



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

5526 West Lorne Wastewater Treatment Plant Operations Report Fourth Quarter 2021

Ontario Clean Water Agency, Southwest Region
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Facility Information:

Facility Name: West Lorne Wastewater Treatment Plant & Collection System
Facility Type: Municipal
Classification: Class 2 Wastewater Collection, Class 2 Wastewater Treatment

Operational Description:

The village of West Lorne is served by an extended aeration Wastewater Treatment Plant, comprised of aeration, clarification, filtration, disinfection and sludge disposal. Also included is the collection system with one pumping station and a sanitary sewer system. The operations are in accordance to ECA # 5873-B4RLEJ, which covers the entire plant including the pumping stations.

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 reaerated and discharged to the Zoller Drain and then Brocks 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 Served: Village of West Lorne

Design Capacity:

Total Design Capacity: 900 m³/day
Total Annual Flow (2017 Data): 181,074 m³/year
Average Day Flow (2017 Data): 496 m³/day
Maximum Day Flow (2017 Data): 1,512 m³/day

Treatment Process Features:

Effluent Receiver: Zoller Drain to Brocks Creek to Lake Erie
Major Process: Extended aeration
Phosphorus Removal: Continuous, Alum addition
Additional Treatment: Effluent filtration
Discharge Mode: Continuous discharge
Effluent Disinfection Practice: UV Disinfection
Sludge Stabilization: Lagoon storage

Contacts:

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SECTION 1: COMPLIANCE SUMMARY

FIRST QUARTER:

There were no non-compliances reported this quarter.

SECOND QUARTER:

There were no non-compliances reported this quarter.

THIRD QUARTER:

There were no non-compliances reported this quarter.

FOURTH QUARTER:

There were no non-compliances reported this quarter.

SECTION 2: INSPECTIONS

FIRST QUARTER:

There were no MECP or MOL inspections during the first quarter.

SECOND QUARTER:

There were no MECP or MOL inspections during the second quarter.

THIRD QUARTER:

There were no MECP or MOL inspections during the third quarter.

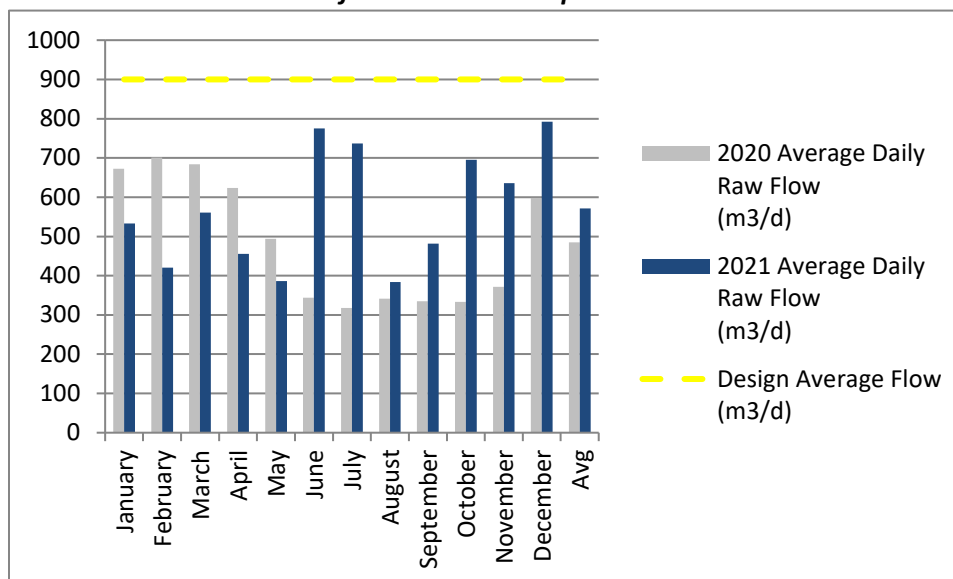
FOURTH QUARTER:

There were no MECP or MOL inspections during the fourth quarter.

SECTION 3: PERFORMANCE ASSESSMENT REPORT

The average daily raw flow for the wastewater treatment plant in 2021 is 571.26m³/d. The average daily flow in 2020 was 484.67 m³/d, therefore the flow for 2021 is up 17.9% when compared to 2020. The plant is currently at 63 % of its rated capacity of 900m³/d.

Chart 1. Raw flows in 2021 Compared to 2020 Flows



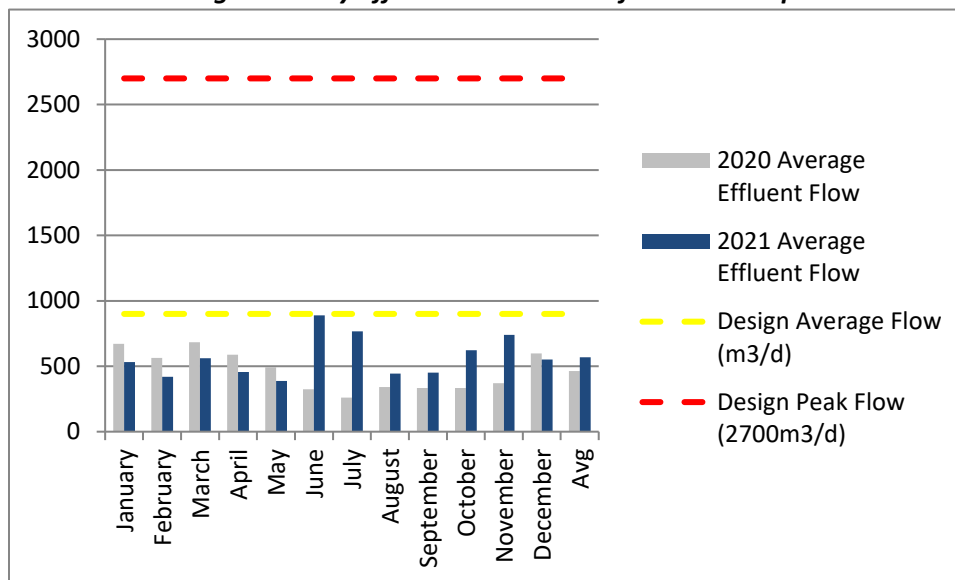
Raw samples are taken on a biweekly basis following the ECA requirements. The table below shows the raw sample results for 2021.

