

Lindsay Wastewater System

2024 Annual Wastewater Performance Report

Wastewater System Works Number: 110000383

Wastewater System Operating Authorities: City of Kawartha Lakes and Ontario
Clean Water Agency

Reporting Period: January 1st – December 31st, 2024



**Annual Wastewater Performance
Report**
City of Kawartha Lakes



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2024 Annual Wastewater System Performance Report

Executive Summary

The Lindsay Water Pollution Control Plant (WPCP) is an extended aeration sewage treatment plant with a rated capacity of 24,500 m³/day, located at 48 Lagoon Rd in Lindsay. The facility is owned by the City of Kawartha Lakes with the treatment system and sewage pumping stations operated by Ontario Clean Water Agency and the remaining collection system operated by City staff. The treatment system is operated in accordance with Environmental Compliance Approval (ECA) #1696-BPLL4R issued June 29, 2020 and the collection system is operated in accordance with the Consolidated Linear Infrastructure Environmental Compliance Approval #141-W601 issued June 20, 2023. The wastewater system is classified as a Class III Wastewater Treatment and Class III Wastewater Collection subsystems under O. Reg. 129/04.

The Lindsay WPCP extended aeration treatment process is preceded by mechanical bar screening, compaction/dewatering of screenings, grit removal and grit dewatering facilities and is followed by aeration, secondary clarification, tertiary treatment, and disinfection using a UV system.

The extended aeration process is an aerobic, suspended growth, biological treatment process. The preliminary treatment removes some floating and settling materials, and then enters the aeration tanks where previously developed floc particles are brought into contact with the organic matter of the wastewater. After the mixed liquor is discharged from the aeration tanks, the secondary clarifiers separate the suspended solids from the treated wastewater. Settled solids in the clarifiers are recycled back to the aeration tanks. Effluent from the secondary clarifiers receives tertiary treatment whereby phosphorus is further removed by chemical precipitation ballasted by sand within the Actiflo system. The effluent is disinfected using the UV system before it is discharged into the Scugog River. Sludge generated through the process is directed to three sludge lagoons onsite where it is stored until removed.

The Lindsay wastewater collection system consists of a series of gravity sewers, nine pumping stations and associated forcemains directing raw sewage to the wastewater treatment plant.

The City of Kawartha Lakes and Ontario Clean Water Agency prepares a report summarizing system operation and performance for every municipal wastewater system annually. This report has been prepared to satisfy the reporting requirements within Environmental Compliance Approval (ECA) #1969-BPLL4R and Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA) #141-W601. Unless otherwise noted within this report, the Lindsay Sewage Works complies with all requirements of the regulating authorities and the approvals it operates under.

The annual reports will be available to residents at the City of Kawartha Lakes Public Works Administration Office by appointment and the [City's website](#). Notification that the reports are available free of charge will be made on the City of Kawartha Lakes website. The City of Kawartha Lakes Public Works Administration Office is located at 322 Kent Street West in Lindsay, Ontario.

Reporting Requirements – Wastewater Treatment Plant

In accordance with ECA #1696-BPLL4R, Section 11(4) – REPORTING, the owner shall prepare a performance report on a calendar basis and submit to the Ministry of Environment, Conservation and Parks by March 31 of the calendar year following the period being reported upon.

Section 11(4) – REPORTING

The performance report is required to contain the following:

- a) a summary and interpretation of all Influent and Important Sewage monitoring data, and a review of the historical trend of the sewage characteristics and flow rates;
- b) a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
- c) a summary of all operating issues encountered and corrective actions taken;
- d) a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;
- e) a summary of any effluent quality assurance or control measures undertaken;
- f) a summary of the calibration and maintenance carried out on all Influent, Imported Sewage and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;
- g) a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situations:
 - i. when any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of Final Effluent quality;
 - ii. when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;
- h) a tabulation of the volume of sludge generated, 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; a tabulation of the measured volume of sludge accumulated in the lagoon cells in five year intervals and the estimated volume in the interim years and when sludge was disposed of during the reporting period, a summary of disposal locations and volumes of sludge disposed at each location;
- i) a summary of any complaints received and any steps taken to address the complaints;
- j) a summary of all Bypasses, Overflows, other situations outside Normal Operating Conditions and Spills within the meaning of Part X of EPA and abnormal discharge events;

- k) a summary of all Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Page 20 – NUMBER 1969-BPLL4R Condition 10, including a report on status of implementation of all modification.
- l) a summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflows with estimated budget forecast for the year following that for which the report is submitted;
- m) any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es)/equipment groups in the Proposed Works;
- n) a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year.

The following is a report from the records maintained by the Ontario Clean Water Agency for the Lindsay Wastewater Treatment Plant for the calendar year 2024:

Summary of Influent and Imported Sewage Monitoring Data to Limits and Objectives

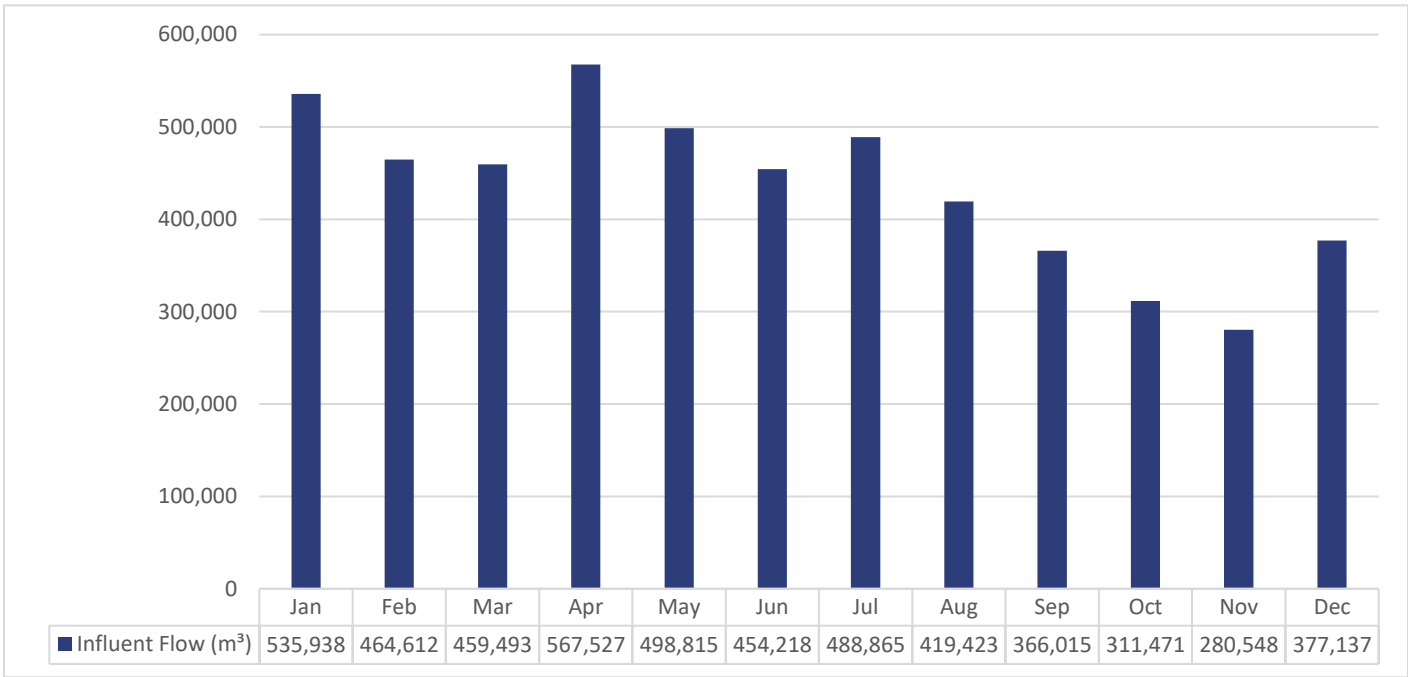
(a) ECA #1696-BPLL4R requires a summary and interpretation of all Influent and Imported Sewage monitoring data, and a review of the historical trend of the sewage characteristics and flow rates.

Attached as **Appendix VII** is a copy of the 2024 Performance Assessment Report (PAR) and loading calculations for the Lindsay WWTP raw and final effluent. The PAR contains: a tabulation of all monthly average raw sewage and final effluent sample results obtained during the reporting period, a tabulation of average daily flows, and monthly volumes for the reporting period, and a tabulation of calculated total loading of BOD/CBOD₅, suspended solids, total phosphorus, ammonia + ammonium as N (TAN), Total Kjeldahl Nitrogen (TKN), nitrite and nitrate concentrations in the final effluent.

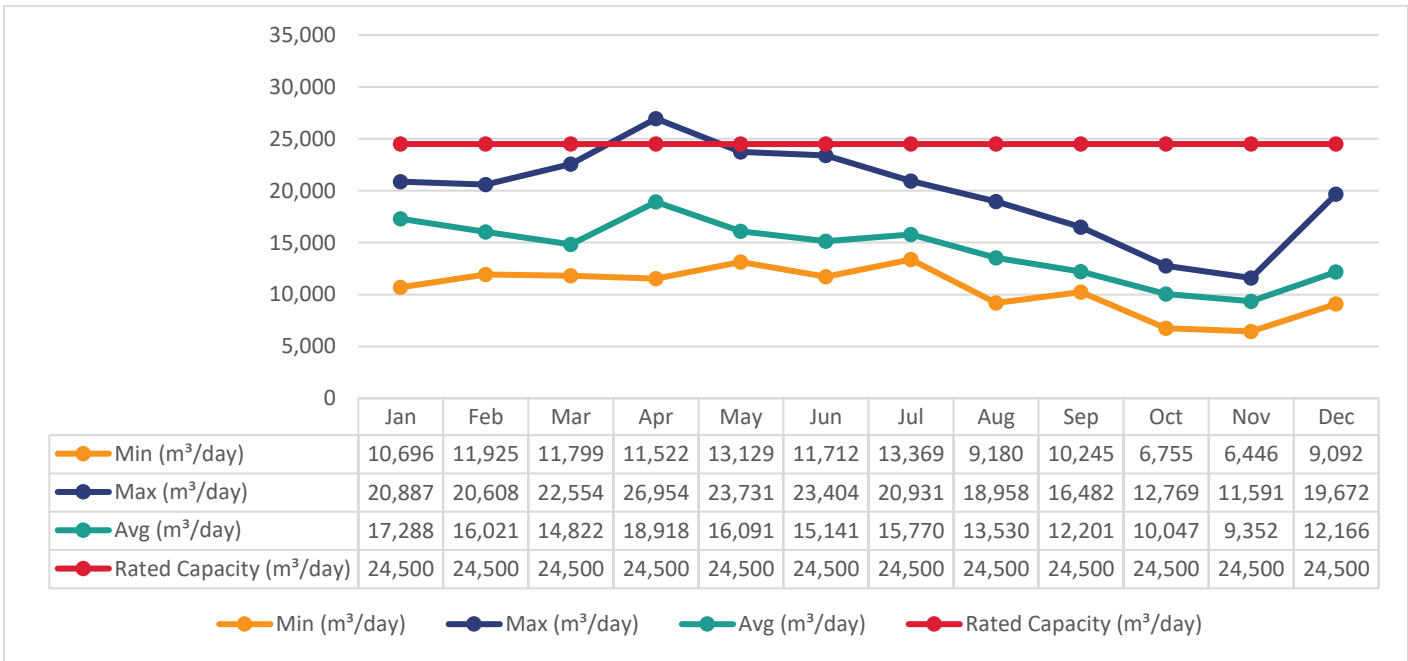
The Lindsay WWTP has a Rated Capacity of 24,500 m³/day and Actiflo rated capacity of 30,100 m³ under ECA #1696-BPLL4R. ECA #1696-BPLL4R requires that everything practicable be undertaken to operate the Sewage Treatment Plant so that the annual average daily influent is within the Rated Capacity. The Rated Capacity of the Lindsay WWTP is 24,500 m³/day and the 2024 annual average daily influent flow was 14,273.39 m³/day or 58.26% of the Rated Capacity.

The total Influent flow in 2024 was 5,224,062.00 m³.

Graph 1. 2024 Influent Flow Monthly Totals

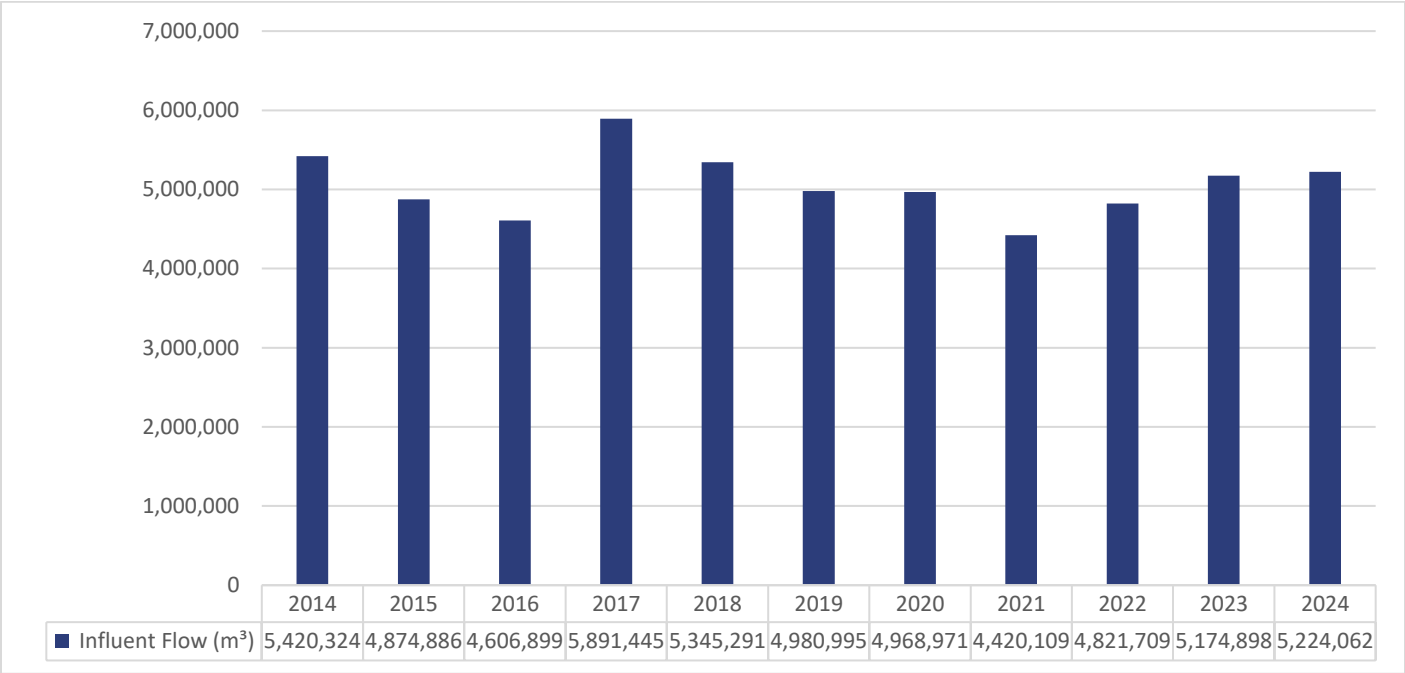


Graph 2. 2024 Influent Daily Minimum, Maximum and Average Flows



Note: There may be instances where influent flow exceeded the Rated Capacity on a monthly basis. However, Rated Capacity is calculated as an annual average daily flow rate, which was met in 2024. Influent max daily flow increased from 22,544 m³/day in March to 26,954 m³/day in April 2024 due to heavy rain and snow melt.

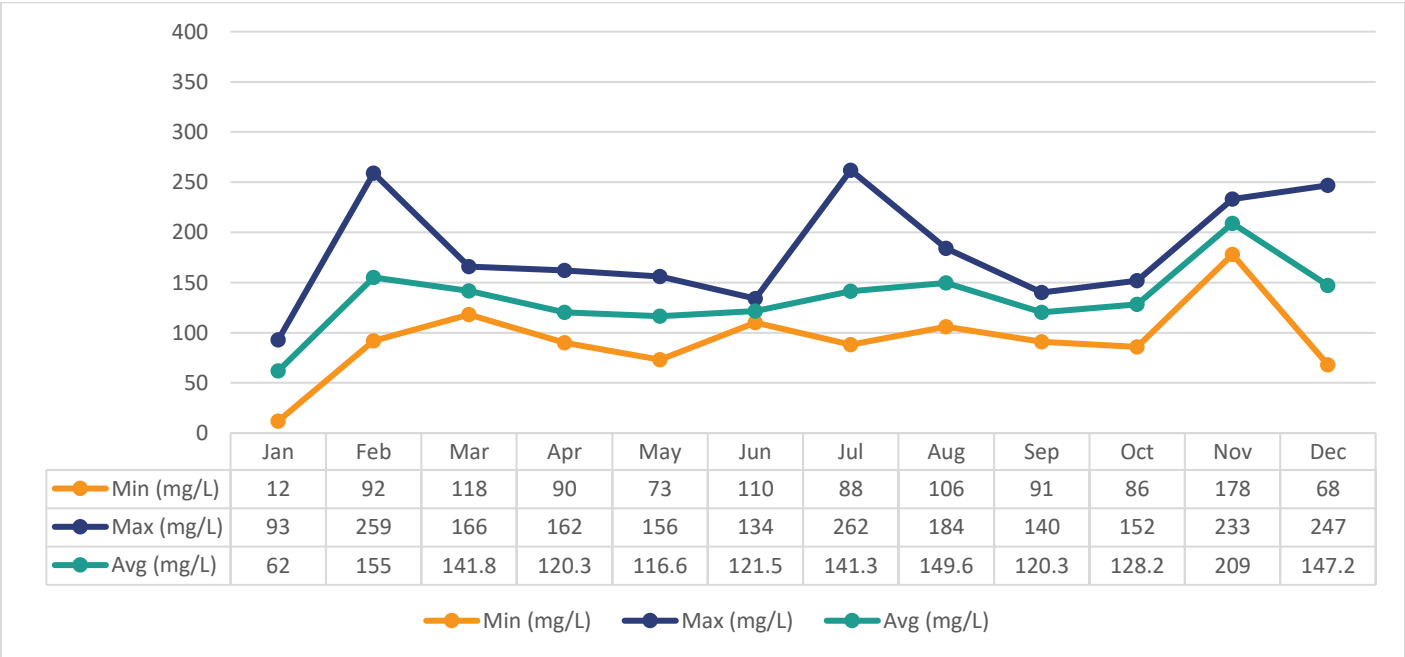
Graph 3. Historical Influent Flows from 2014 - 2024



Biochemical Oxygen Demand (BOD₅)

ECA #1969-BPLL4R requires at least one composite sample to be collected and analyzed weekly for Biochemical Oxygen Demand (BOD₅). The Biochemical Oxygen Demand (BOD₅) monthly average results ranged from 32 mg/L to 209 mg/L.

