD5 in 2019 was 2.78mg/L, therefore the results for 2020 so far are up by 44% when compared to 2019 (refer to Chart 2).

Chart 2. Average Monthly Effluent BOD5 results for 2020 compared to 2019.



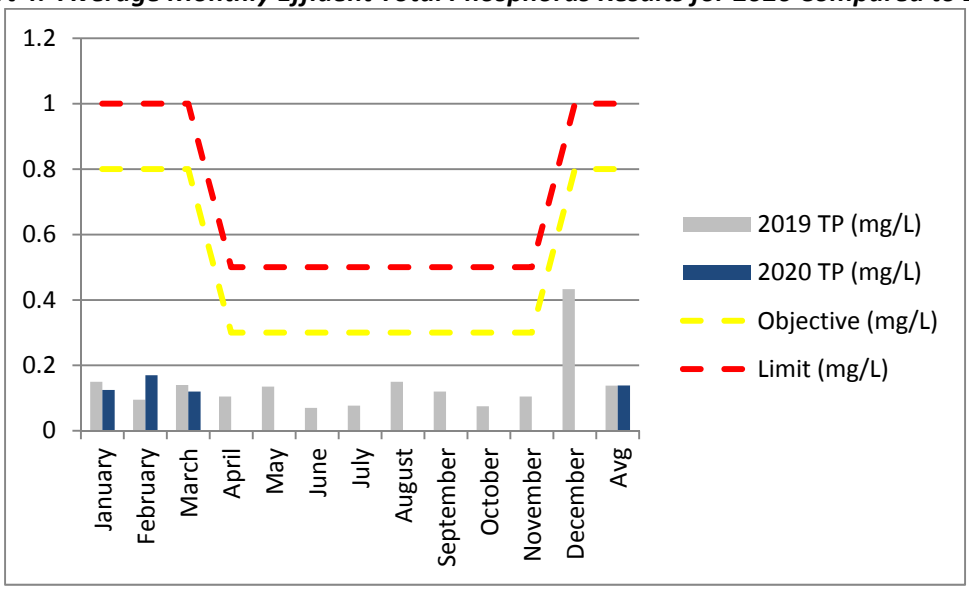
The average effluent TSS for 2020 is 8 mg/L, meeting the effluent limit identified in the ECA but exceeding the objective in March. The annual average result for TSS in 2019 was 5mg/L, therefore the results for 2020 are up by 60% when compared to 2019 (refer to Chart 3).

Chart 3. Average Monthly Effluent Total Suspended Solids Results for 2020 Compared to 2019



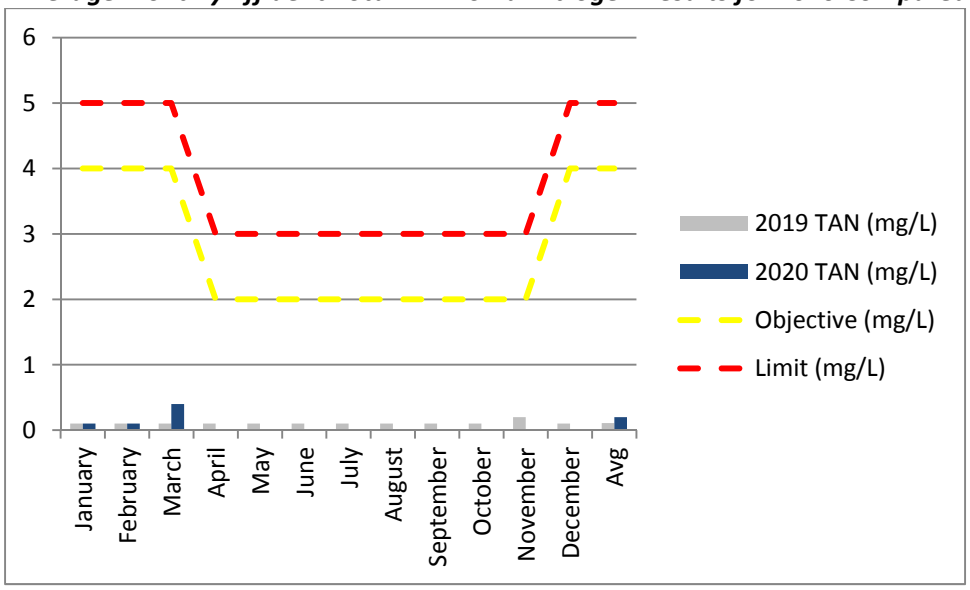
The average effluent TP for 2020 is 0.14 mg/L, meeting both effluent objectives and limits identified in the ECA. The annual average result for TP in 2019 was 0.14mg/L, therefore the results for 2020 are the same when compared to 2019 (refer to Chart 4).