Table 1. Raw Water Sample Results for 2021.

	BOD5 (mg/L)	TKN (mg/L)	TP (mg/L)	TSS (mg/L)	Alkalinity (mg/L)
January Results	177.5	32.25	3.895	139.5	293
February Results	216	44.85	5.345	269.5	349.5
March Results	92.5	31.7	4.005	211	243.5
April Results	120	36.85	4.11	123	368.5
May Results	173	46.9	5.267	135	335.3
June Results	92.5	12.8	1.85	140.5	213.5
July Results	49	20.2	2.145	33	295.5
August Results	152	36.8	3.455	93.5	312
September Results	143.5	48.7	4.825	181.5	321
October Results	85	11.6	1.585	153.5	212
November Results	72.7	10.6	1.423	91	217
December Results	133	24	2.345	156	271
Annual Average	125.35	29.69	3.353	141.54	285.2

The average daily effluent flow for the wastewater treatment plant in 2021 is 568.56 m³/d. The average daily flow in 2020 was 463.8 m³/d, therefore the flow for 2021 is up 22.6% when compared to 2020. The plant is currently at 63.2 % of its rated capacity of 900m³/d.

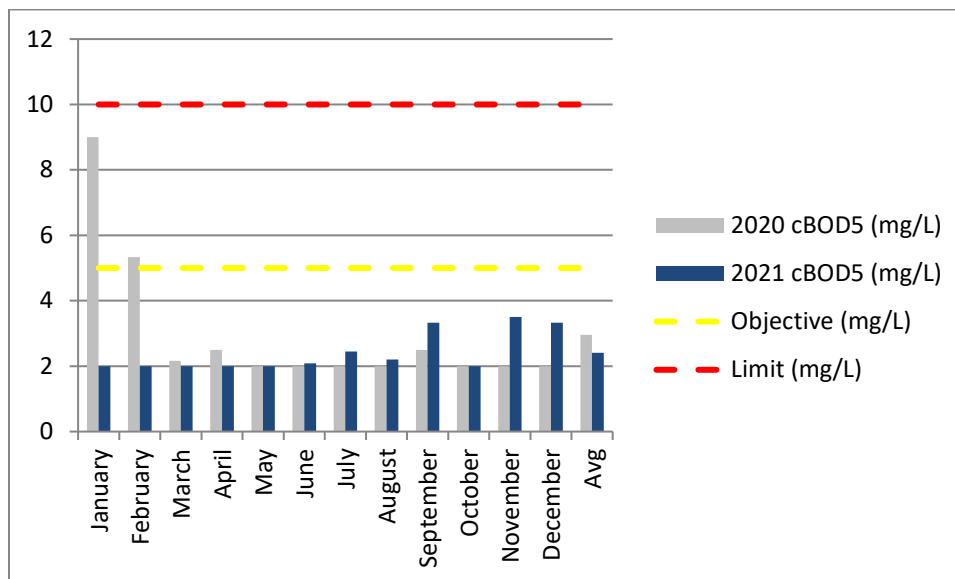
Chart 2. Average Monthly Effluent Flow Results for 2021 Compared to 2020



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

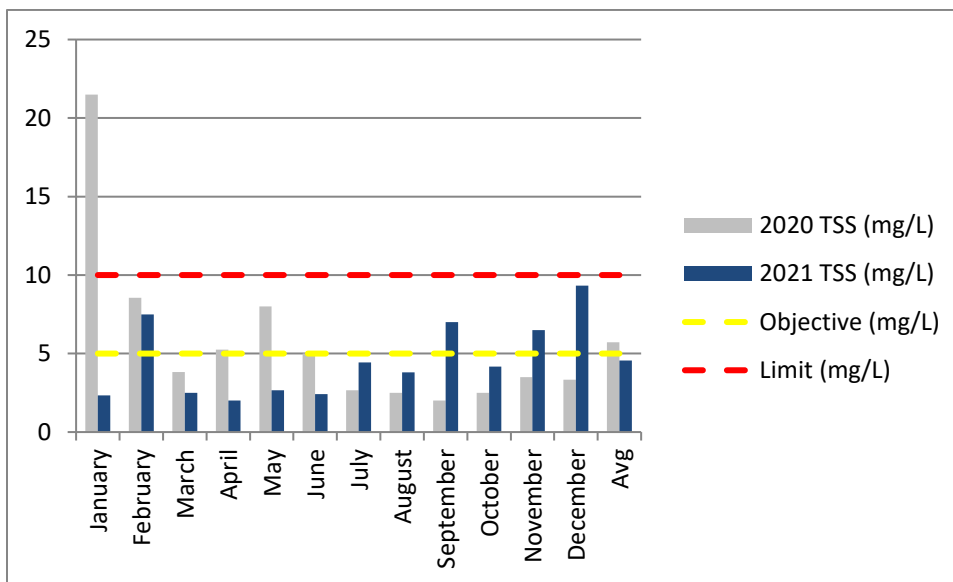
The average effluent cBOD₅ for 2021 is 2.24mg/L, meeting the objective and limits identified in the ECA. The annual average result for cBOD₅ in 2020 was 2.96mg/L, therefore the results for 2021 are down by 18.6% when compared to 2020 (refer to Chart 3).