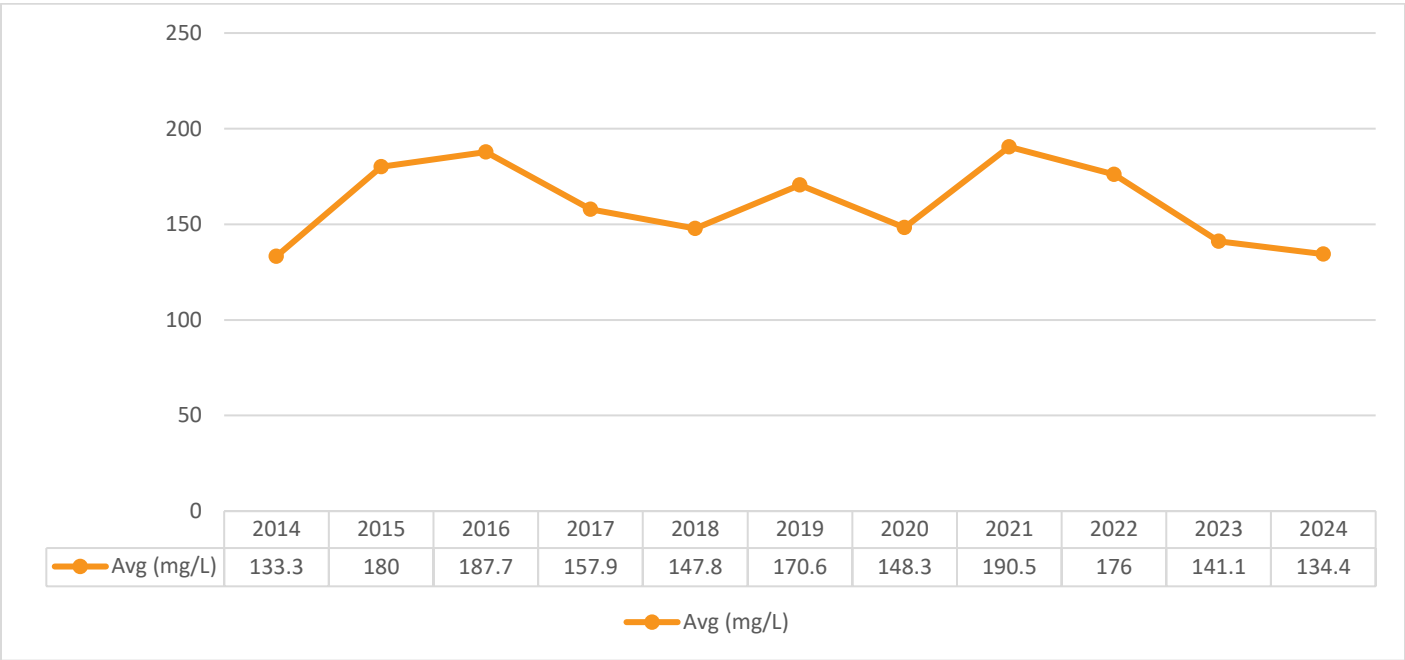
Graph 4. 2024 Monthly BOD₅ Influent Sample Results



Biochemical Oxygen Demand Historical Trends

The Biochemical Oxygen Demand annual average had been increasing steadily between 2014 and 2023, however results show that they returned to 2014 averages in 2024. Although not confirmed, increased raw influent concentrations could be related to increased abattoir and septage receiving, but has been decreasing in concentration since 2021.

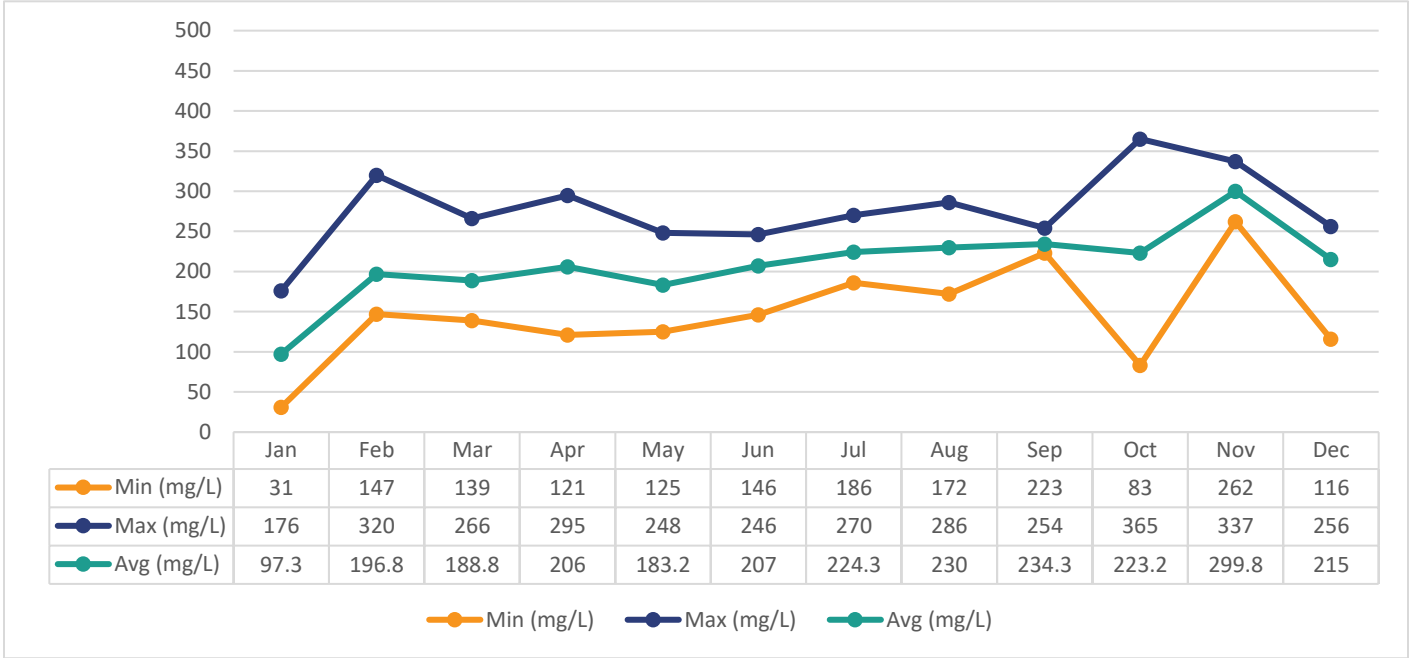
Graph 5. Historical Influent BOD₅ Annual Average Results 2014-2024



Total Suspended Solids (TSS)

ECA #1696-BPLL4R requires at least one composite sample be collected and analyzed weekly for Total Suspended Solids. The monthly average results ranged from 97.3 mg/L to 299.8 mg/L.

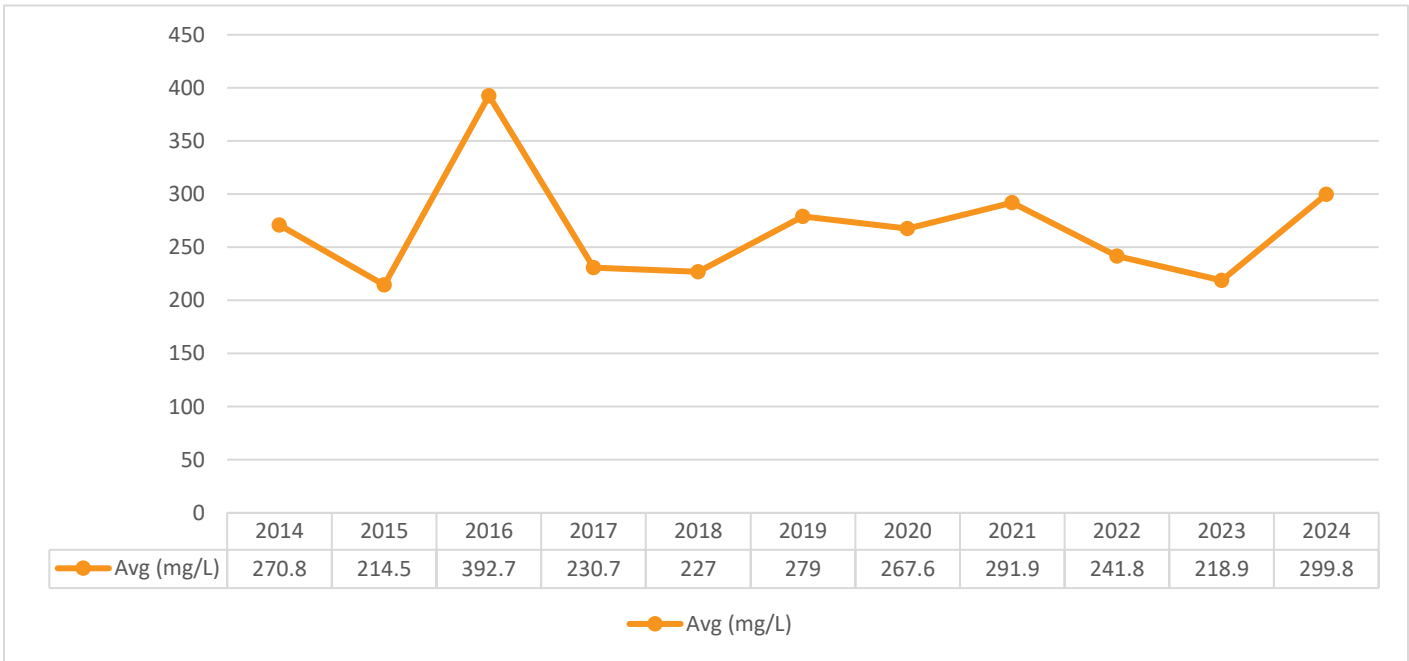
Graph 6. 2024 Monthly Total Suspended Solids Influent Sample Results



Total Suspended Solids Historical Review

The Total Suspended Solids annual average has remained relatively stable between 2014 and 2024 with the peak annual average in 2016. Although not confirmed, raw influent concentrations could be related to abattoir and septage receiving.

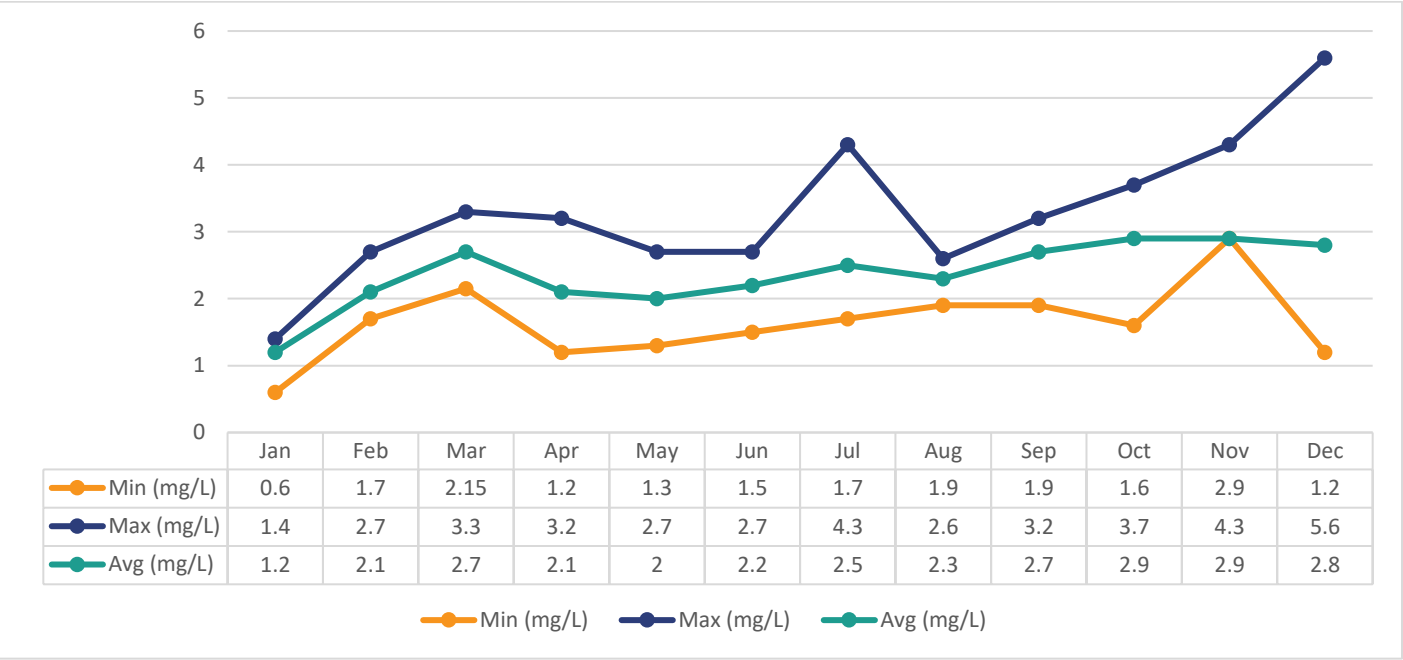
Graph 7. Historical Influent Total Suspended Solids Sample Results 2014 - 2024



Total Phosphorus (TP)

ECA #1696-BPLL4R requires at least one composite sample be collected and analyzed weekly for Total Phosphorus. The monthly average Total Phosphorus results ranged from 1.2 mg/L to 2.9 mg/L.

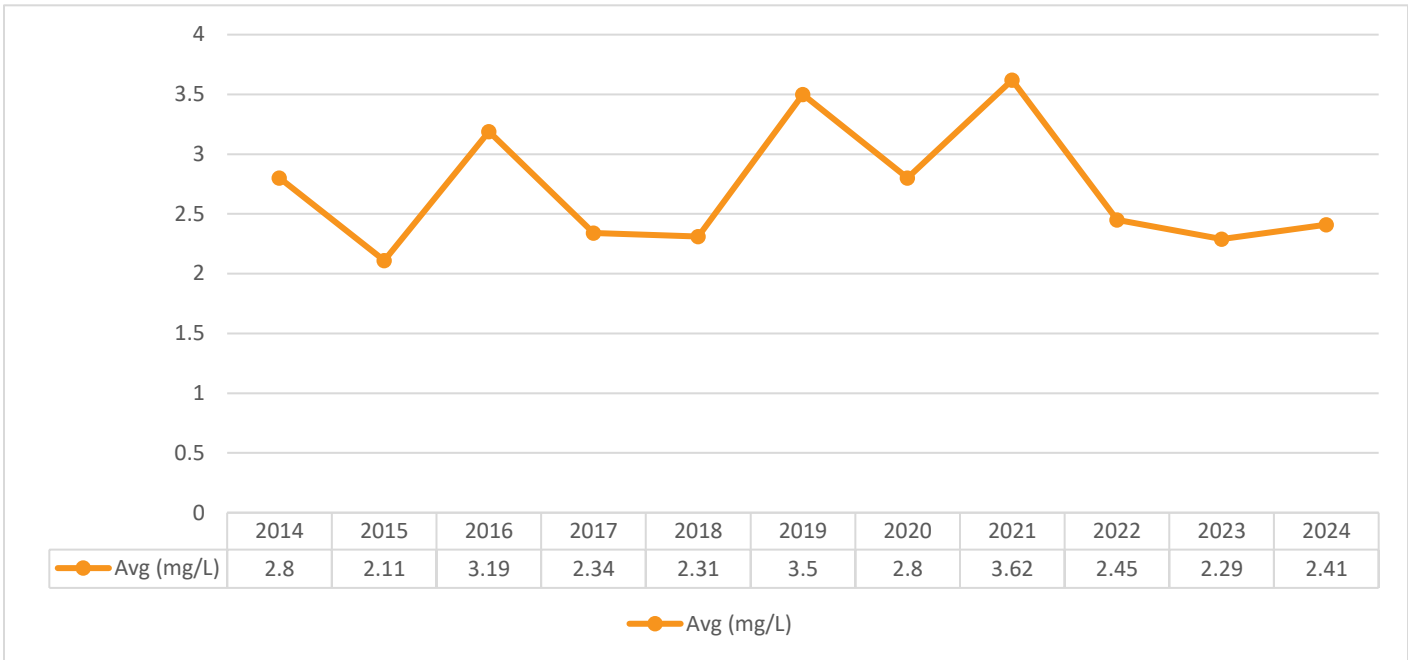
Graph 8. 2024 Monthly Total Phosphorus Influent Sample Results



Total Phosphorus Historical Trends

The Total Phosphorus annual average has increased between 2014 and 2024 with the minimum value being 2.04 mg/L and the maximum value being 3.62 mg/L. The Total Phosphorus has however decreased from 2021 to 2022 and remained relatively stable to 2024. Although not confirmed, raw influent concentrations could be related to abattoir and septage receiving.