Chart 4. Average Monthly Effluent Total Phosphorus Results for 2020 Compared to 2019



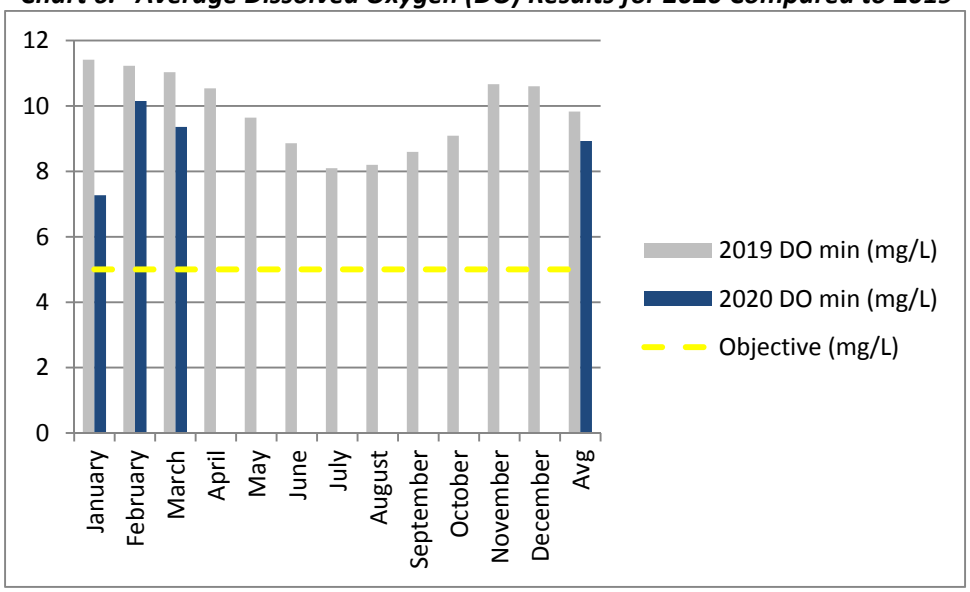
The average effluent TAN for 2020 is 0.2 mg/L, meeting both effluent objectives and limits identified in the ECA. The annual average result for TAN in 2019 was 0.11mg/L, therefore the results for 2020 so far are up by 84% when compared to 2019 (refer to Chart 5).

Chart 5. Average monthly Effluent Total Ammonia Nitrogen Results for 2020 Compared to 2019