Chart 3. Average Monthly Effluent cBOD₅ Results for 2021 Compared to 2020



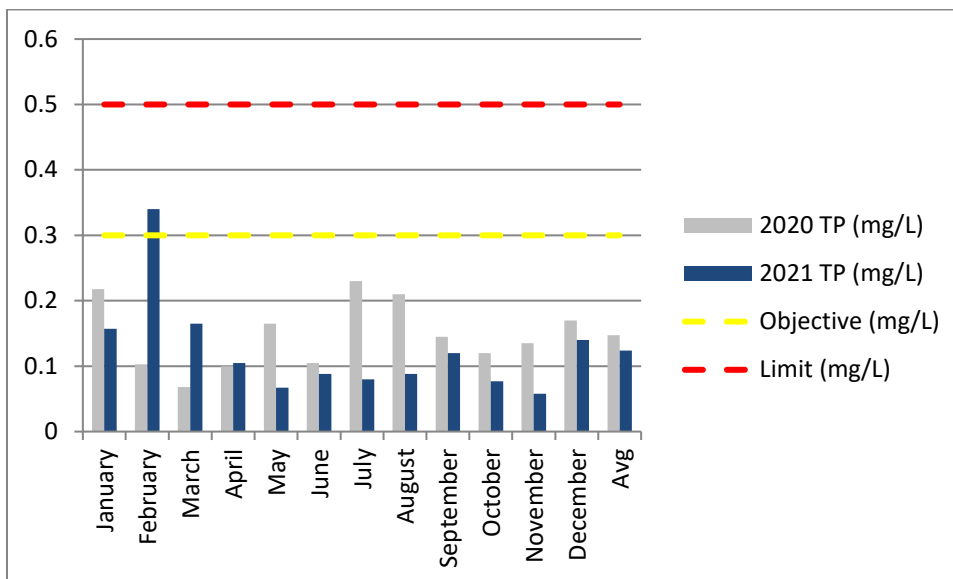
The average effluent TSS for 2021 is 4.6mg/L, meeting the effluent limits identified in the ECA, exceeding the effluent objective in February, September due to improper alum dosage and high flows and November and December due to WAS/RAS valve issues. The annual average result for TSS in 2020 was 5.7mg/L; therefore the results for 2021 are down by 20% when compared to 2020 (refer to Chart 4).

Chart 4. Average Monthly Effluent Total Suspended Solids Results for 2021 Compared to 2020



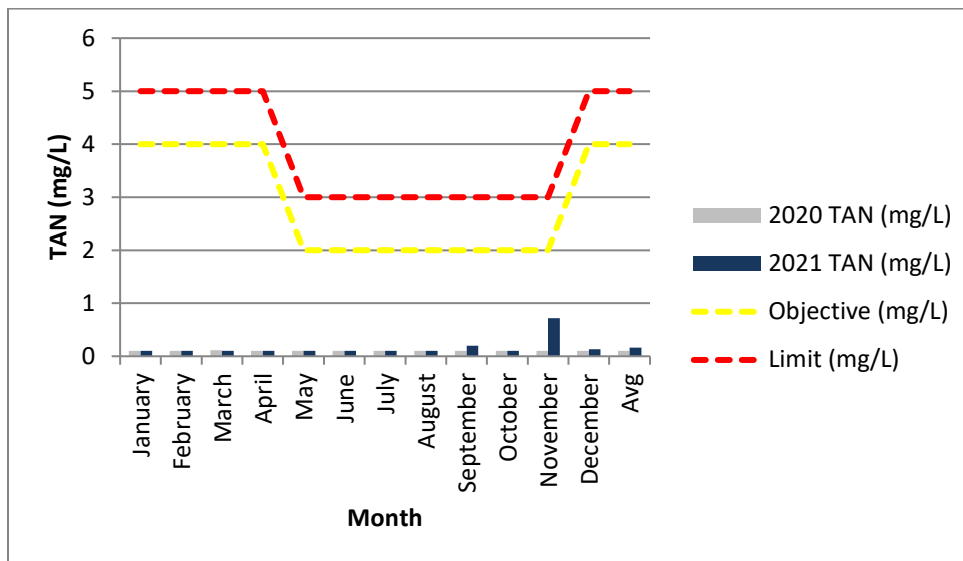
The average effluent TP for 2021 is 0.12 mg/L, meeting effluent limits identified in the ECA, objective was exceeded in February due to improper alum dosage. The annual average result for TP in 2020 was 0.15mg/L, therefore the results for 2021 is down 16% when compared to 2020 (refer to Chart 5).

Chart 5. Average Monthly Effluent Total Phosphorus Results for 2021 Compared to 2020



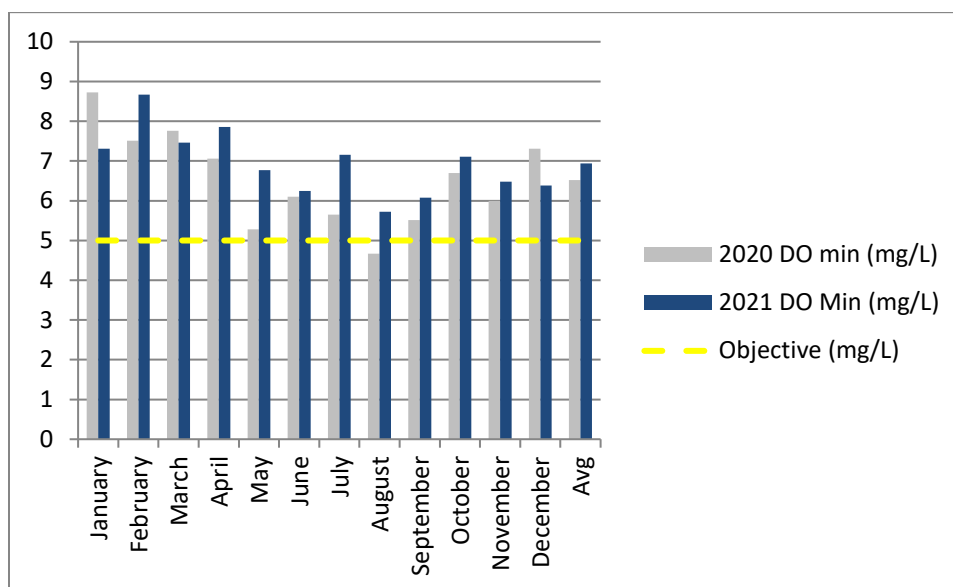
The average effluent TAN for 2021 is 0.16mg/L, meeting both effluent objectives and limits identified in the ECA. The annual average result for TAN in 2020 was 0.10mg/L, therefore the results for 2021 are up 60% compared to 2020 (refer to Chart 6).