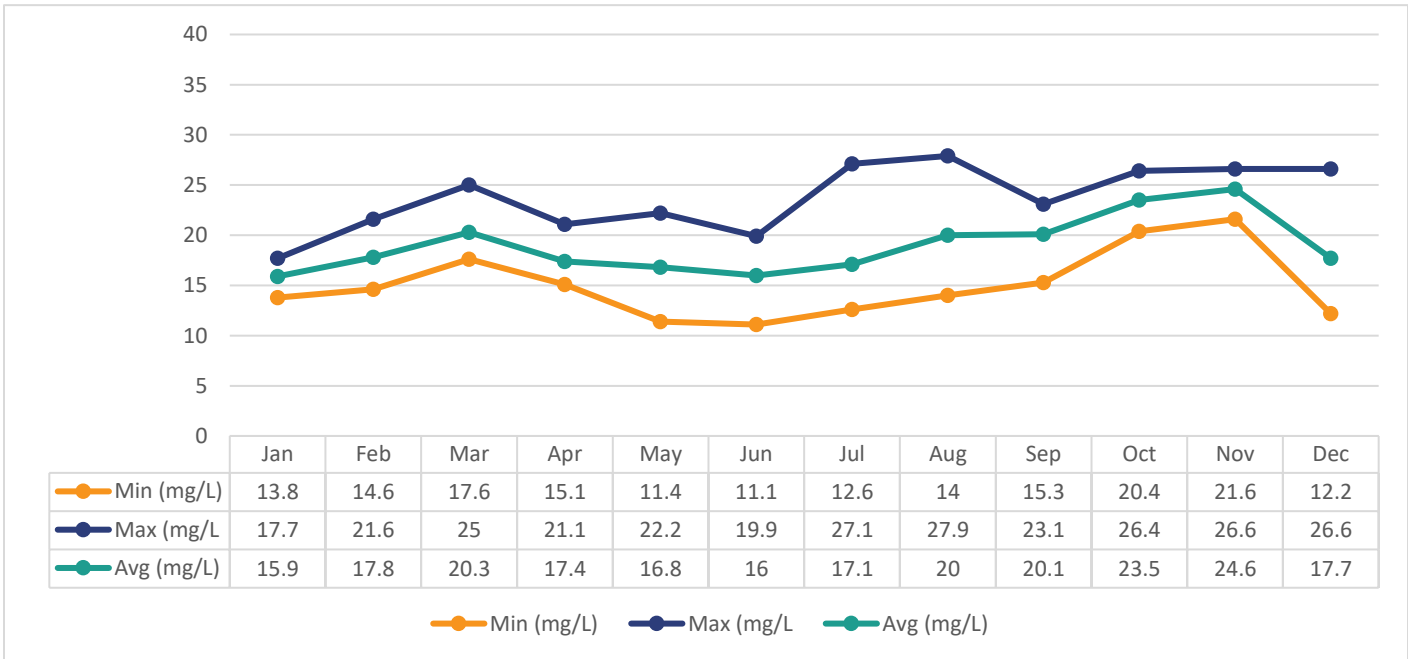
Graph 9. Historical Influent Total Phosphorus Sample Results 2014 - 2024



Total Kjeldahl Nitrogen (TKN)

ECA #1696-BPLL4R requires at least one composite sample be collected and analyzed weekly for Total Kjeldahl Nitrogen. The monthly average Total Kjeldahl Nitrogen results ranged from 15.9 mg/L to 24.6 mg/L.

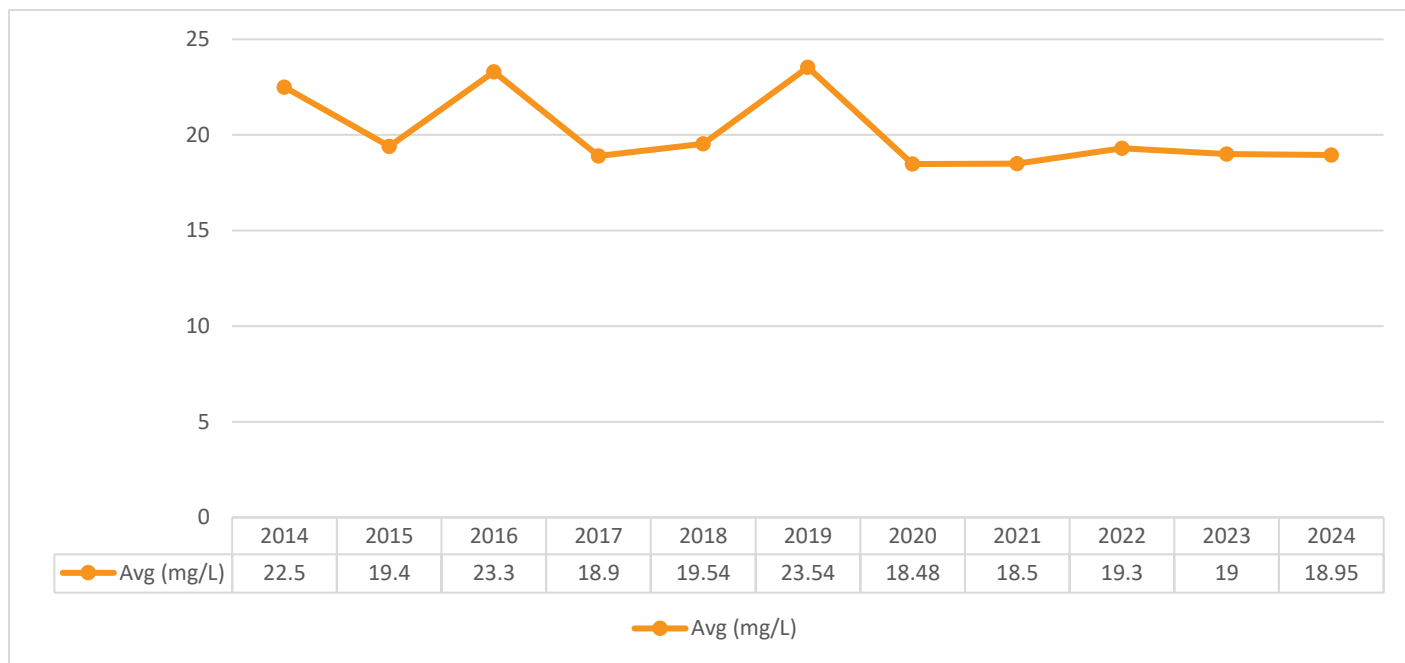
Graph 10. 2024 Monthly Total Kjeldahl Nitrogen Influent Sample Results



Total Kjeldahl Nitrogen Historical Review

The Total Kjeldahl Nitrogen annual average has remained fairly consistent between 2014 ad 2024. The minimum annual average occurred in 2020 and the maximum annual average occurred in 2019.

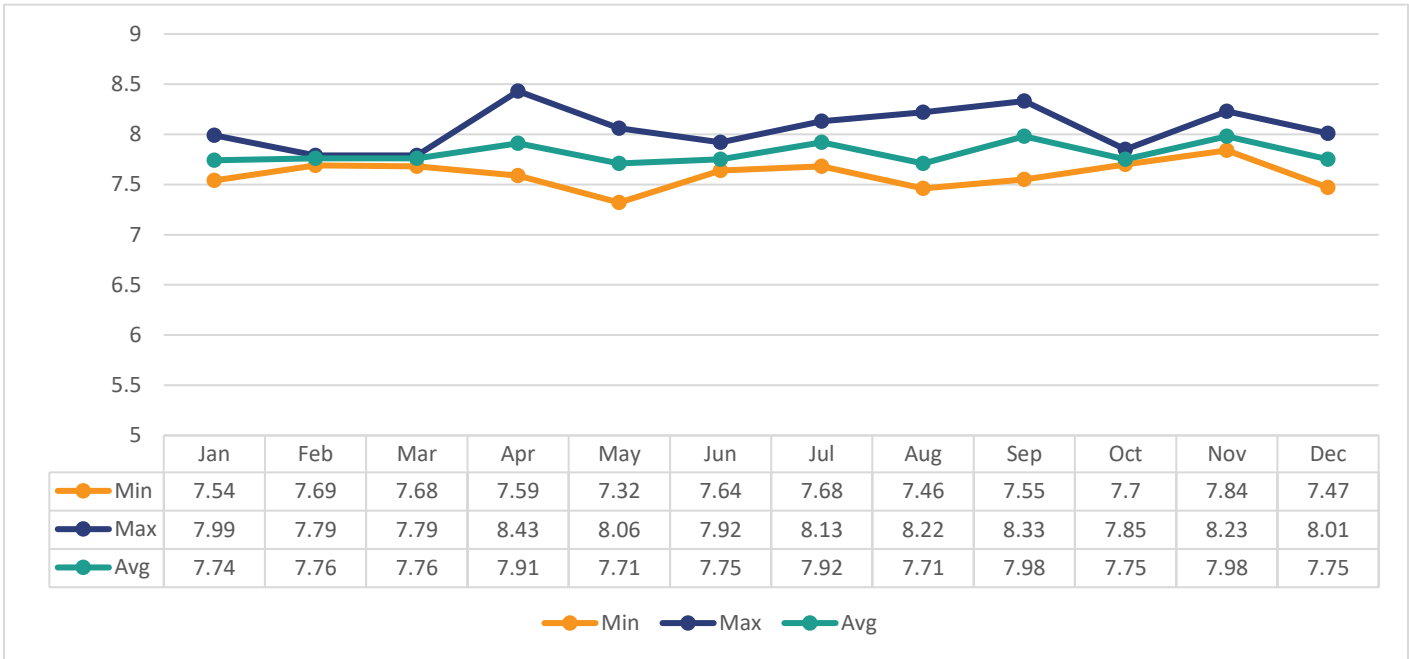
Graph 11. Historical Influent Total Kjeldahl Nitrogen Sample Results 2014 - 2024



pH

ECA #1696-BPLL4R does not require a pH sample be collected nor prescribes the sample frequency on the influent. The monthly average pH results were fairly consistent throughout 2024 ranging from 7.76 to 7.98.

Graph 12. 2024 Monthly pH Influent Comparisons

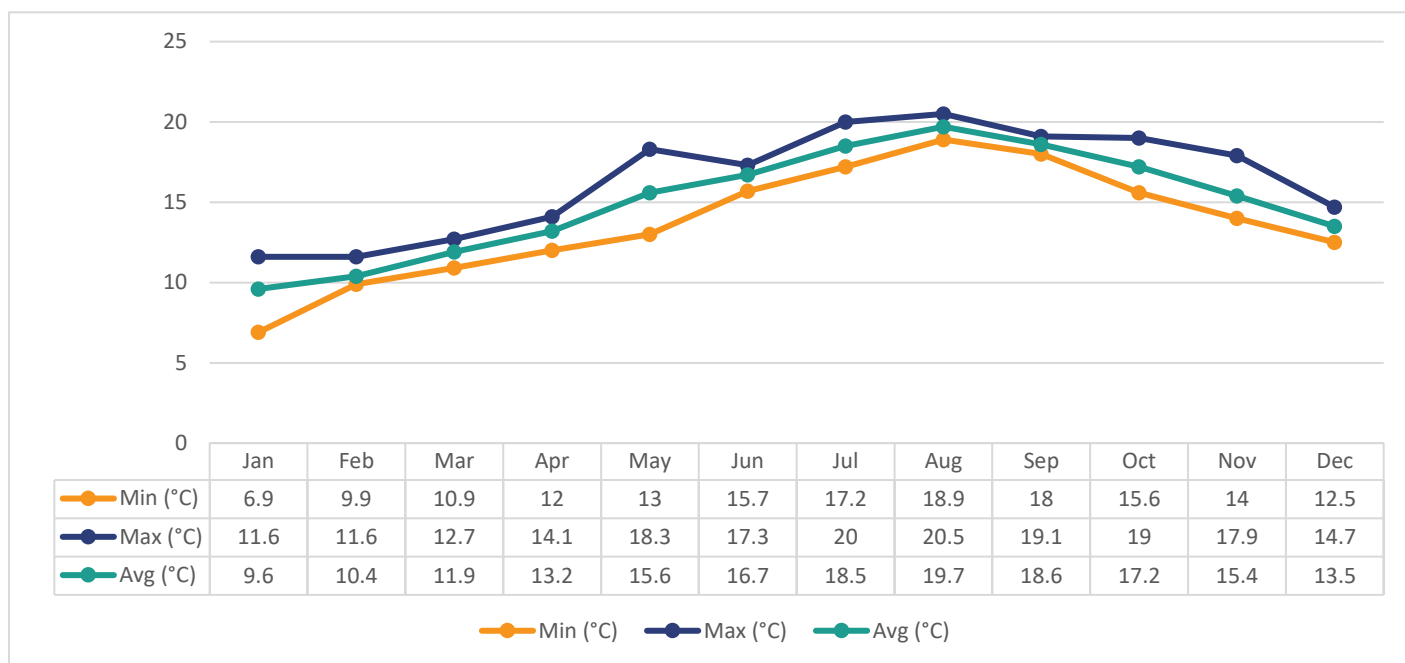


Historical pH data is only available from 2016 to 2024 and the pH levels in 2024 fluctuated between 7.32 and 8.43.

Temperature

ECA #1696-BPLL4R does not require a temperature sample be collected or prescribe sample frequency on the influent. Samples were collected throughout 2024. Variations in results were consistent with seasonal fluctuations. Historically, the influent water temperature drops in the freezing season (i.e. winter) and raises in the non-freezing season (i.e. summer) and this trend continued throughout 2024. Historical data is only available from 2016 to 2024 and the temperature in 2024 ranged from 6.9 °C to 20.5 °C.

Graph 13. 2024 Monthly Influent Temperature Comparisons



Imported Sewage

Imported sewage is sewage that is hauled to the sewage treatment plant by licensed waste haulers. At the Lindsay WWTP, Imported Sewage consists of sewage hauled to the Receiving Station at 38 Lagoon Rd., Lindsay and abattoir waste hauled to the Lindsay WWTP onsite storage lagoon.

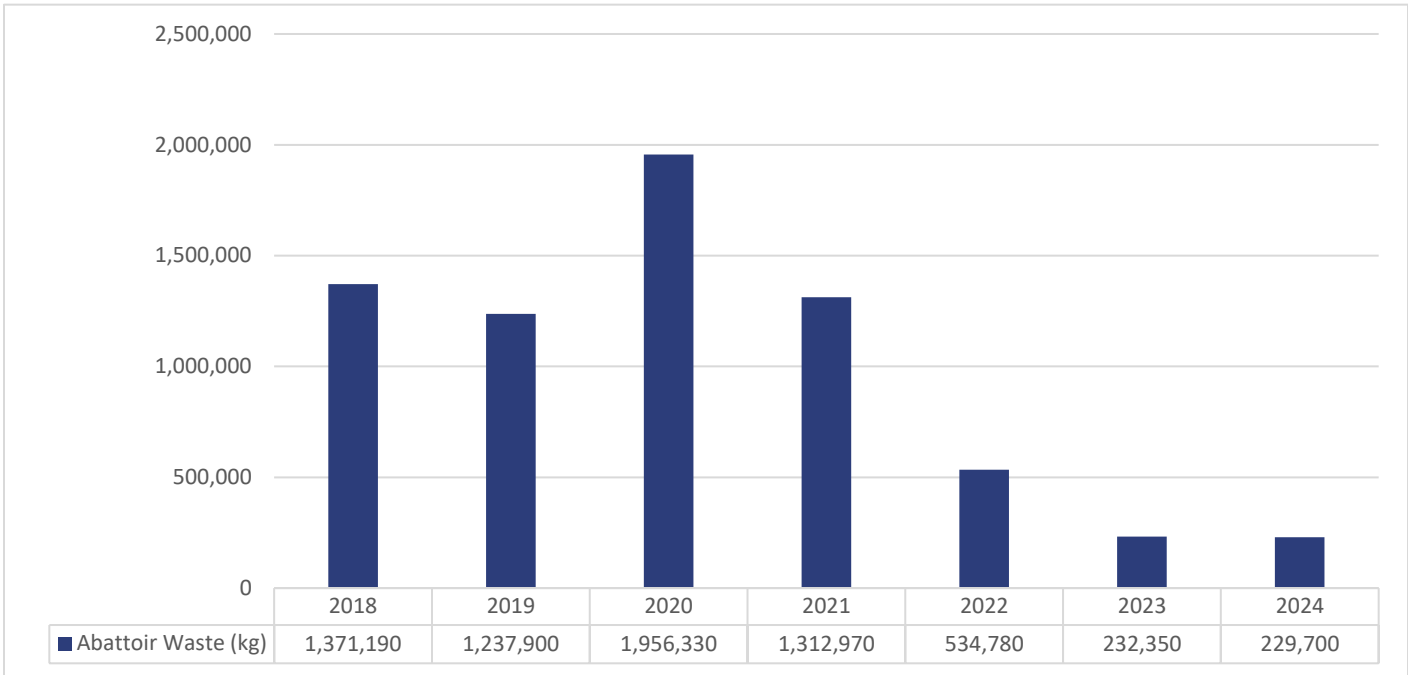
ECA #1696-BPLL4R requires monthly sampling of Imported Sewage.

Abattoir Waste

Waste from local Abattoirs is hauled to the Lindsay WWTP and deposited into Lagoon #5, which acts as a storage lagoon. During high flow event, excess raw water from the collection system is diverted into Lagoon #5 where it is stored until the collection system flows subside enough to feed the water in Lagoon #5 back into the facility inlet to be treated. The abattoir waste mixes with the raw water in Lagoon #5 and is returned to the wastewater treatment plant through the inlet.

Trucks hauling abattoir waste are weighed at the Lindsay Landfill inbound scale and the outbound scale and the difference between the two readings is the amount of abattoir waste deposited into Lagoon #5. The amount of abattoir waste deposited in 2024 was 229,700 kg. This was a decrease in abattoir waste deposited over 2023, equaling a 1.14 % decrease in volume.