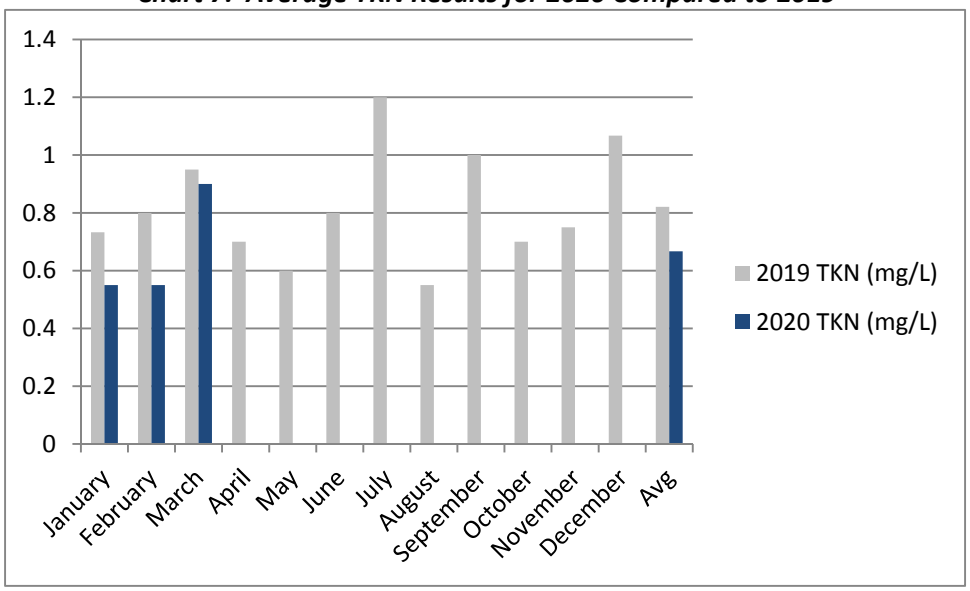
Dissolved oxygen (DO) of the effluent is tested on site at the plant; the ECA identifies a minimum level required as an objective. This objective is 5mg/L. The chart below (Chart 6) shows the average DO concentrations, there have been no objective exceedances.

Chart 6. Average Dissolved Oxygen (DO) Results for 2020 Compared to 2019



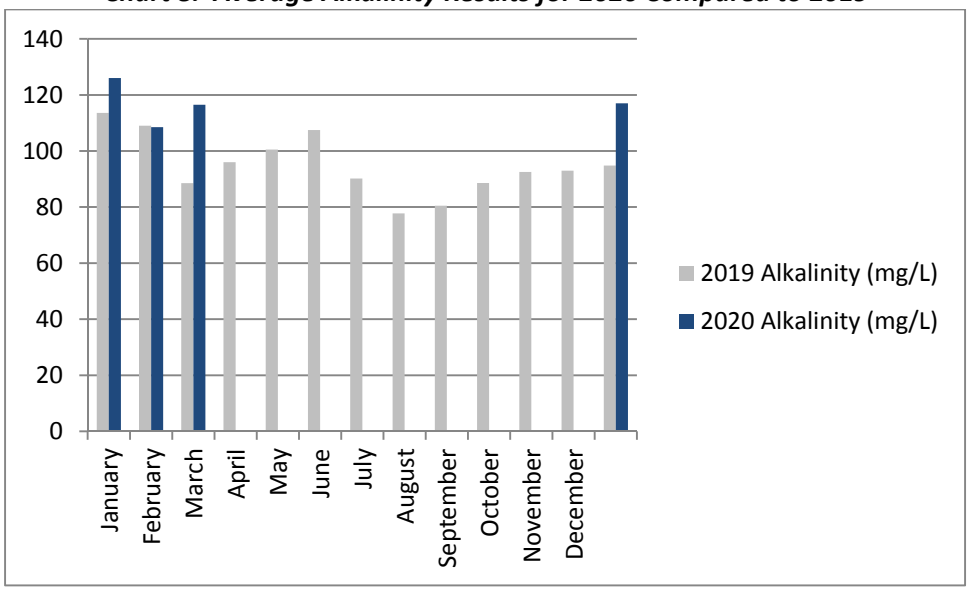
Total Kjeldahl Nitrogen (TKN) is sampled biweekly in accordance with ECA requirements; there are no objective or limits imposed on this parameter. The average effluent TKN for 2020 is 0.67 mg/L. The annual average result for TKN in 2019 was 0.82mg/L; therefore the results for 2020 so far are down by 18.7% when compared to 2019 (refer to Chart 7).