Chart 6. Average Monthly Effluent Total Ammonia Nitrogen Results for 2021 Compared to 2020



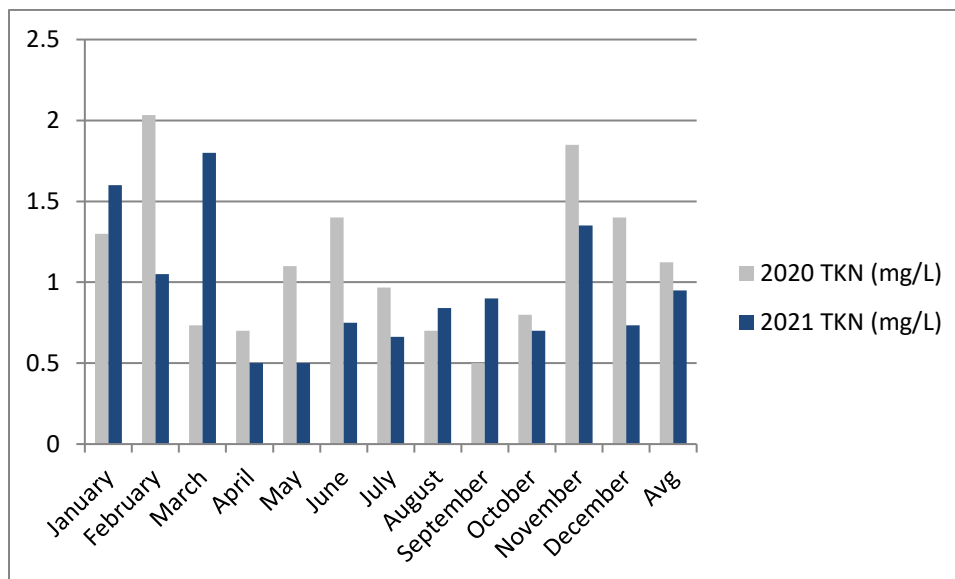
Dissolved oxygen (DO) of the effluent is tested on site at the plant, the ECA identifies a minimum level required as an objective. This objective is 5mg/L. The chart below (chart 7) shows the minimum DO concentrations; there have been no objective exceedances.

Chart 7. Minimum Dissolved Oxygen (DO) Results for 2021 Compared to 2020



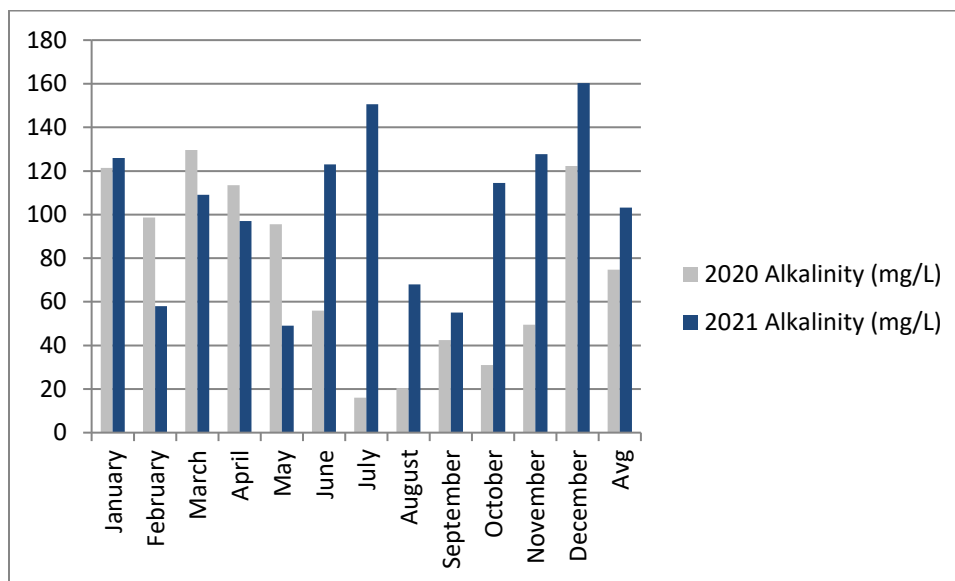
Total Kjeldahl Nitrogen (TKN) is sampled biweekly in accordance with ECA requirements; there are no objective or limits imposed on this parameter. The average effluent TKN for 2021 is 0.94mg/L. The annual average result for TKN in 2020 was 1.12mg/L, therefore the results for 2021 are down by 15.6% when compared to 2020 (refer to Chart 8).

Chart 8. Average TKN Results for 2021 Compared to 2020



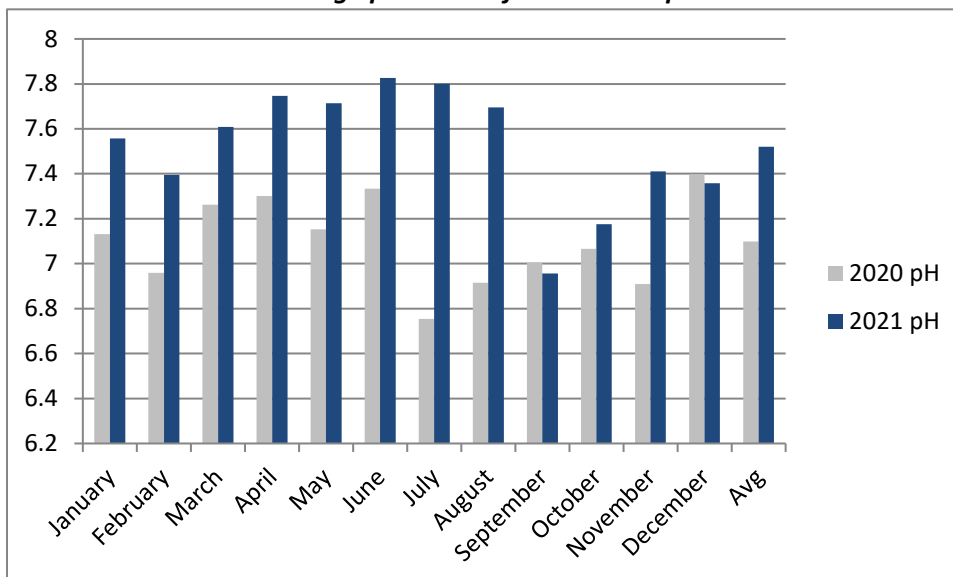
Alkalinity is sampled biweekly in accordance with ECA requirements; there are no objective or limits imposed on this parameter. It is recommended that at least 50mg/L is present in the effluent. The average effluent alkalinity for 2021 is 103mg/L. The annual average result for alkalinity in 2020 was 74.7mg/L, therefore the results for 2021 are up by 38% when compared to 2020(refer to Chart 9).