Graph 14. Historical Abattoir Volume Comparisons

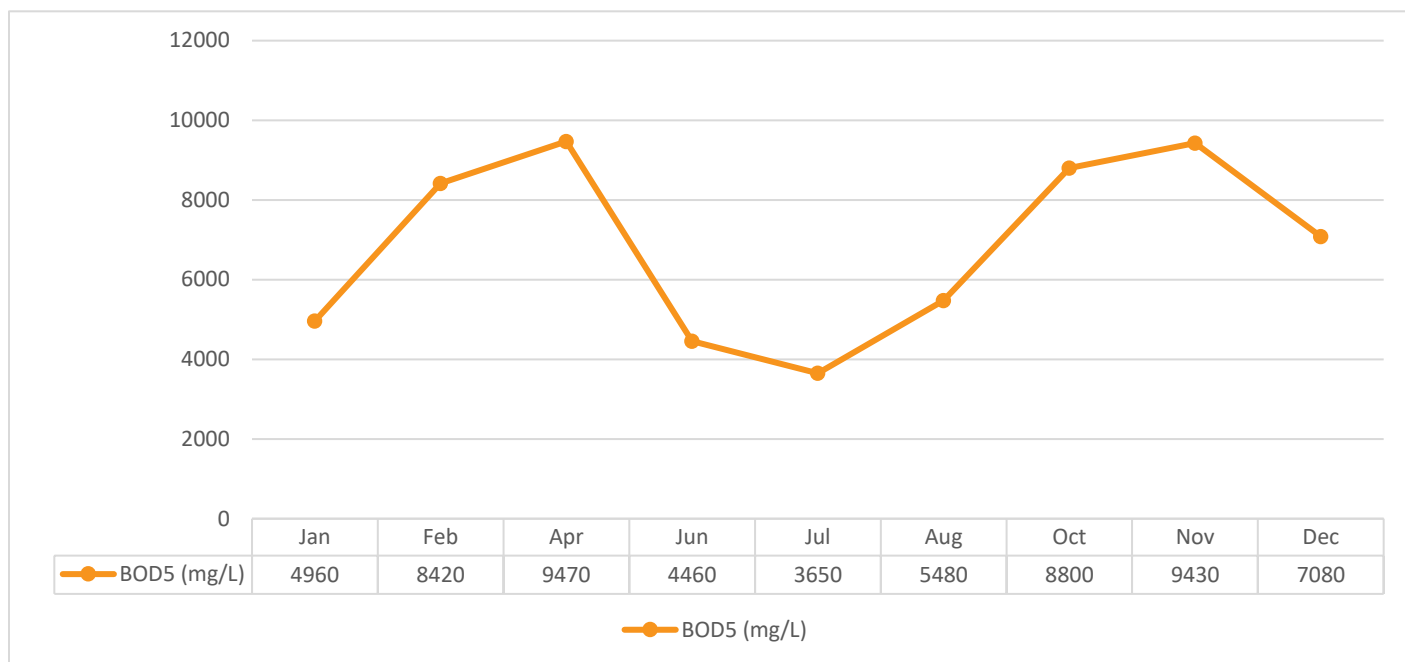


ECA #1696-BPLL4R requires a grab sample be collected monthly and analyzed for BOD₅, Total Suspended Solids, Total Phosphorus and Total Kjeldahl Nitrogen for each type of imported sewage. Although not required by the ECA, Total Ammonia Nitrogen was sampled and analyzed monthly in 2024. An Abattoir sample was not collected in March, May, and September 2024. See Section N for further details.

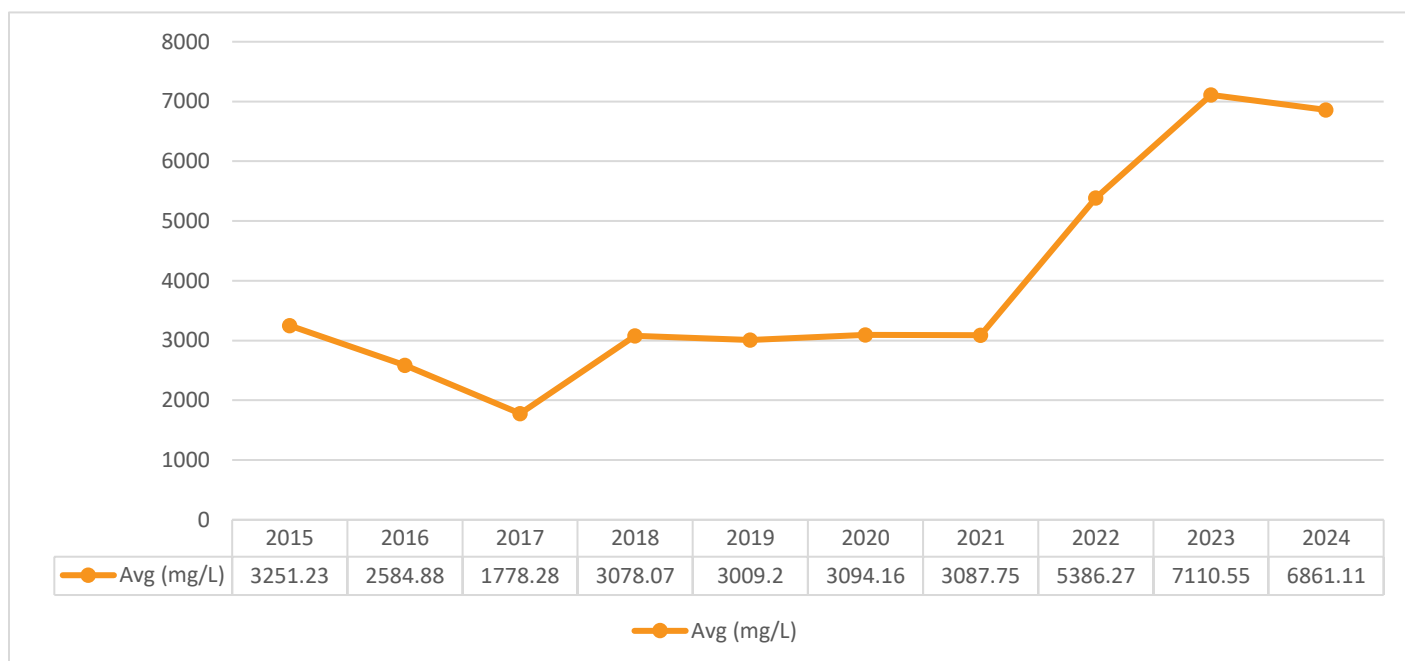
Biochemical Oxygen Demand (BOD₅)

ECA #1696-BPLL4R requires one grab sample be collected monthly and analyzed for BOD₅. The BOD₅ sample results ranged from 3,650 mg/L to 9,470 mg/L in 2024.

Graph 15. 2024 Monthly BOD₅ Abattoir Waste Sample Results



Graph 16. Historical BOD₅ Abattoir Waste Sample Results 2015 - 2024

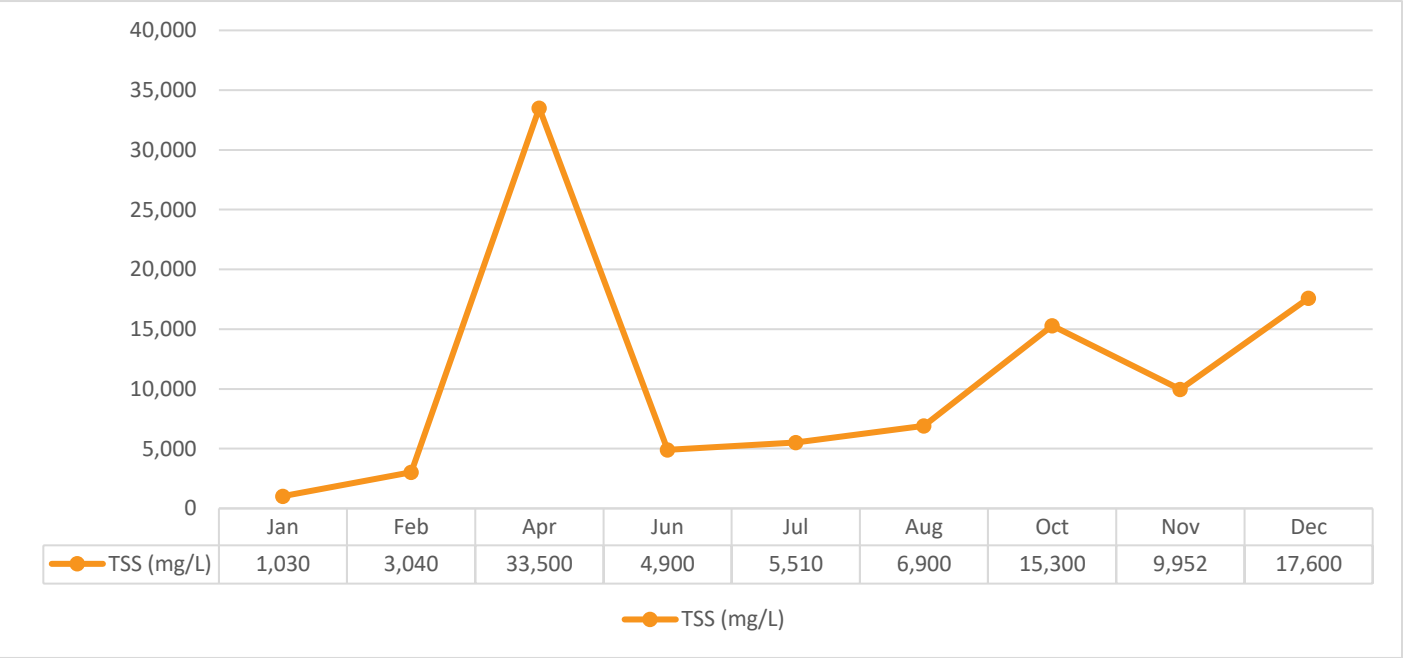


The BOD₅ annual average remained fairly consistent between 2015 and 2021. There was a large increase in average BOD₅ in 2022, and continued into 2024. The minimum annual average concentration occurred in 2017 and the maximum annual average concentration occurred in 2023.

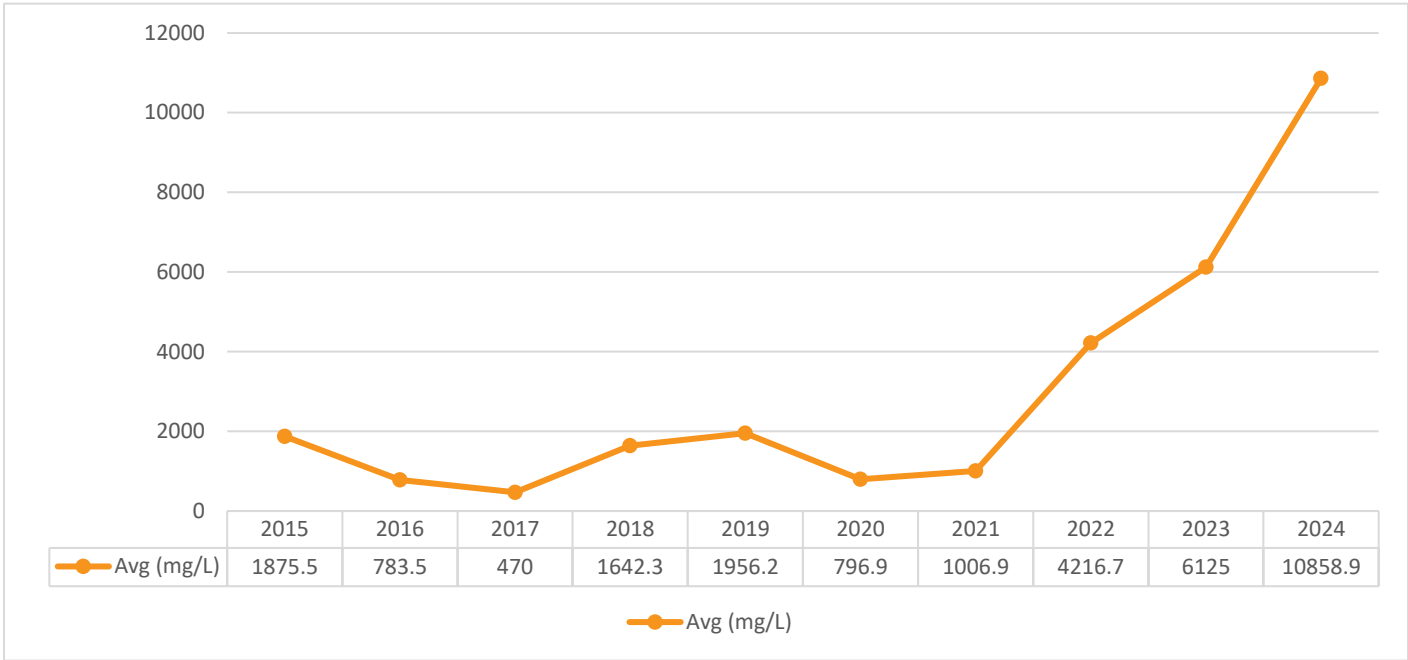
Total Suspended Solids

ECA #1696-BPLL4R requires one grab sample be collected monthly and analyzed for Total Suspended Solids. The Total Suspended Solids sample results ranged from 1,030 mg/L to 33,500 mg/L in 2024.

Graph 17. 2024 Monthly Total Suspended Solids Abattoir Waste Sample Results



Graph 18. Historical Total Suspended Solids Abattoir Waste Sample Results 2015 – 2024

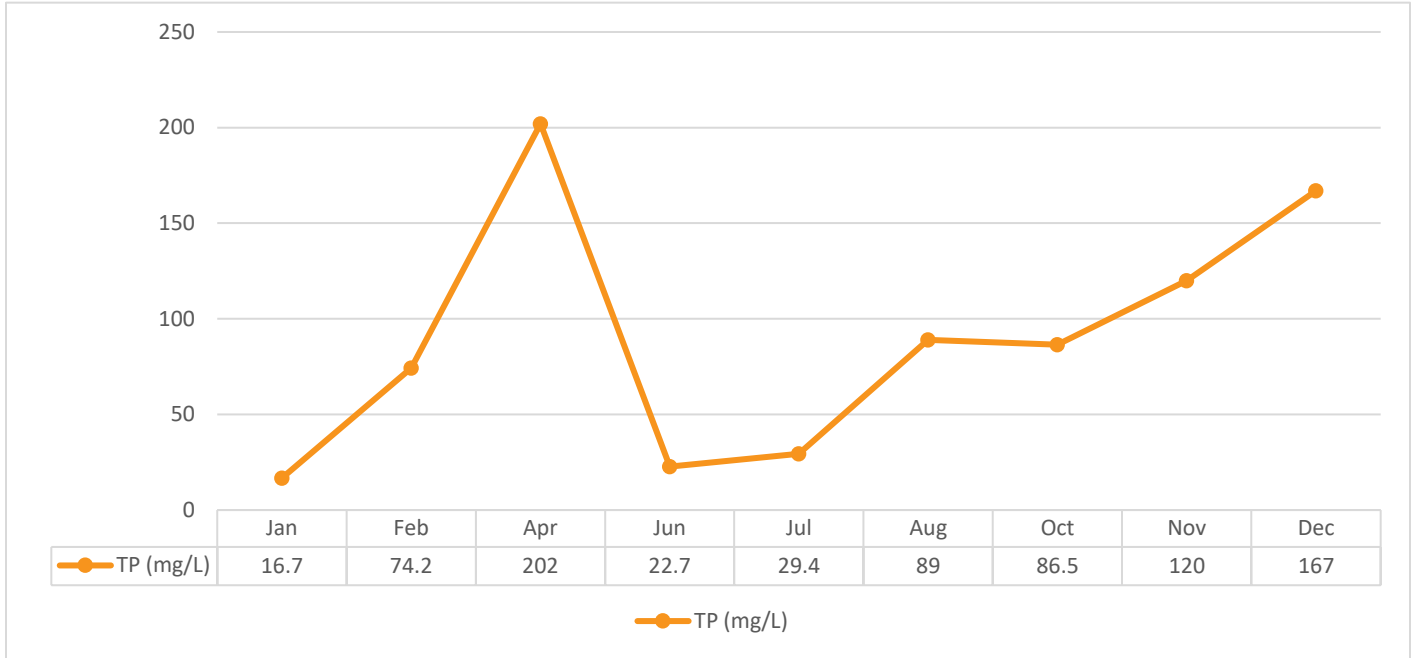


The Total Suspended Solids annual average has remained fairly consistent between 2015 and 2021. There was a significant increase in the annual average in 2022, continuing through 2024. The minimum annual average concentration occurred in 2017 and the maximum annual average concentration occurred in 2024.

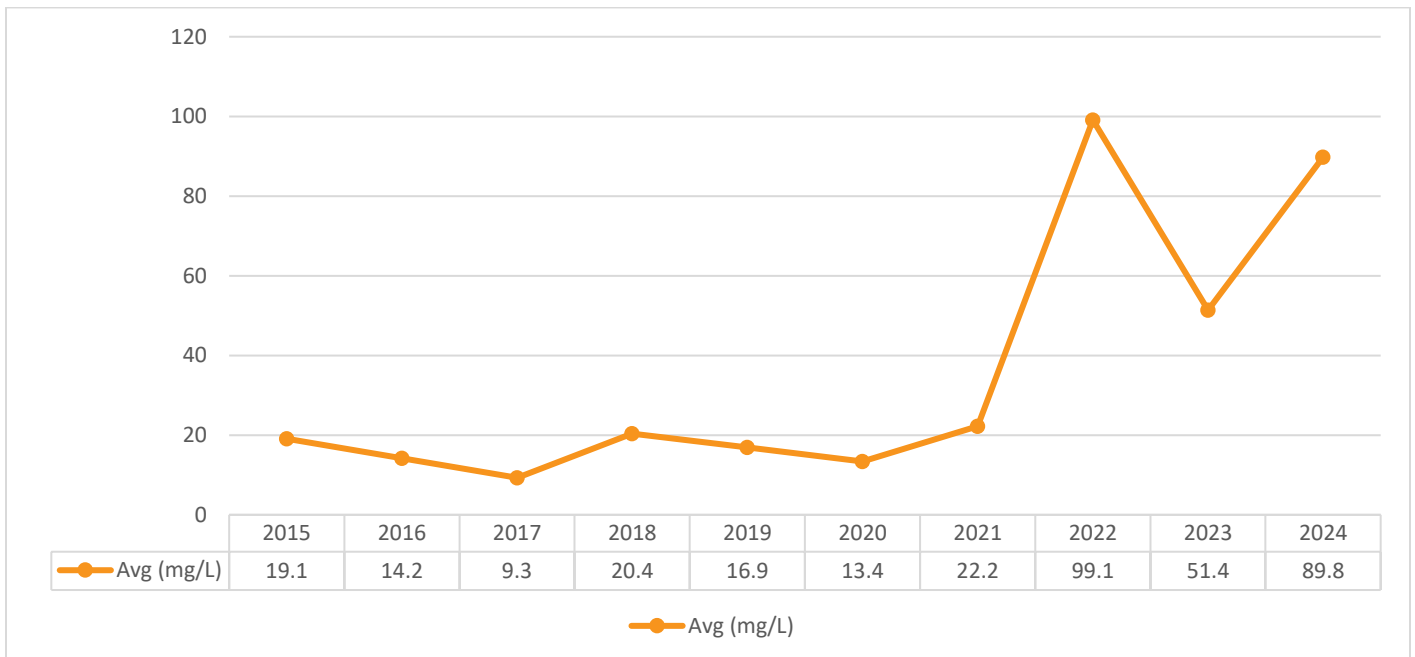
Total Phosphorus

ECA #1696-BPLL4R requires one grab sample be collected monthly and analyzed for Total Phosphorus. Results ranged from 16.7 mg/L to 202 mg/L in 2024.