Chart 7. Average TKN Results for 2020 Compared to 2019



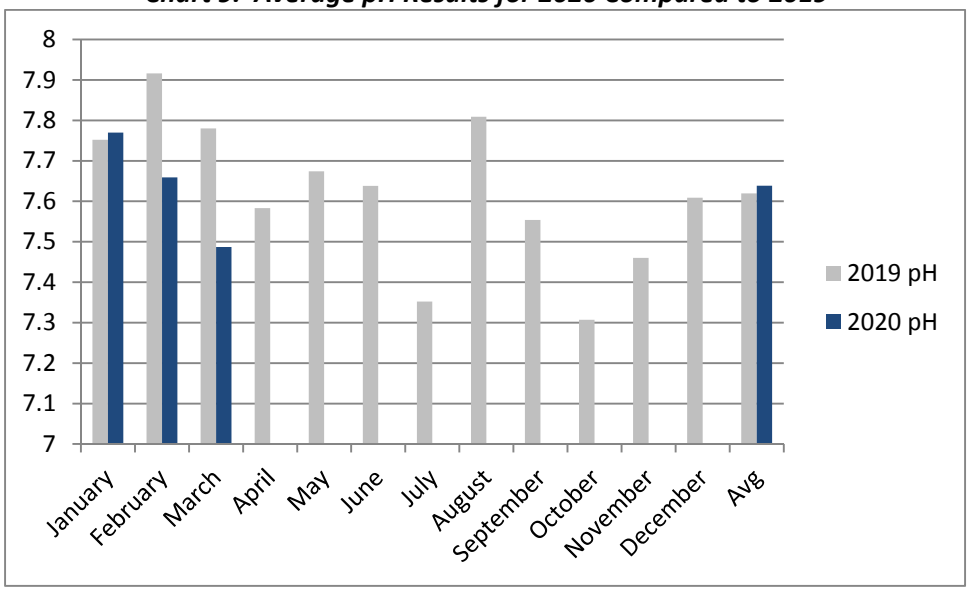
Alkalinity is sampled at least biweekly in accordance with ECA requirements; there are no objective or limits imposed on this parameter. It is recommended that at least 50mg/L is present in the effluent. The average effluent alkalinity for 2020 is 117mg/L. The annual average result for alkalinity in 2019 was 94.8mg/L, therefore the results for 2020 so far are up by 23% when compared to 2019 (refer to Chart 8).

Chart 8. Average Alkalinity Results for 2020 Compared to 2019



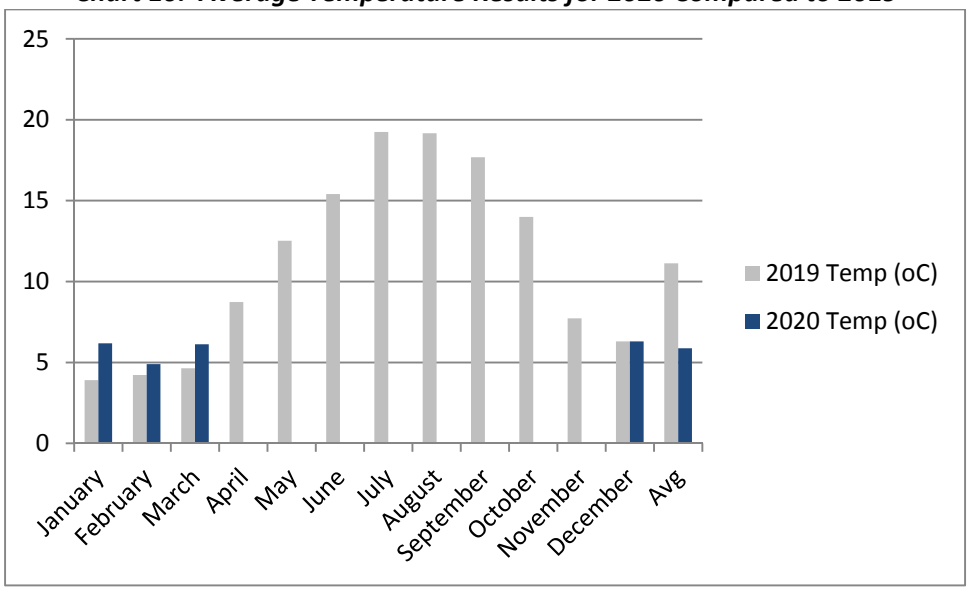
pH is sampled at least biweekly in accordance with ECA requirements; there are no objective or limits imposed on this parameter. It is recommended that the pH is in the range of 6.5-8.5. The average effluent pH for 2020 so far is 7.63. The annual average result for pH in 2019 was 7.62; therefore the results for 2020 is up by 0.25% when compared to 2019 (refer to Chart 9).