Chart 9. Average Alkalinity Results for 2021 Compared to 2020



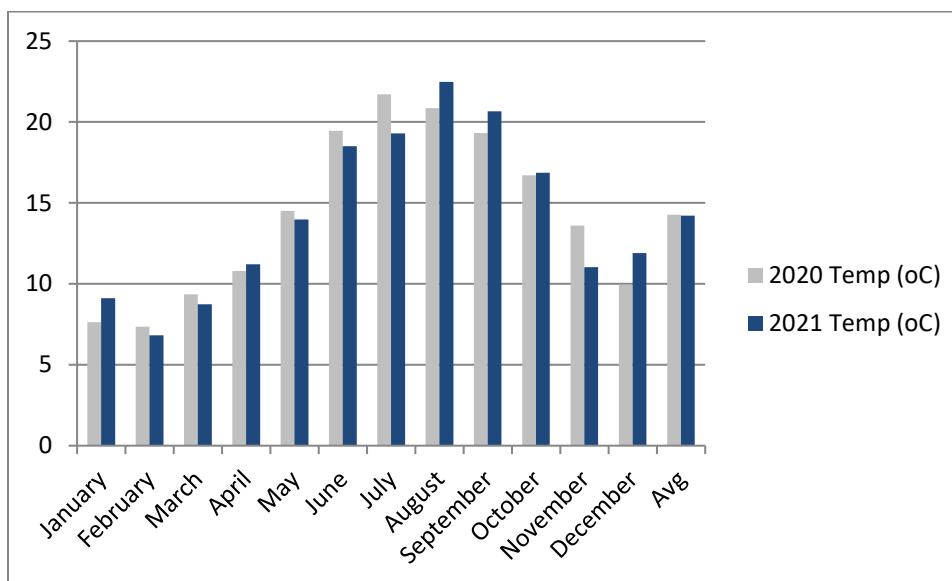
pH is sampled at least biweekly in accordance with ECA requirements; there are no objective or limits imposed on this parameter. It is recommended that the pH is in the range of 6.5-8.5. The average effluent pH for 2021 is 7.52. The annual average result for pH in 2020 was 7.10, therefore the results for 2021 are up by 6% when compared to 2020 (refer to Chart 10).

Chart 10. Average pH Results for 2021 Compared to 2020



Temperature is measured at least biweekly in accordance with ECA requirements; there are not any objectives or limits imposed on this parameter. The temperature of the effluent fluctuates based on outdoor temperatures. The average effluent temperature for 2021 is 14.2°C. The annual average temperature in 2020 was 14.3°C, therefore the results for 2021 are down by 0.4% when compared to 2020 (refer to Chart 11).

Chart 11. Average Temperature Results for 2021 Compared to 2020



SECTION 4: OCCUPATIONAL HEALTH & SAFETY

FIRST QUARTER:

Due to the COVID-19 pandemic; 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 personal are closely monitored.

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

SECOND QUARTER:

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

THIRD QUARTER:

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

FOURTH QUARTER:

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

SECTION 5: GENERAL MAINTENANCE:

FIRST QUARTER:

JANUARY

- 01, 04-08, 11-15, 18-22, and 25-29: Daily rounds and readings that include; removing scum from clarifier, draining moisture off blower air system for aeration cells, ensuring sand filters are working properly, inspecting UV channel and reviewing SCADA.
- 01, 04, 05, 08, 11, 15, 19, 21,28: Marsh Street pumping station inspection/readings. Operated pump(s) in hade-mode to ensure proper operation.
- 04: Reprogrammed dialer to send to the SWM crew.
- 04: Collected sample to send to SGS lab because of high flows Jan 02 (987.52m3)
- 07: Cleaned the clarifier
- 11, 25: Obtained compliance samples to send to SGS lab.
- 12: Chemtrade onsite for alum delivery (7000gal)
- 21: Monthly generator run test at March Street pumping station.
- 21: Monthly generator run test at West Lorne Wastewater Treatment Plant.
- 21: Monthly aeration DO probe cleaning/inspection completed.
- 26: T&T Power onsite to investigate issues with the SCADA computer freezing.

FEBRUARY

- 01-05,08-12, 15-19, 22-26: Daily rounds and readings that include; removing scum from clarifier, draining moisture off blower air system for aeration cells, ensuring sand filters are working properly, inspecting UV channel and reviewing SCADA.

- 02, 04, 09, 16, 23: Marsh Street pumping station inspection/readings. Operated pump(s) in hade-mode to ensure proper operation.
- 03: T&T Power on-site to investigate the issues with the SCADA freezing, they are updating the server and will monitor to see if it fixes the issue.
- 04: Monthly generator run test at March Street pumping station.
- 04: Monthly generator run test at West Lorne Wastewater Treatment Plant.
- 08, 22: Obtained compliance samples to send to SGS lab.
- 17: Matt from T&T Power on-site to investigate the issues with the SCADA computer. He deleted the "trending" off of the SCADA because it was obsolete anyways and figured that could be the cause of the alarms.
- 23: Power flicker- acknowledged and reset all systems.
- 24: Cleaned the clarifier/process
- 26: T&T Power onsite to investigate issues with the SCADA computer freezing

MARCH

- 01-05, 08-12, 15-19, 22-26, 29-31: Daily rounds and readings that include; removing scum from clarifier, draining moisture off blower air system for aeration cells, ensuring sand filters are working properly, inspecting UV channel and reviewing SCADA.
- 02, 09, 16, 23, 30: Marsh Street pumping station inspection/readings. Operated pump(s) in hade-mode to ensure proper operation.
- 09: Put the aeration sprayers back online for the season
- 11: Monthly generator run test at March Street pumping station.
- 11: Monthly generator run test at West Lorne Wastewater Treatment Plant.
- 08, 22: Obtained compliance samples to send to SGS lab.
- 19: Reset the SCADA computer due to it faulting out and causing an alarm this morning. Ensured all systems are working properly after resetting. Notified T&T about the issue so they can investigate.
- 23: Glover-Hill contractor's offsite now. Installed new air receiver and piping and is now online, raw flow is now going through the plant as per normal and the valve to divert to the lagoons is now closed.
- 23: NCA on-site for general maintenance on the air compressor. Full service; cleaned cooler, replaced drain kit, oil change. Tested and ensured proper operation
- 17: Cleaned the clarifier/process
- 24: Grover-Hill and T&T Power on-site today to install/connect new auto samplers. They are now installed and the old ones are removed.
- 25: Replaced light bulbs in office building that were burnt out. 2 sets of lights not working due to faulted ballasts.
- 25: Grover-Hill onsite to finish up the auto-sampler installations.
- 26: Grover-hill on-site to make adjustments to the auto samplers. Syntec on-site to commission the new auto samplers and give training on the programming. Engineer onsite to oversee work being completed.
- 29: Flowmetrix onsite for annual flowmeter inspections.
- 30: Franklin Empire and T&T onsite for the installation of the level sensor for the grit channel. It is now in operation and the grit removal system is now working

SECOND QUARTER:

APRIL

- 1, 06-09, 12-16, 19-23, 26-30: Daily rounds and readings that include; removing scum from clarifier, draining moisture off blower air system for aeration cells, ensuring sand filters are working properly, inspecting UV channel and reviewing SCADA.