Graph 19. 2024 Monthly Total Phosphorus Abattoir Waste Sample Results



Graph 20. Historical Total Phosphorus Abattoir Waste Sample Results 2015 - 2024



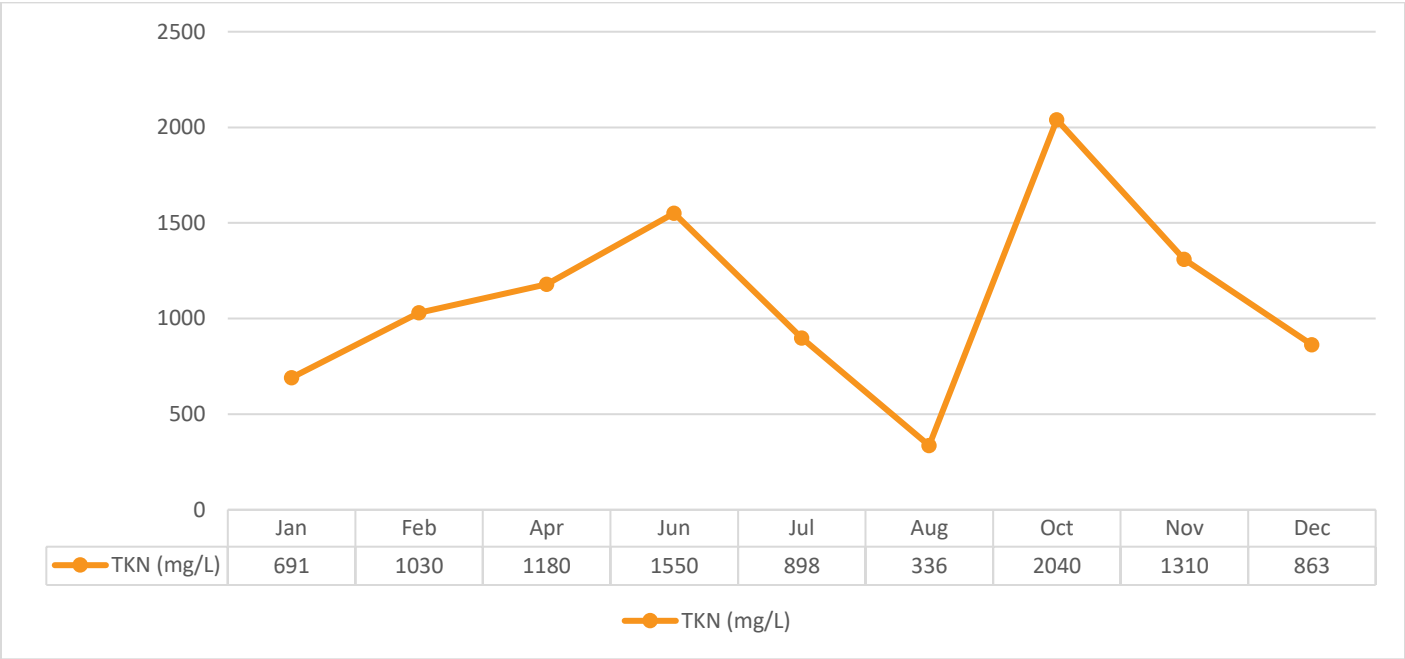
Total Phosphorus annual average remained fairly consistent between 2015 and 2021. There was a significant increase in the annual average in 2022, but dropping through 2023 and increased in

2024. The minimum annual average concentration occurred in 2017 and the maximum annual average concentration occurred in 2022.

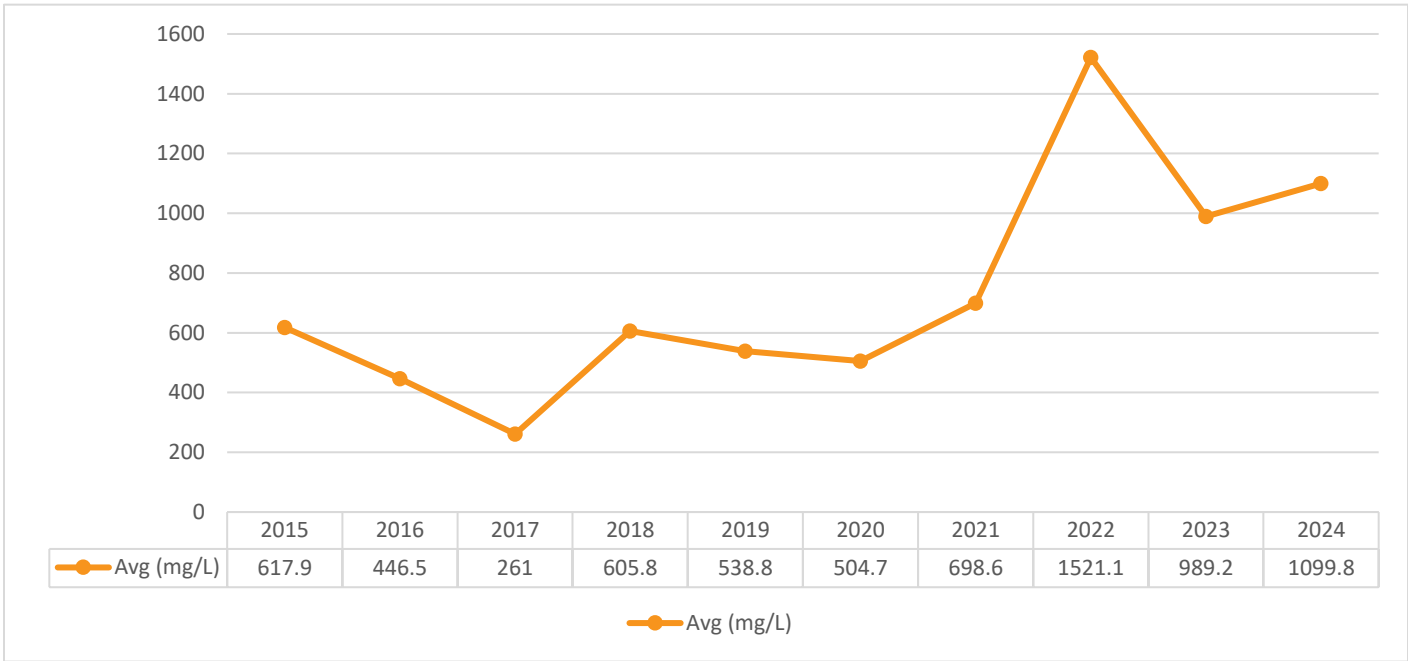
Total Kjeldahl Nitrogen (TKN)

ECA #1696-BPLL4R requires one grab sample be collected monthly and analyzed for Total Kjeldahl Nitrogen. The Total Kjeldahl Nitrogen results ranged from 336 mg/L to 2,040 mg/L in 2024.

Graph 21. 2024 Monthly Total Kjeldahl Nitrogen Abattoir Waste Sample Results



Graph 22. Historical Total Kjeldahl Nitrogen Abattoir Waste Sample Results 2015 - 2024

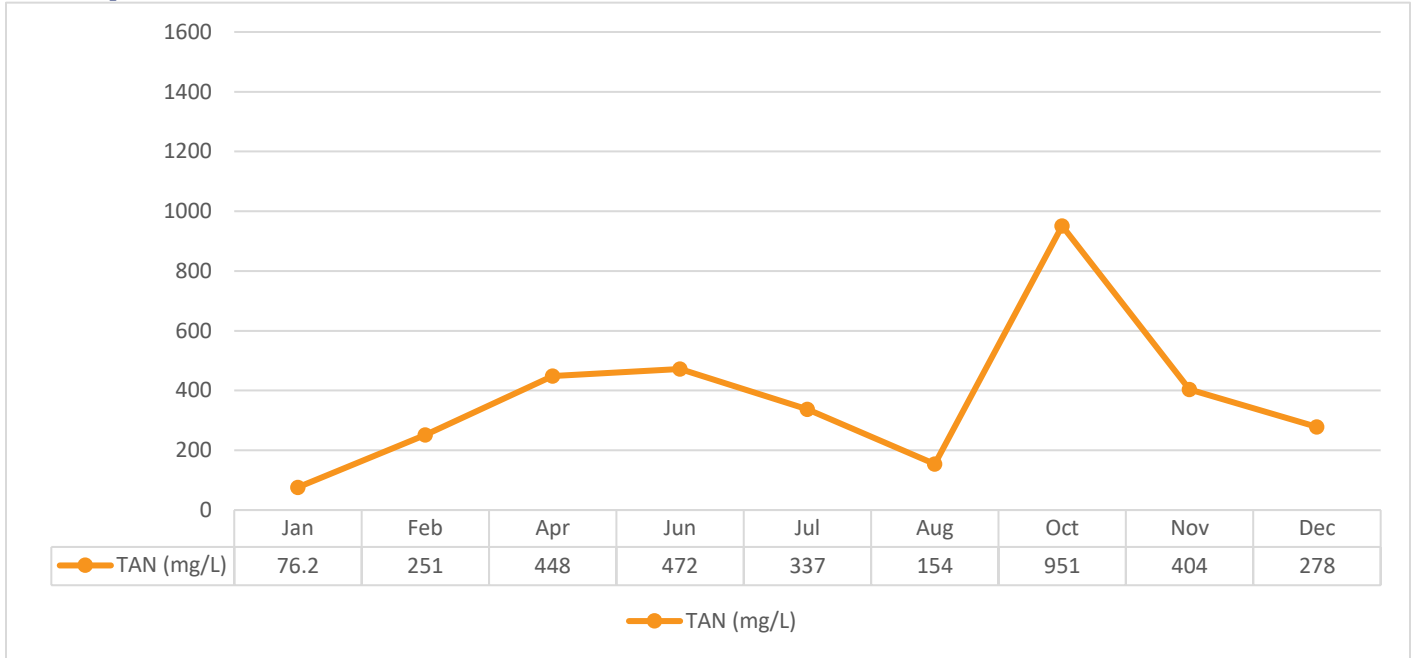


The Total Kjeldahl Nitrogen annual average has ranged between 261.0 mg/L and 1,521.1 mg/L. The minimum annual average concentration occurred in 2017 and the maximum annual average occurred in 2022. There was a significant increase from 2021 to 2022 with a decrease from 2022 to 2023, and has slightly increased from 2023 to 2024.

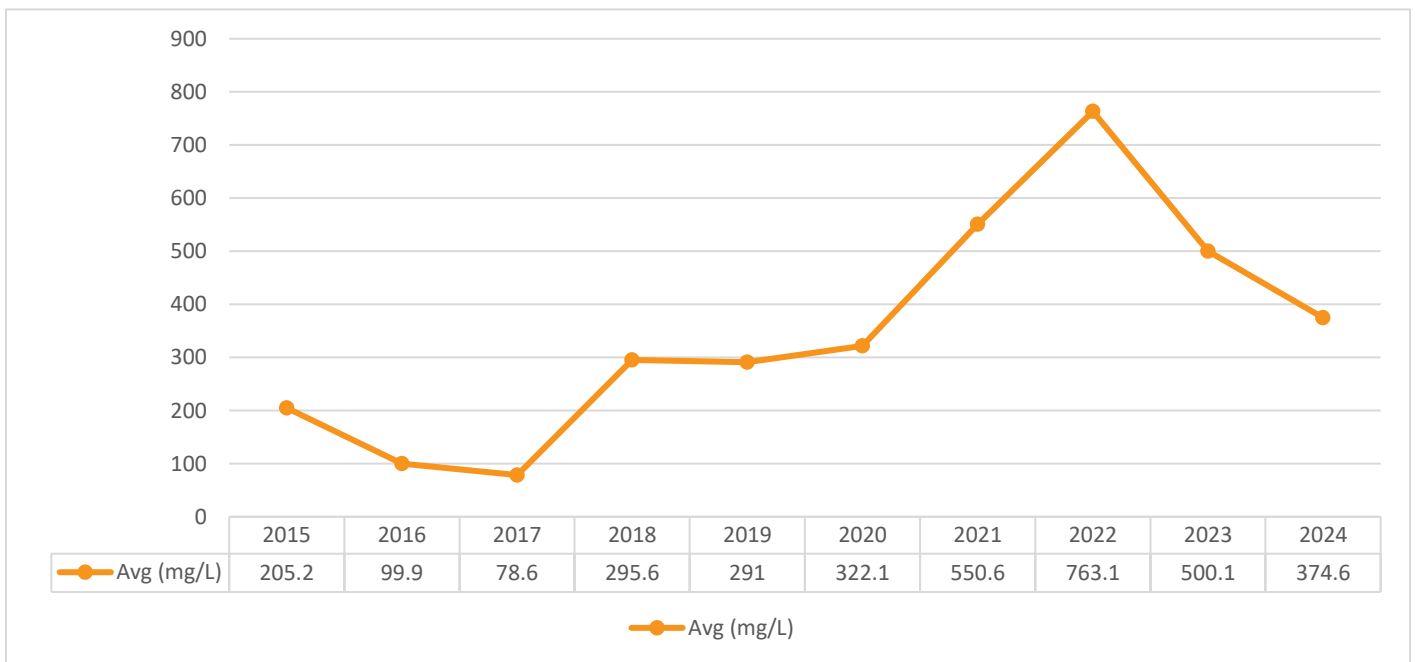
Total Ammonia Nitrogen (TAN)

One grab sample was collected of the Abattoir waste each month in 2024 and analyzed for Total Ammonia Nitrogen. The results ranged from 76.2 mg/L to 951 mg/L.

Graph 23. 2024 Monthly Total Ammonia Nitrogen Abattoir Waste Sample Results



Graph 24. Historical Total Ammonia Nitrogen Abattoir Waste Sample Results 2015 - 2024



Since 2015, the Total Ammonia Nitrogen annual average has fluctuated between 78.6 mg/L and 763.1 mg/L. The minimum annual average concentration occurred in 2017 and the maximum

annual average concentration occurred in 2022. There has been a steady increase in the annual average concentration since 2020 to 2022. There has been a steady decrease in the annual average concentration since 2022 to 2024.

Receiving Station

ECA #1696-BPLL4R requires a grab sample monthly of the Receiving Station Waste, testing for BOD₅, Total Suspended Solids, Total Phosphorus, and Total Kjeldahl Nitrogen. Although not required by the ECA, Total Ammonia Nitrogen was sampled and analyzed monthly in 2024.

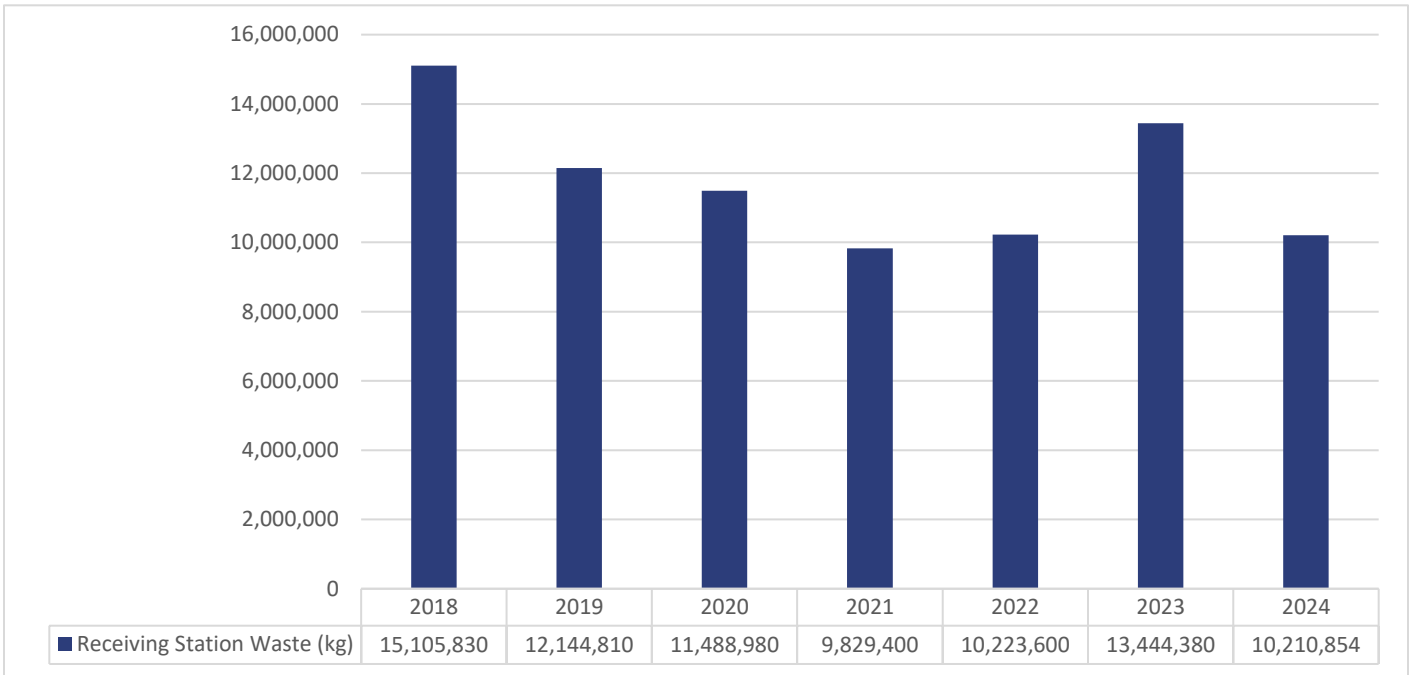
As sampling of the Receiving Station Waste began in November 2018 a historical review of the results is limited. The 2018 – 2024 results are included below. It should be noted that the sewage from the Receiving Station flows to the Inlet Building where the Inlet (Raw) samples are collected, so Receiving Station water would form a portion of the Inlet (Raw) sample results.

Table 1. Historical Receiving Station Sample Results

Parameter	Nov/Dec 2018	2019 Annual	2020 Annual	2021 Annual	2022 Annual	2023 Annual	2024 Annual
BOD ₅ (mg/L)	3492	3094.2	4549.4	4797.77	5545.17	4408.4	3800.58
Total Suspended Solids (mg/L)	1810	5397.5	8390.0	7046.85	6165.58	8034.4	7045.67
Total Phosphorus (mg/L)	18.6	128.75	106.42	132.5	149.72	93.6	108.18
Total Kjeldahl Nitrogen (mg/L)	150	2239.5	1238.4	1148.05	2120.5	1225.7	1045.08
Total Ammonia Nitrogen (mg/L)	80.25	1417.8	753.74	788.35	1081.24	841.1	859.5

Trucks hauling waste are weighed at the Lindsay Ops Landfill inbound scale prior to arriving at the Receiving Station and again at the outbound scale after leaving the Receiving Station. The difference between the two scale readings is the amount of waste deposited into the Lagoon Rd. Receiving Station. The amount of waste deposited into the receiving station in 2024 was 10,210,854 kg. This is 24.05 % decrease in the volume deposited in 2023.