Chart 9. Average pH Results for 2020 Compared to 2019



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 2020 is 5.9°C. The annual average temperature in 2019 was 11.1°C, therefore the results for 2020 are down 47% when compared to 2019 (refer to Chart 10).

Chart 10. Average Temperature Results for 2020 Compared to 2019



SECTION 4: OCCUPATIONAL HEALTH & SAFETY

FIRST QUARTER:

Due to the COVID-19 pandemic, which has been brought to the attention of all OCWA staff; precautionary protection measures have been implemented at all facilities. In addition to the mandatory PPE worn by all operational staff, the following additional steps were taken to assure safety:

- Additional PPE and supplies were sourced as applicable.
- The frequency of facility and vehicle cleaning and surface disinfection was increased and documented
- Staff re-organization was implemented to meet social distancing requirements where applicable.
- Facility accesses to essential contractors and/or delivery personnel are closely monitored.

There were no additional Health & Safety issues identified during the first quarter.

SECTION 5: GENERAL MAINTENANCE

FIRST QUARTER:

JANUARY:

Contractors on site various days for PLC upgrade.
02: Alum system flushed due to airlocks.
15: Alum day tank topped up.
16: Pumped out scum chamber.
24: Flushed alum system with hot water to clear line blockages caused by cold weather.
26: Alum system flushed due to airlocks.
28: Flushed alum system with hot water to clear line blockages caused by cold weather; connected new alum day tank.
29: Alum system flushed due to airlocks.
31: Electricians fixed connection between pump station and sewage plant for alarm dialers.

FEBRUARY:

13: Kone Cranes on site to complete lifting device inspections
19: Monitored pump station due to phantom alarms previous night. Miltronics was jumping all over the place; cleaned the face of the transducer off as it was covered in black grime. Large chunk of grease found in pump station, but doesn't seem to be causing an issue. Untangled floats and got them back in the float rings. Alberts Generator was on site to service generator, as the generator had gone into a self-test mode. The self-test mode is was cleared, oil and filter changed and fuel filter changed. Monitored after all work complete and no alarms came out.
20: Municipality completed mowing of lagoon edges
21: Flowmetrix on site to scale new flowmeters to SCADA
24: Low Set tests; operator changed WAS cycle from 7 times per day to 5 times per day.
Man holes on Third Street and Stinson checked.

MARCH:

Contractors on site various days for PLC upgrade.
02: Alum system flushed due to airlocks.
03: Pumped out Rodney PS chamber.
04: Topped up alum day tank. Operator mounted new effluent water pump in the filter building.

05: Alum system flushed due to airlocks.
09: RAS Pump 1 faulted due to a clogged impellor. Operator disconnected pump, cleared out the impellor and returned RAS Pump 1 to service.
12: Alum system flushed with hot water to clear blockages. Operator found leak on Pump 1 cartridge. Replaced pump cartridge and returned Pump 1 to service.
18: Diverted flow from plant to lagoon. Operator pumped out the clarifier to inspect lower end of the scraper arm. Flowmetrix was on site to calibrate flowmeter.
20: Inspection of clarifier lower arm complete; no damage found. Wastewater flow returned to the plant instead of the lagoon.

SECTION 6: ALARM SUMMARY

FIRST QUARTER:

JANUARY:

No alarms to report this month.

FEBRUARY:

No alarms to report this month.

MARCH:

07: WAS/RAS pump fault. Operator was unable to resolve issues via SCADA. Senior Operations Manager, Sam Smith, repaired later on the following day.
29: Power outage caused alum pumps to fault.

SECTION 7: COMMUNITY COMPLAINTS & CONCERNS

FIRST QUARTER:

No complaints or concerns to report this quarter.