06, 13, 20, 27: Marsh Street pumping station inspection/readings. Operated pump(s) in hade-mode to ensure proper operation.

05,06,27: Cleaned the clarifier/process

06, 19: Obtained compliance samples to send to SGS lab.

09: Chemtrade onsite for alum delivery.

12: Contractors replacing air blower lines needed blowers off. Shut down blowers and disabled all associated alarms on SCADA while work is being completed. Changed valves so we are now diverting raw flow to the lagoons while contractors have the blowers off for repairs to the air lines. As per SOM. All systems back to normal operation at the end of the work day.

13: Contractors are onsite today replacing air blower lines and needed blowers turned off. Shut down blowers and disabled alarms on SCADA while work is being completed. Changed valves so we are now diverting raw flow to the lagoons while contractors have the blowers off for repairs to the air lines. As per SOM. All systems back to normal operation at the end of the work day.

19: Konecranes onsite for annual lifting device inspections

20: Monthly generator run test at March Street pumping station.

20: Monthly generator run test at West Lorne Wastewater Treatment Plant.

20: Lafarge onsite to pour cement pad at the bottom of the stairs to the aeration tanks.

26: Contacted T&T Power about the communication failure last night for them to investigate the ongoing issue

MAY

03-07, 10-14, 17-21, 25-28, 31: Daily rounds and readings that include; removing scum from clarifier, draining moisture off blower air system for aeration cells, ensuring sand filters are working properly, inspecting UV channel and reviewing SCADA.

03, 17, and 31: Obtained compliance samples to send to SGS lab.

04, 11, 18, 25: Marsh Street pumping station inspection/readings. Operated pump(s) in hade-mode to ensure proper operation.

06: Completed monthly generator run test. WO#2243322. Proper forms filled out. Tested high level alarms for the pump station as well (WO#2242848)

19: Hetek onsite for gas detector inspection/calibration

21, 27: Angelo from ACI was onsite to calibrate and inspect the effluent flow meter. All systems appear to be working properly at this time.

27: Cleaned the clarifier/process

31: Started decanting now that the flowmeter is calibrated and reading correctly, as per SOM.

JUNE

01-04, 07-11, 14-18, 21,25, 28-30: Daily rounds and readings that include; removing scum from clarifier, draining moisture off blower air system for aeration cells, ensuring sand filters are working properly, inspecting UV channel and reviewing SCADA.

03, 04, 08,09,14,15,18,21,23,28,30: : Obtained compliance samples to send to SGS lab.

01, 08, 15, 22, 29: Marsh Street pumping station inspection/readings. Operated pump(s) in hade-mode to ensure proper operation.

09: Pump station high level called out due to heavy rain fall and the pump couldn't keep up.

11: Cleaned the UV bulbs.

24: Onsite at WL pump station to pull & inspect inoperable pumps. Removed P102 & P100 and found both full of rags etc. Removed debris and was able to get impeller spinning on pump P102 once debris was removed but still would trip breaker as soon as it started. Spoke to SOM and as per instruction arranged with NEVTRO to pick up pumps on morning to take for inspection/repair.

21, 25: Cleaned the clarifier/process
25: Changed the majority of UV bulbs.
28: Nevro onsite this morning and removed pumps P102 & P100 to take to shop for inspection/repairs
30: Completed monthly generator run test. Proper forms filled out. Tested high level alarms for the pump station as well.

THIRD QUARTER:

JULY

Completed In House Labs July 2nd, July 5th, 12th, 19th, 26th.

01: Collected sample for Flow Exceedance As Per ECA.
02: Collected sample for Flow Exceedance As Per ECA.
08: Hydro One onsite for missing phase, fuse inside main disconnect faulty & was blown.
Gerbers Electric Onsite.
08: Pump failure at WL pump station, Flows diverted to lagoon.
09: Nevro Onsite for new pump installation.
13: Collected sample for Flow Exceedance As Per ECA.
14: Collected sample for Flow Exceedance As Per ECA.
15: Collected sample for Flow Exceedance As Per ECA.
15: Gerbers on site to replace transducer.
19: Collected sample for Flow Exceedance As Per ECA.
22: Completed Gen Test.

AUGUST

03-06, 09-13, 16-20, 23-27, 30: Daily rounds and readings that include; removing scum from clarifier, draining moisture off blower air system for aeration cells, ensuring sand filters are working properly, inspecting UV channel and reviewing SCADA.
09, 23: Obtained compliance samples to send to SGS lab.
03: Pulled the pump at the pump station due to low flow. Cleaned out rags and debris from the pump and put back online.
04: NCA onsite to inspect the air compressor due to it faulting out. Found a bad connection that was burnt in the junction box. Contacted Gerber Electric and they will be onsite first thing tomorrow morning (August 05, 2021)
05: Glover Hill onsite to install a new gauge on the air holding tank for the compressor.
05: Gerber electric onsite to replace burned wires on the compressor. The compressor is now running properly. The original conduit box was too small. Gerber's are replacing with the proper size one, once it arrives.
05: Gerber Electric onsite to install the new milltronic programmer at the pump station. After installing the new Milltronic system we have found that the PanelView Plus 1250 (SCADA programmer) isn't responding properly causing the Milltronics to be inoperable at this time. I contacted T&T Power to help walk me through the issues with the SCADA system
06: Alberts generator service onsite today to complete annual generator maintenance and servicing
10: Onsite to troubleshoot the Panelview and why it wouldn't clear the faults. Contacted T&T Power and found that the PLC was showing a fault between the PLC and the pump breakers. Gerber Electric onsite to troubleshoot and was able to clear the fault which was caused by the pump temperature controls. After that the pump wouldn't turn ON/OFF in Auto as it should. Contacted Franklin Empire tech that was able to figure out that the transducer was sending the wrong signal to the milltronics due to 'noise' being caused underground in the wire conduit. Gerber Electric ran a new cable above ground and we were able to get the proper signal. Set the milltronics back to the original start-stop and low-high level set points.