Graph 25. Historical Receiving Station Volume Comparisons



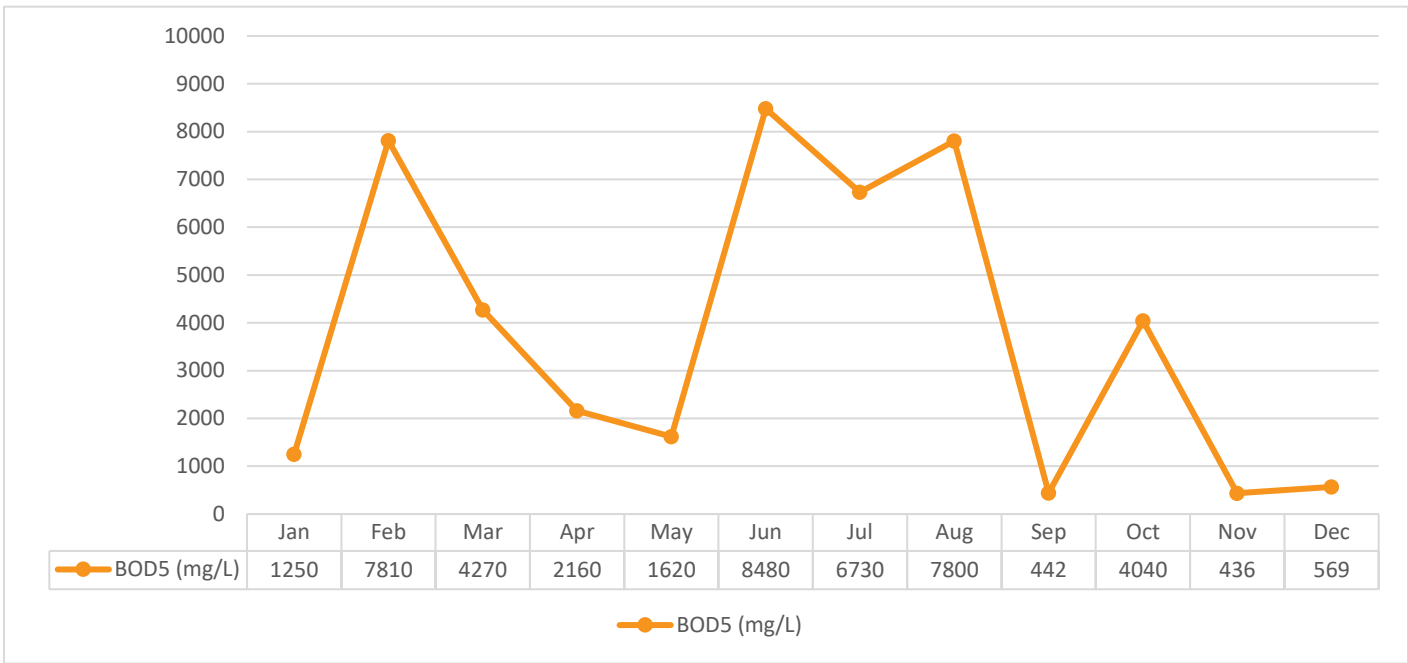
Sample Results

ECA #1696-BPLL4R requires a grab sample be collected monthly and analyzed for BOD₅, Total Suspended Solids, Total Phosphorus and Total Kjeldahl Nitrogen. Although not required by the ECA, Total Ammonia Nitrogen was sampled and analyzed monthly in 2024.

Biochemical Oxygen Demand (BOD₅)

ECA #1696-BPLL4R requires one grab sample be collected monthly and analyzed for BOD₅. The BOD₅ sample results ranged from 533 mg/L to 24,900 mg/L in 2024.

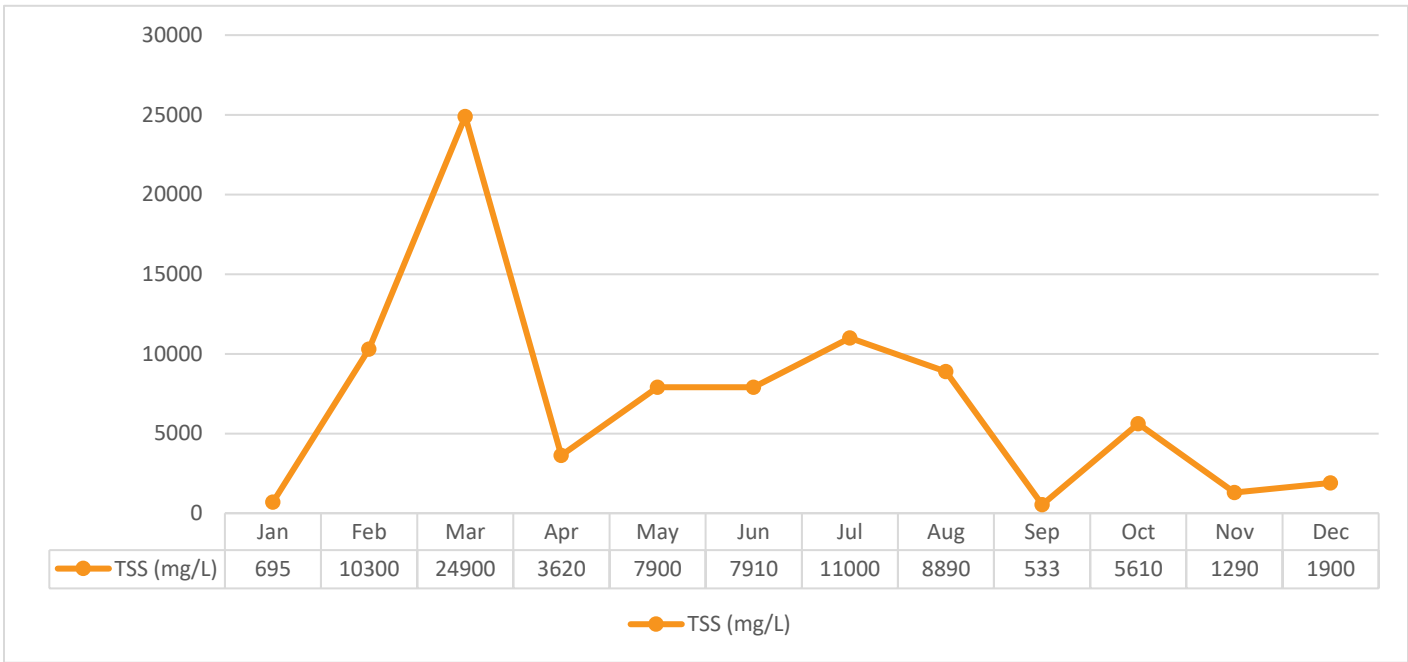
Graph 26. 2024 Monthly BOD₅ Receiving Station Waste Sample Results



Total Suspended Solids (TSS)

ECA #1696-BPLL4R requires a grab sample be collected monthly and analyzed for Total Suspended Solids. The Total Suspended Solids sample results ranged from 533 mg/L to 24,900 mg/L in 2024.

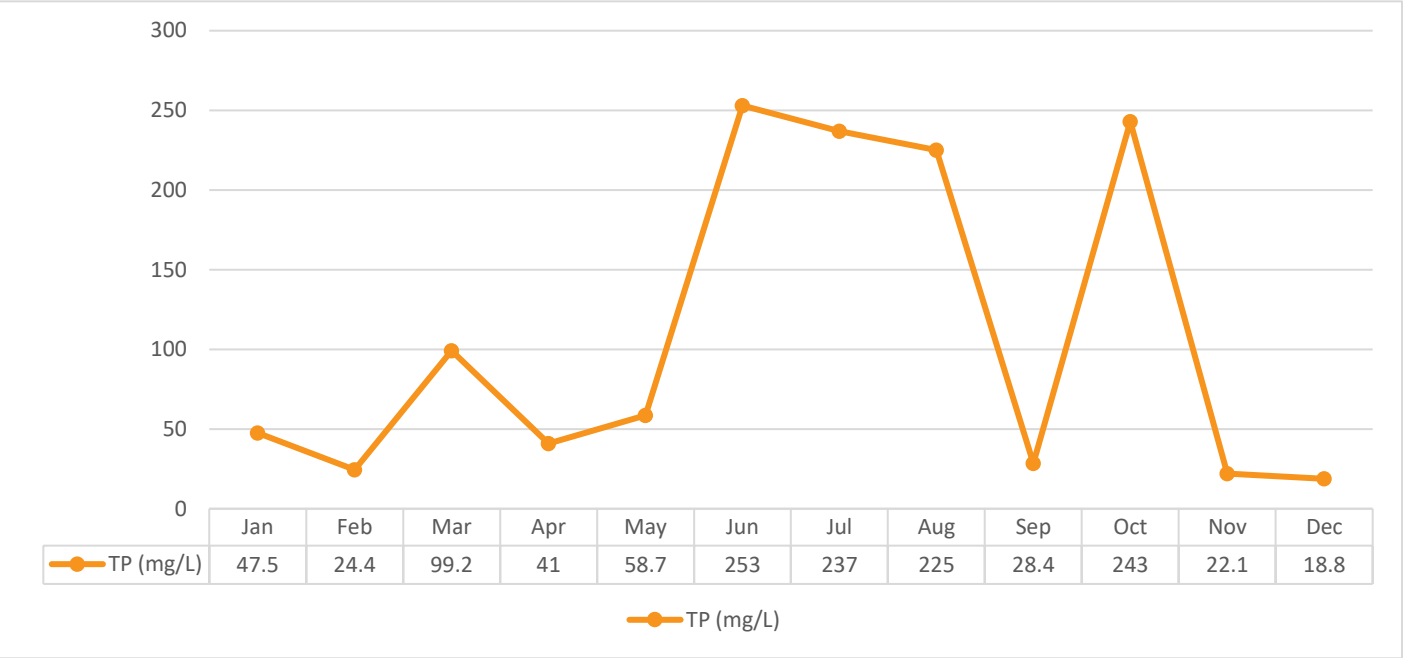
Graph 27. 2024 Monthly Total Suspended Solids Receiving Station Waste Sample Results



Total Phosphorus (TP)

ECA #1696-BPLL4R requires one grab sample be collected monthly and analyzed for Total Phosphorus. Results ranged from 18.8 mg/L to 253 mg/L in 2024.

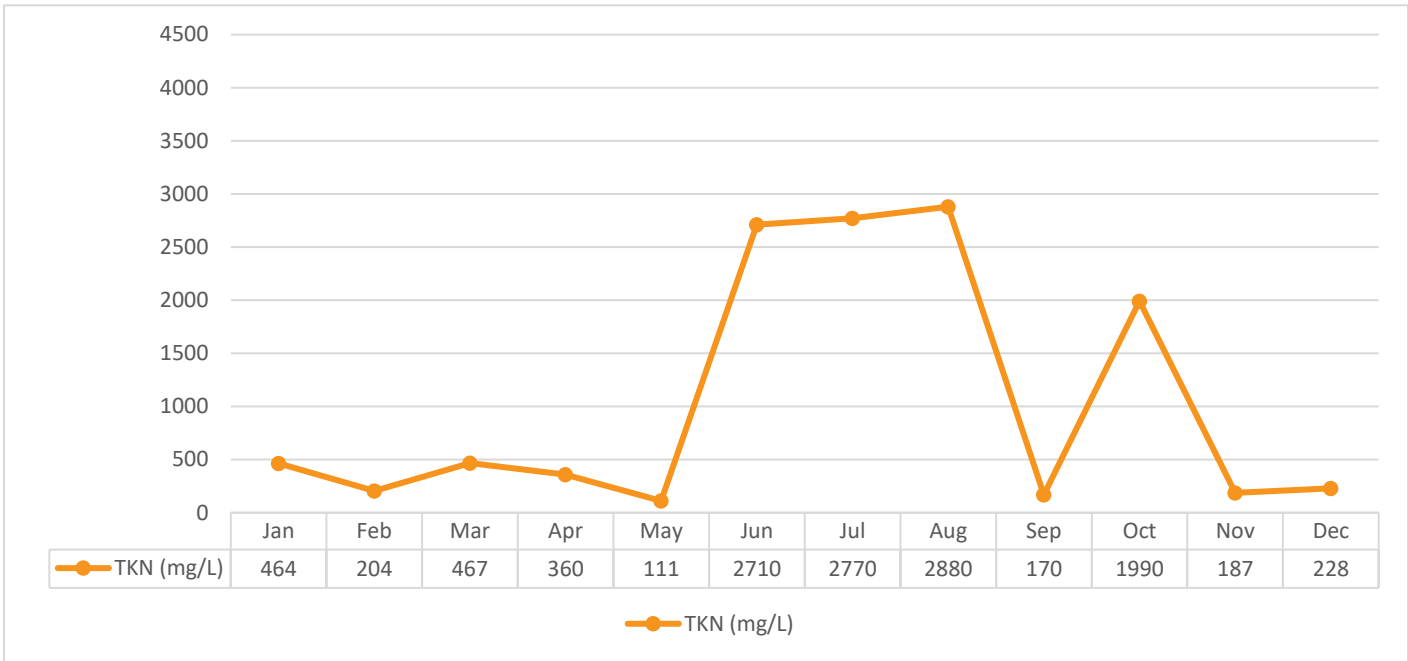
Graph 28. 2024 Monthly Total Phosphorus Receiving Station Waste Sample Results



Total Kjeldahl Nitrogen (TKN)

ECA #1696-BPLL4R requires one grab sample be collected monthly and analyzed for Total Kjeldahl Nitrogen. Monthly Total Kjeldahl Nitrogen results ranged from 111 mg/L to 2,880 mg/L in 2024.

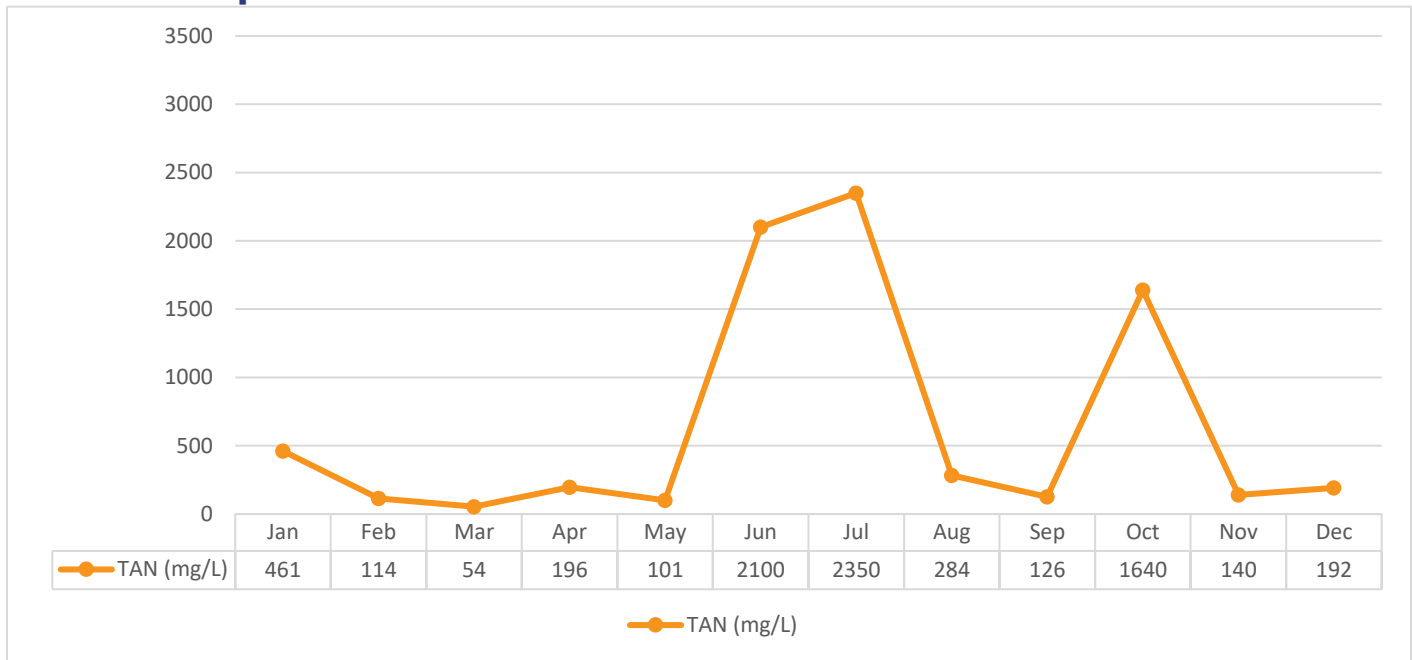
Graph 29. 2024 Monthly Total Kjeldahl Nitrogen Receiving Station Waste Sample Results



Total Ammonia Nitrogen (TAN)

One grab sample was collected from the Receiving Station waste each month in 2024 and analyzed for Total Ammonia Nitrogen. The monthly average concentration results ranged from 54 mg/L to 2,840 mg/L.

Graph 30. 2024 Monthly Total Ammonia Nitrogen Receiving Station Waste Sample Results



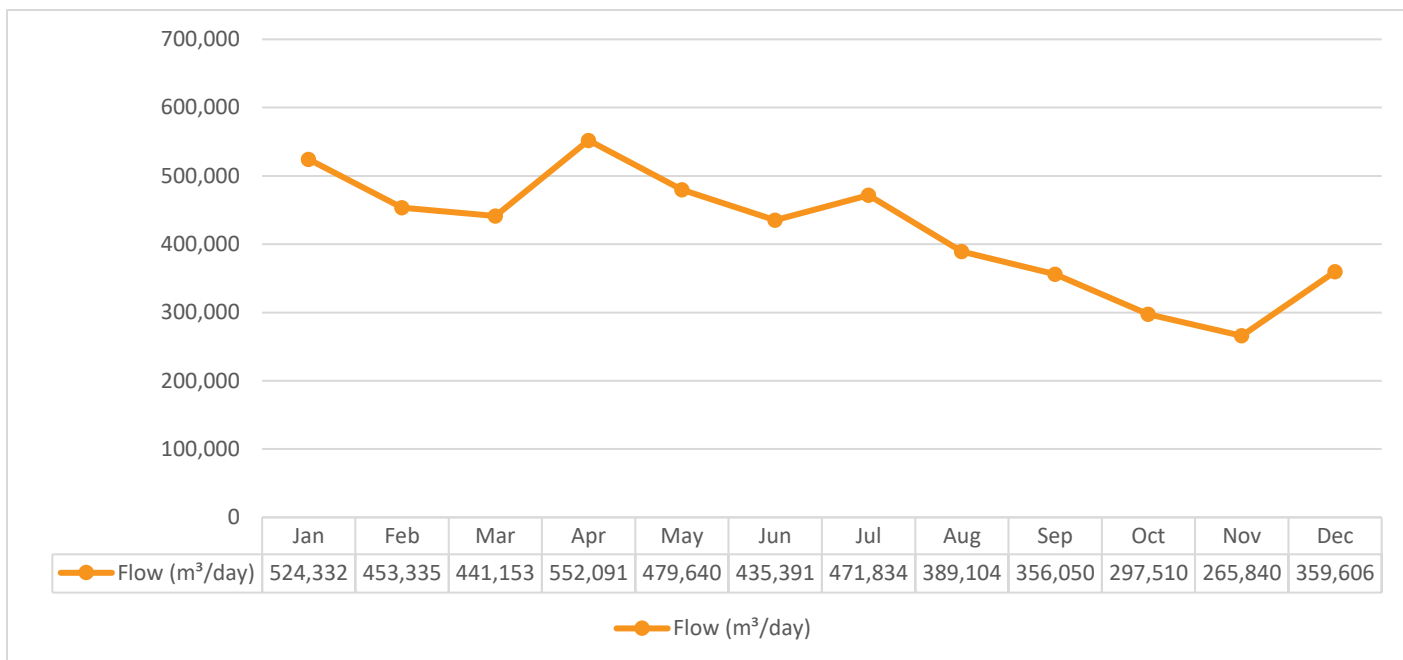
Summary of Final Effluent Monitoring Data to Limits and Objectives

(b) Environmental Compliance Approval (ECA) #1696-BPLL4R requires a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits, including an overview of the success and adequacy of the works be included in the report.

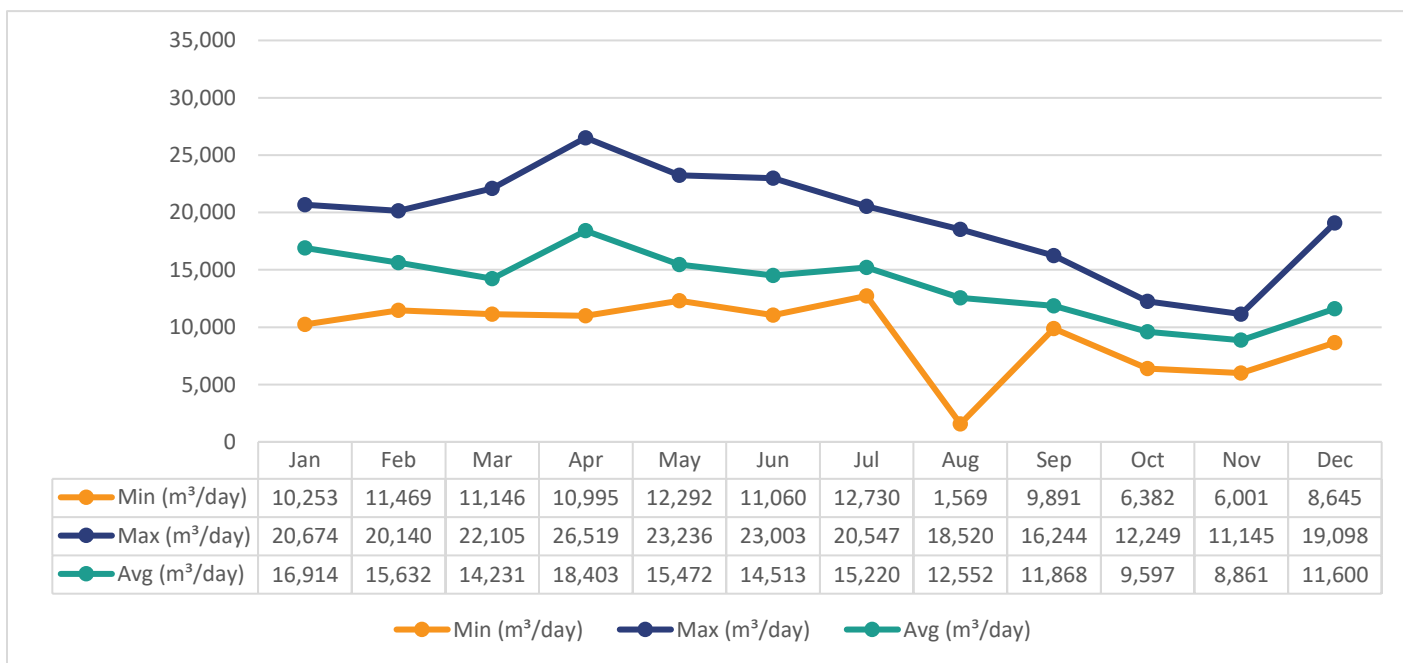
The 2024 Lindsay WWTP annual average daily Effluent flow was 13,738.70 m³/day and the total Effluent flow in 2024 was 5,025,886 m³.

Effluent Flow Monthly Totals

Graph 31. 2024 Final Effluent Monthly Flows



Graph 32. 2024 Final Effluent Daily Minimum, Maximum and Average Flows



Note: See **Table 8: 2024 Lindsay WWTP Operational Challenges** for information when final effluent totalized daily flow exceeded the limit set out in ECA #1696-BPLL4R

Final Effluent Lab Results

With the substantial completion of Phase 1 Upgrade and Expansion project at the Lindsay WWTP, new limits as outlined in ECA #1696-BPLL4R Schedule B and C came into effect. This resulted in changes to Final Effluent parameters design objectives listed in Schedule B, and compliance limits for the Final Effluent parameters listed in the table(s) included in Schedule C. These changes came into effect February 1, 2023.

Table 2. CBOD₅ Objective and Limits

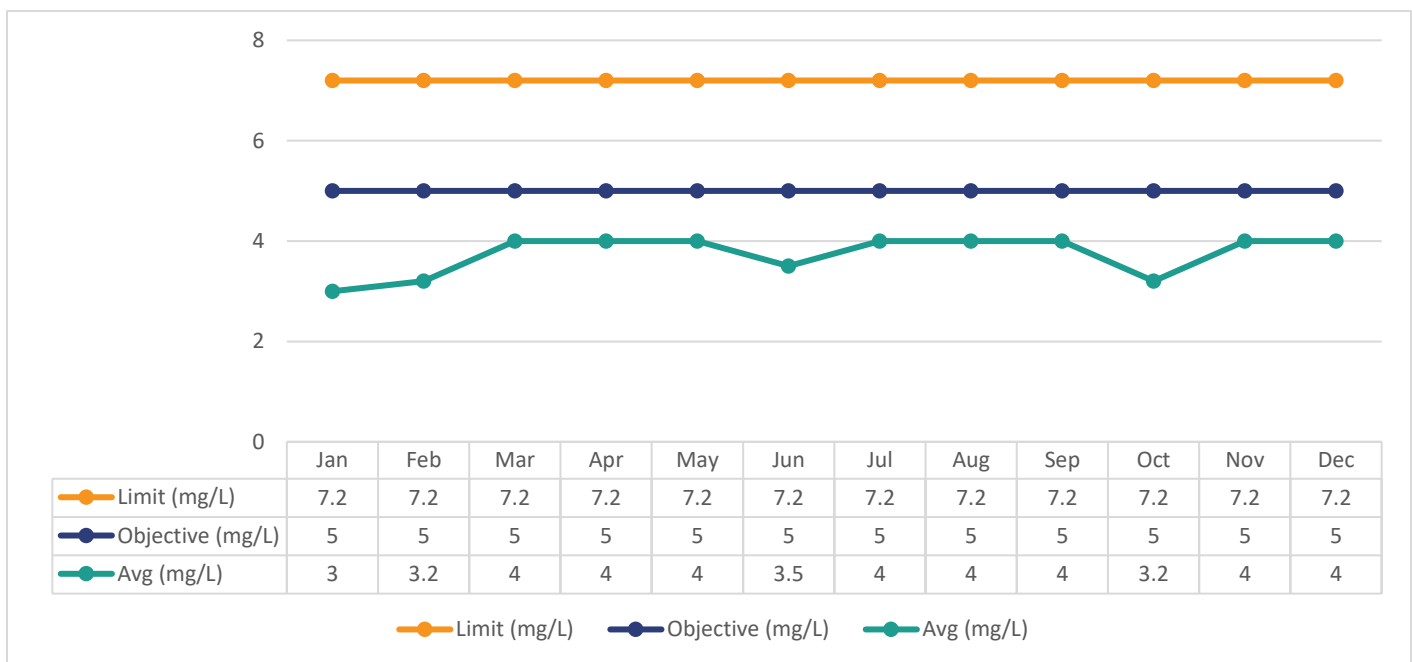
Current	Objective (mg/L)	5.0
	Limit (mg/L)	7.2
	Loading Limit (kg/d)	176.4

Note: The objective, limit and loading limit is a monthly average.

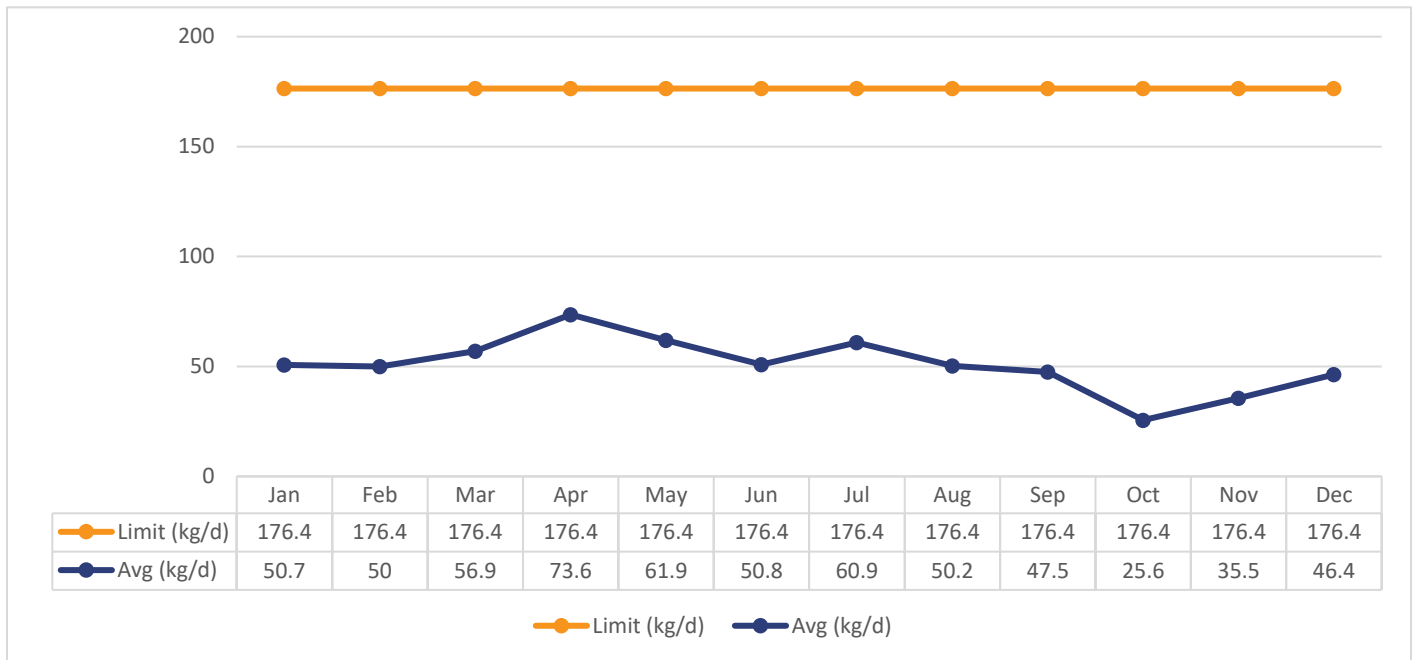
The monthly average concentration results ranged from 3.0 mg/L to 4.0 mg/L in 2024.

The monthly CBOD₅ average concentration results and monthly average waste loading throughout 2024 were in compliance with the limits outlined in the ECA.

Graph 33. 2024 Monthly Final Effluent CBOD₅ Concentration Comparisons



Graph 34. 2024 Monthly Final Effluent CBOD₅ Average Waste Loading Comparisons



Total Suspended Solids (TSS)

The table below outlines the TSS design objectives and compliance limits set in the ECA #1696-BPLL4R.

Table 3. Total Suspended Solids Objective and Limits

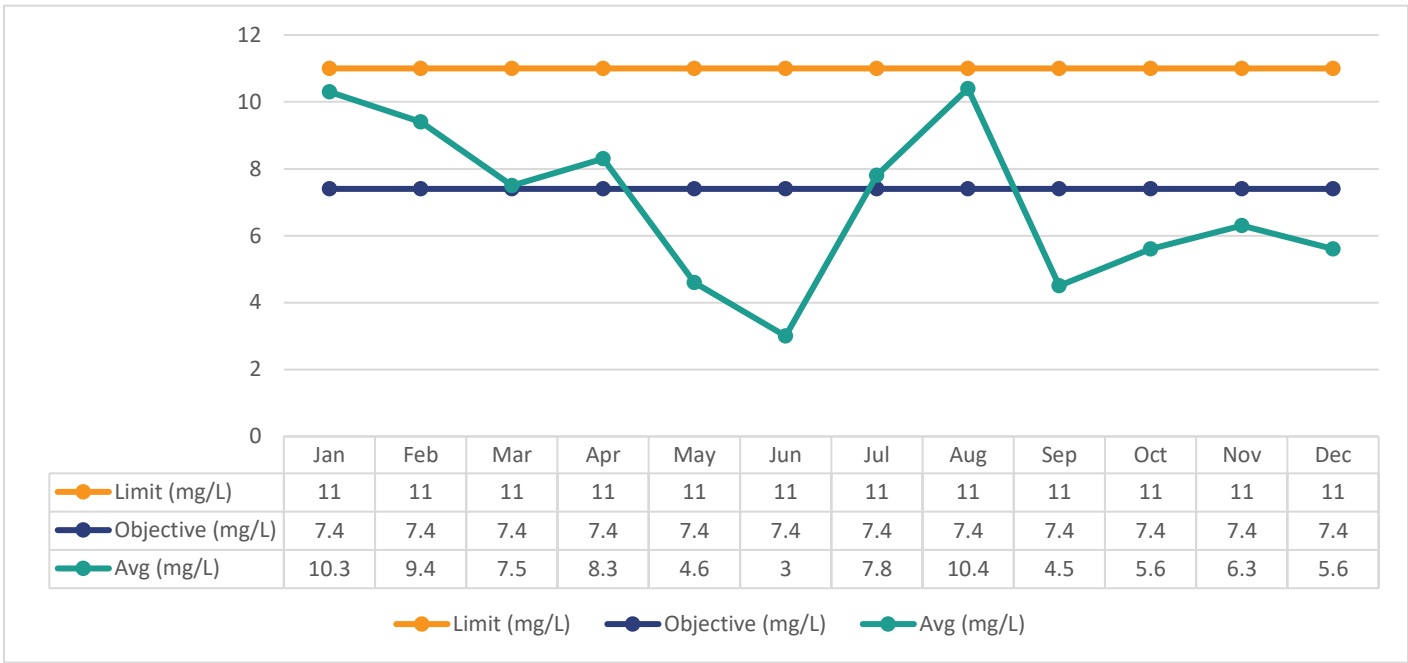
Current	Objective (mg/L)	7.4
	Limit (mg/L)	11.0
	Loading Limit (kg/d)	238.0

Note: The objective, limit and loading limit is a monthly average.

The monthly average concentration results ranged from 3.0 mg/L to 10.4 mg/L in 2024.

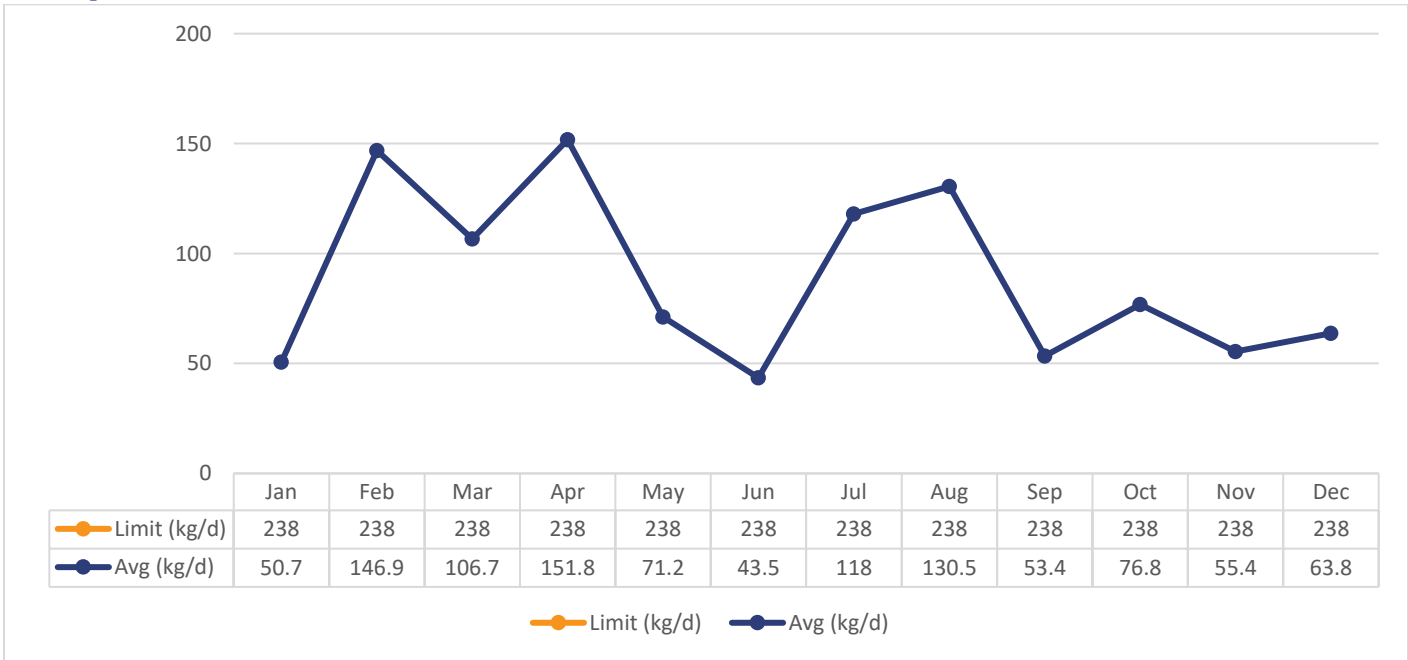
The monthly average waste loading concentration results ranged from 43.5 kg/day to 146.9 kg/day.