Monitored for a full cycle and ensured the alarms would call out on the dialer. At this point the pump is now running in Auto and all systems appear to be in proper operation. Pump station weekly rounds are completed as well. Notified SOM of the work.

11: Gerber Electric onsite and wired pump P101 into P102 due to the breaker on P101 faulting out.

Monitored the pump cycle and ensured proper operation. All systems are now working properly.

13: Gerber onsite at the pump station to replace the old milltronics wiring with the new one from above ground to underground in the conduit.

13: Gerber's onsite to troubleshoot the issue with the sand filters not starting up properly. Found the sensor on filter 'B' has faulted out so it is now wired to by-pass the sensor and it can be turned on or off on the panel instead. The sand filters are now up and running correctly.

03, 06, 17, 23: Cleaned the process (clarifier, UV channel and bulbs)

18, 25, 26: ECA samples sent to the lab due to high flows.

SEPTEMBER

Completed In House Labs, 3rd,7th,13th,20th,27th.

Completed Plant maintenance & cleaning. 3rd,10th,17th,24th.

September 9th, Nevro onsite to install pump station pump P100- 5hp.

UV removed and cleaned.

FOURTH QUARTER:

OCTOBER

08: SOM on site to review facility operations. Reviewed round sheets and lab data. Adjusted decant flow to achieve higher flows to get lagoon levels lower for winter.

14: High flows recorded, flow exceedance samples taken as per ECA.

15: High flows recorded, flow exceedance samples taken as per ECA.

25: High flows recorded, flow exceedance samples taken as per ECA

26: High flows recorded, flow exceedance samples taken as per ECA.

NOVEMBER

08: Blower filter and oil changed on blower 102.

16: High flows recorded, flow exceedance samples taken as per ECA.

23: Both clarifier effluent channels cleaned.

25: High flows recorded, flow exceedance samples taken as per ECA.

25: WAS valve found stuck open and west clarifier in low level. Operator in Charge was notified and reset pinch valve in RAS chamber. Continued issues with RAS/WAS valve. Automatics valve that controls the WAS flow appears to have a pin sheared inside. Wasting set to 0 and manually set valve to RAS only for time being. Senior Operations Manager aware of issue.

26: Continued issues with Rotork 3 way RAS/WAS valve and Auma pinch valve. Rotork and Auma technicians contacted. RAS/WAS pumps 105 and 106 on; 107 and 108 off. RAS/WAS valving manually throttled down to 12L/s to return manually as Auma valve is out of service.

DECEMBER

01: Rotork & Auma technicians on site to look at respective valves in RAS/WAS Chambers.

After Investigation Auma found the drive nut thread stripped and the stem needs to be machined in at Auma machine shop. Rotork technician found Rotork 3 way valve needs new main computer processor. This would normally be a relatively easy fix but valve is obsolete and we cannot obtain parts. Quote for new valve requested.

03: Monthly generator run/test completed.

06: Alum pumping rate increased on pump from 20% to 30%. Manually opened the gate valves inside RAS chamber to flush out at higher flow rates to try and clear out potential debris etc. Readjusted both valves

- for pumps P105 & P107 to achieve approximately 16 L/s of RAS flow. RAS is looking a lot thicker now and is holding at approximately 16 L/s. Will monitor and adjust if required.
- 07: High flows recorded; flow exceedance samples taken as per ECA.
- 08: Post UV effluent channel cleaned.
- 09: Flushed out RAS valves by opening both the east and west side valves fully. Synched both back down evenly so that flow is approx. 16L/s. Turned RAS pump to west clarifier off to let level return to normal as it had dropped approximately 3 ft. Operator in Charge aware of actions taken. Turned RAS pump back on to west clarifier as level has caught back up.
- 10: During walk through, operator noticed west clarifier level is down approximately 3ft again. RAS flow low at 5L/s. Shut RAS pump 105 off and RAS flow stopped completely. Will need to flush RAS pump line from east clarifier. RAS valve to east clarifier flushed. Only sending RAS from the east clarifier currently to allow west clarifier to catch up. Both RAS pump put back into operation.
- 11: Flows exceeded ECA 900m³
- 23: Work orders for yearly inspections of UPS batteries in electrical room and filter room completed. 216 and 416 minutes available respectively. Cooling fans working with no obstructions. No faults or warnings found. Operating as intended.
- 23: Completed yearly inspection of alum pumps. Pump 1 in service and no leaks found; operating as intended.

SECTION 6: ALARMS:

FIRST QUARTER:

JANUARY

- 03: SCADA; Operator onsite to restart the SCADA computer and ensure proper operation.
- 08: Backwash high level; operator onsite found that filters were not allowing proper amount of flow through and were not throwing sand as designed. Was able to get filters working properly and plant flowing as designed through filters and plant is no longer backed up. Filter backwash tank is now out of high level alarm and operating in normal range
- 19: SCADA; Operator onsite to restart the SCADA computer and ensure proper operation.

FEBRUARY

- 03: Received page at 02:55 for communication lost, arrived onsite and reset SCADA computer, communication is now normal and all systems appear to be operating properly at time
- 08: Onsite for a power flicker, reset compressor, exhaust fans and reviewed SCADA rounds. Completed plant walk through.
- 11: Onsite due to call out for the SCADA server freezing. Reset the system and ensured all systems are working properly. Notified T&T Power that this issue occurred again.
- 28: Received channel 2 alarm upon arrival AIT-302A dissolved oxygen for west aeration was at 1.7mg/L, increased minimum blower speed from 30hz to 35 hz. Blew out air lines and monitored system. Air seems to not want to increase. Set the min hz from 35 to 40. At 40 hz the do on AIT-302A. Is holding at 3.5mg/L

MARCH

- 03: Onsite for communication failure channel 1 Found SCADA Computer - All Good. Completed Site Checks
- 11: Received page for gateway alarm at 17:40, arrived onsite and reset SCADA computer all systems are now normal
- 26: Called in for comm. fail to filter building channel 2. Reset desk top in lab and cleared the alarm. Completed plant walk through all appears normal.

28: Onsite for low DO in the west aeration tank but was out of alarm upon arrival. All other DOs appeared normal on SCADA. Cleaned the DO probe and ensured it was reading accurate

SECOND QUARTER:

APRIL

- 03: Comm. Fail to the SCADA computer; operator reset the computer, deleted unnecessary data in hopes the system won't freeze again as per T&T Power suggestions. Ensured it was out of alarm and completed plant walk through. All systems in 'normal' operation before leaving the facility.
- 04: Low DO – West Aeration; Operator noticed the west aeration was reading low, cleaned the probe and monitored until out of alarm. All systems operating 'normal' before leaving the facility.
- 10: Received call for channel 1 alarm, upon arrival found that the alarm was for communication loss. Reset SCADA computer. All systems back to normal.
- 18: Onsite for Communications Error. Restarted SCADA Computer, completed Plant Walk Throughs All Appears Normal.
- 26: Received page for "communication failure", arrived onsite and reset SCADA computer all systems are now normal
- 27: Received alarm page out to site for net 2 communication alarm. Arrived onsite, logged onto SCADA and found alarm for filter backwash high level alarm. Found pump running and level dropping. Completed plant walk thru and all appears ok with filters, clarifiers etc with no issues to report. Monitored until out of high level. Notified SOM of issues and actions taken to rectify.

MAY

- 11: Onsite for communication fail to the SCADA computer. Reset SCADA and ensured proper operation.
- 26: Onsite for communication failure to SCADA. Re set computer, and regained communication. Checked operation of system and all appears ok again.

JUNE

- 10: Received call for comm. fail. Reset computer and plant walk through all is normal.
- 13: Called for power flicker, caused by heavy storm that hit the area. Completed plant walk through and started air compressor for sand filters.
- 25: Received call for Channel 1 alarm, SCADA computer froze. Reset the system and completed plant walk through.
- 27: Received call from on-call operator that West Lorne Pump Station was in high level due to large rain event (Sam Smith). Instructed operator to carry on with duties in other area as West Lorne P.S has an overflow to the West Lorne Treatment plant lagoons.
- 27: Received a call from Mike Kalita (West Elgin) regarding a possible sewer blockage at Graham and Jesse St. Arrived onsite to investigate and look for the actual blockage (Sam Smith). Upon further investigation, it was realized that it was not in fact a blockage but a backup from the main P.S being in high level. As there were no reports of property damage resulting from the back up, it was decided to leave the system and allow the P.S to catch up. Onsite at Jesse St. and Graham Rd to confirm that there is no sewer blockage but the issue was in fact the High Level at the West Lorne P.S. West Lorne P.S no longer in high level and sewer mains are flowing freely.

THIRD QUARTER:

JULY

- 07: Power failure alarm. Onsite due to power failure at WWTP and Pump station contacted Hydro One about outage. Transferred power to generator at pump station. Found pump 2 not operating at pump station, notified ORO and contacted Gerber Electric. Gerber Electric onsite to troubleshoot issues with pump at

pump station, found pump to no longer be operable. Diverted raw flow to lagoon at West Lorne WWTP. Power restored at WWTP, all systems are now normal at WWTP.

- 11: Onsite as requested by Sr. Operations Manager to check pump station level due to pump being in hand and milltronics not working. Wetwell still in high level and milltronics still not operating. Notified Sr. Operations Manager, told to leave pump in hand and come back Sunday morning.
- 12: Pump station high level. Onsite to check pump station wet well level as requested by Sr. Operations Manager. Wet well still in high level, ORO requested pump to be left in hand for the night.

AUGUST

- 04: Channel 1 alarm communication failure. Arrived onsite and reset SCADA computer. All appears to be normal.
 - 11: Onsite due to the pump faulting the breaker causing a high level. Turned the pump on in "hand". Monitored until the level started to come down.
 - 20: Received Call For Communications Error Channel 2. Onsite To Restart And Reset Computer. Completed Site Checks - All Good

SEPTEMBER

- 08: Operator onsite for pump station high level & channel 1. Pumps caught up and wet well is no longer in high level when arriving onsite. Reset SCADA and completed plant walk through.
- 13: Operator onsite for power failure, operator exhausts his options. Gerbers called onsite for further inspection. Power Restored UPS switched modes due to power flicker.
- 14: Operator onsite for power flicker, power restored and all good.
- September 20th communications failure, reset SCADA computer, completed plant walk through.

FOURTH QUARTER:

OCTOBER

- 29: Operator received alarm and arrived on site to find blower BLW101 faulted. Operator checked set points and found blower rotation enabled. Operator unable to reset the blower fan for BLW101. Auto rotation disabled and set BLW102 as the duty blower. All other operations appear normal. Dialer reset.
- 31: Operator received channel 1 alarm. Operator arrived on site and found the scum pump faulted. Reset pump from SCADA.

NOVEMBER

- 01: Operator received alarm. Operator arrived on site to find no blowers running. BLW100 faulted, BLW101 off and BLW102 off on SCADA. Accessed MCC panel and found BLW in off position on the breaker. Reset breaker and BLW102 started. Operator changed set points as it showed BLW100 as duty number 1. Changed it to manual so it can't start and cause a false alarm. BLW102 is the only blower in auto at this point as the other 2 blowers fault out.
- 05: Operator received alarm. Operator arrived on site and found all 3 blowers off. Updated blower duty on set points and it took 4 start cycles to get BLW102 to run, kept coming up as "Uncommanded stop." Once blower was running, operator found that the minimum set point for the VFD was at 59Hz; changed the minimum set point to 45Hz. The blower was now running at 54Hz, and the east aeration was in low DO at 1mg/L on each, but now back up to 3.8mg/L and air flow is at 61.5L/s.

DECEMBER

No Alarms this month

SECTION 7: COMPLAINTS & CONCERNS:

FIRST QUARTER:

There were no complaints or concerns this quarter.

SECOND QUARTER:

There were no complaints or concerns this quarter.

THIRD QUARTER:

There were no complaints or concerns this quarter.

FOURTH QUARTER:

There were no complaints or concerns this quarter.