Graph 35. 2024 Monthly Final Effluent TSS Concentration Comparisons



There were several months in 2024 when the objective for TSS were not met as shown in Graph 35. Throughout 2024, the Total Suspended Solids monthly removal rates ranged from 89.46% to 98.55%.

Graph 36. 2024 Monthly Final Effluent TSS Average Waste Loading Comparisons



Total (Ammonia+Ammonium) Nitrogen (TAN)

The table below outlines the TAN design objectives and compliance limits set in the ECA #1696-BPLL4R.

Table 4. Total Ammonia Nitrogen Objective and Limits

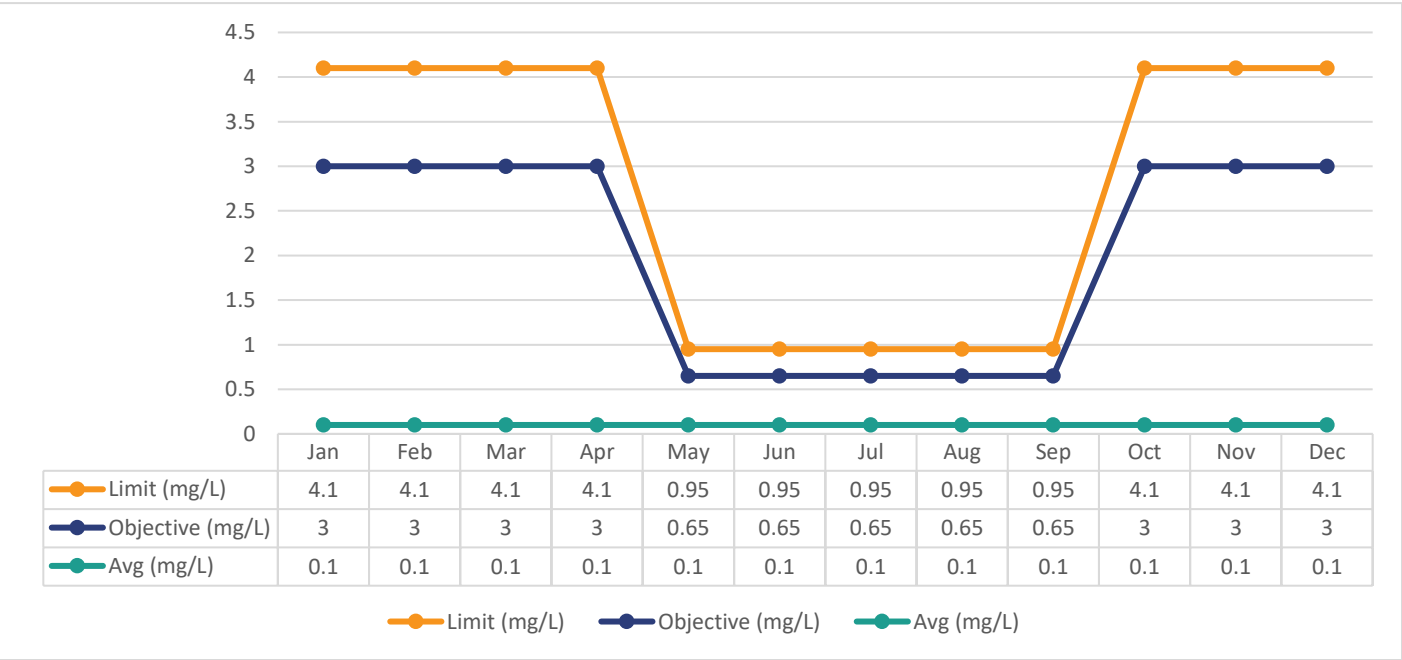
Current	May – Sept 30 Objective (mg/L)	0.65
	Oct 1 – Apr 30 Objective (mg/L)	3.0
	May 1 – Sept 30 Limit (mg/L)	0.95
	Oct 1 – Apr 30 Limit (mg/L)	4.1
	May 1 – Sept 30 Loading Limit (kg/d)	23.4
	Oct 1 – Apr 30 Loading Limit (kg/d)	99.5

Note: The objective, limit and loading limit is a monthly average.

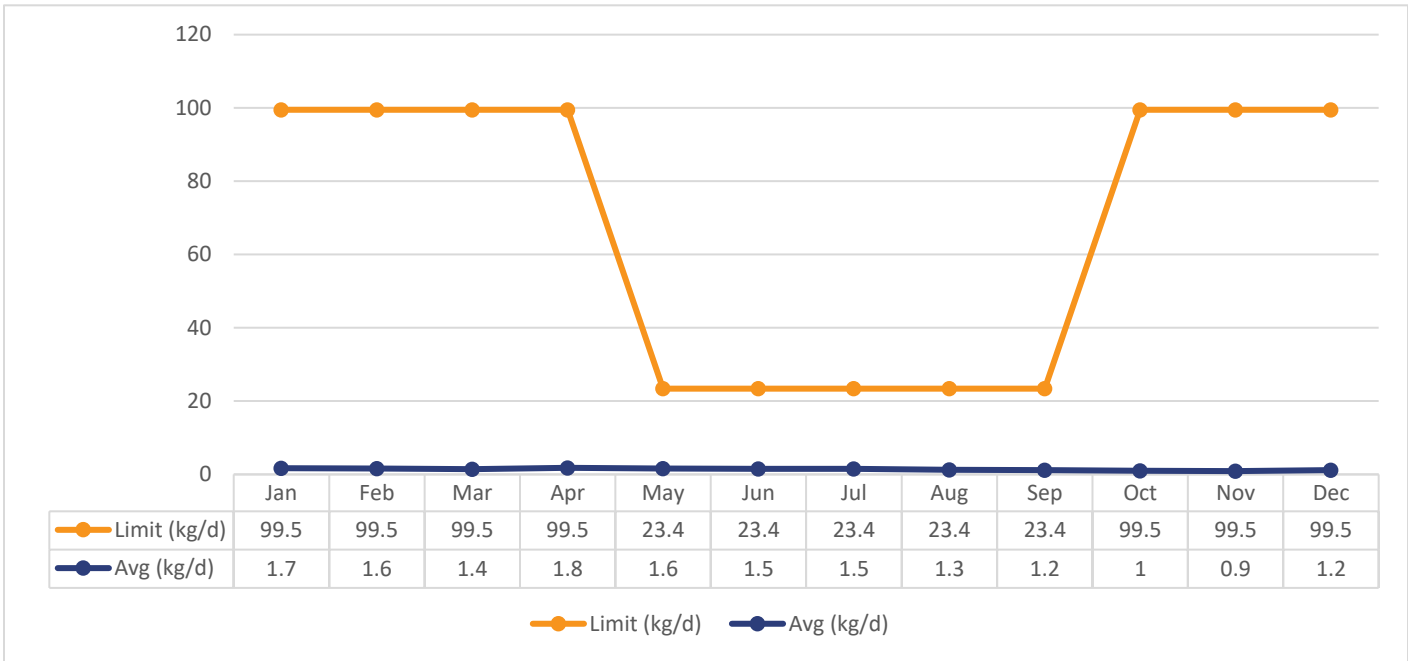
The Lindsay WWTP has seen steady results very often receiving individual results less than the laboratory method detection limit of 0.1 mg/L throughout 2024.

The monthly Total (Ammonia + Ammonium) Nitrogen average concentration results and monthly average waste loading results throughout 2024 were in compliance with the limits outlined in the ECA.

Graph 37. 2024 Monthly Final Effluent TAN Concentration Comparisons



Graph 38. 2024 Monthly Final Effluent TAN Average Waste Loading Comparisons



Total Phosphorus (TP)

The table below outlines the Total Phosphorus design objectives and compliance limits set in ECA #1696-BPLL4R.

Table 5. Total Phosphorus Objective and Limits

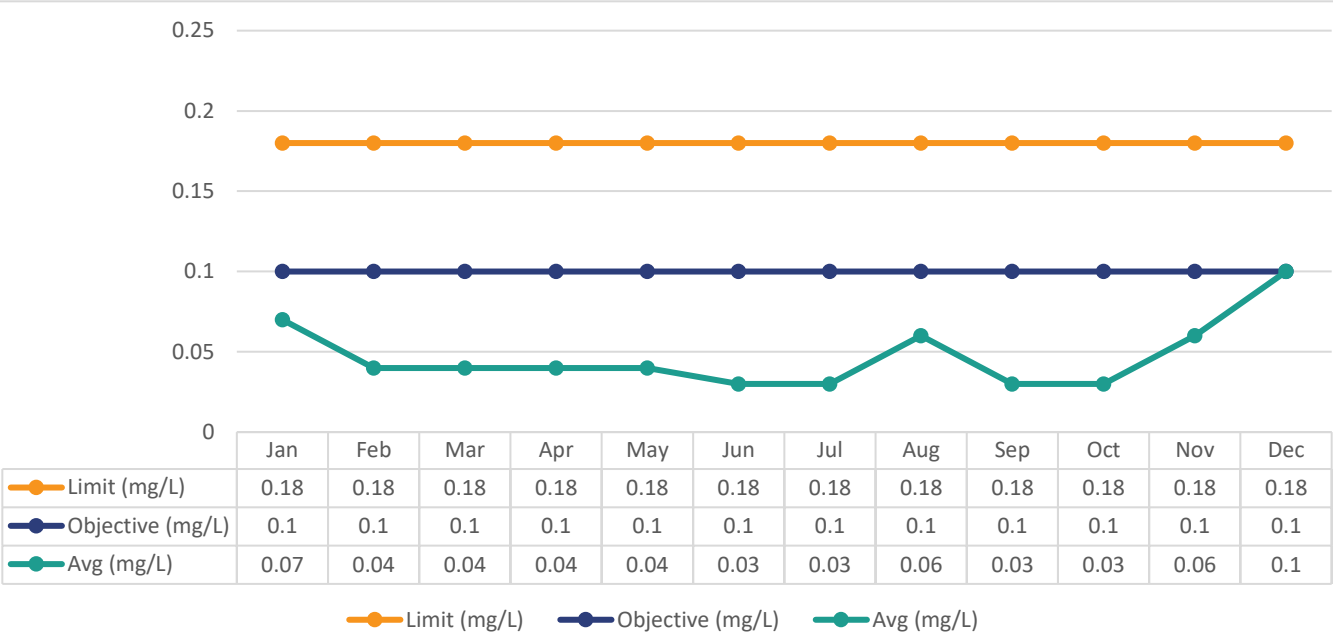
Current	Objective (mg/L)	<0.1
	Limit (mg/L)	0.18
	Loading Limit (kg/d)	4.3

Note: The objective, limit and loading limit is a monthly average.

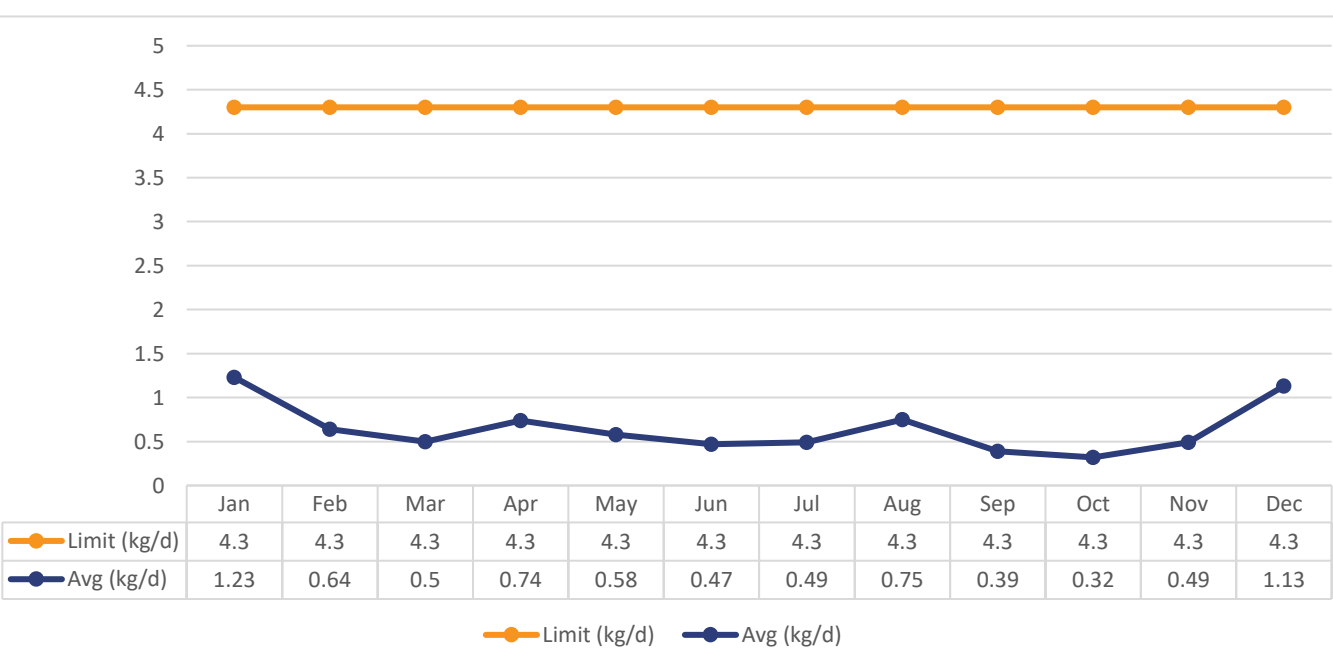
The monthly Total Phosphorus average concentration results throughout 2024 were less than the concentration objectives.

The monthly Total Phosphorus average concentration limits and monthly average waste loading limits throughout 2024 were in compliance with the limits outlined in the ECA.

Graph 39. 2024 Monthly Final Effluent Total Phosphorus Concentration Comparisons



Graph 40. 2024 Monthly Final Effluent Total Phosphorus Average Waste Loading Comparisons



E. coli

The table below outlines the *E. coli* design objectives and compliance limits set in ECA #1696-BPLL4R.

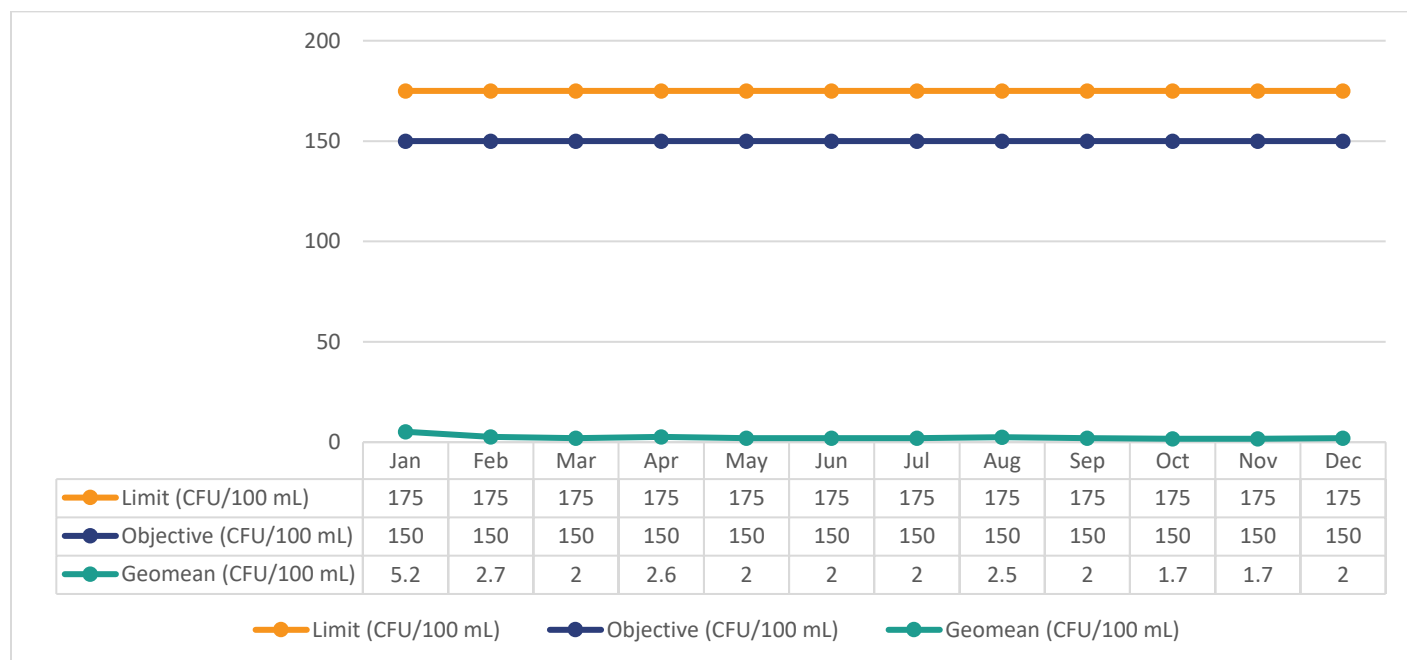
Table 6. *E. coli* Objective and Limits

Current	Objective (CFU/mL)	150 Monthly GMD*
	Limit (CFU/mL)	175 Monthly GMD*

*Geometric Mean Density

The final effluent results were less than the *E. coli* monthly geometric mean density limit and objective throughout 2024.

Graph 41. 2024 Monthly Final Effluent *E. coli* Concentration Comparisons



Acute Lethality to Rainbow Trout and Daphnia Magna

Quarterly effluent samples were collected on January 4, April 4, July 4 and October 3 2024 for analysis for acute lethality to rainbow trout and daphnia magna.

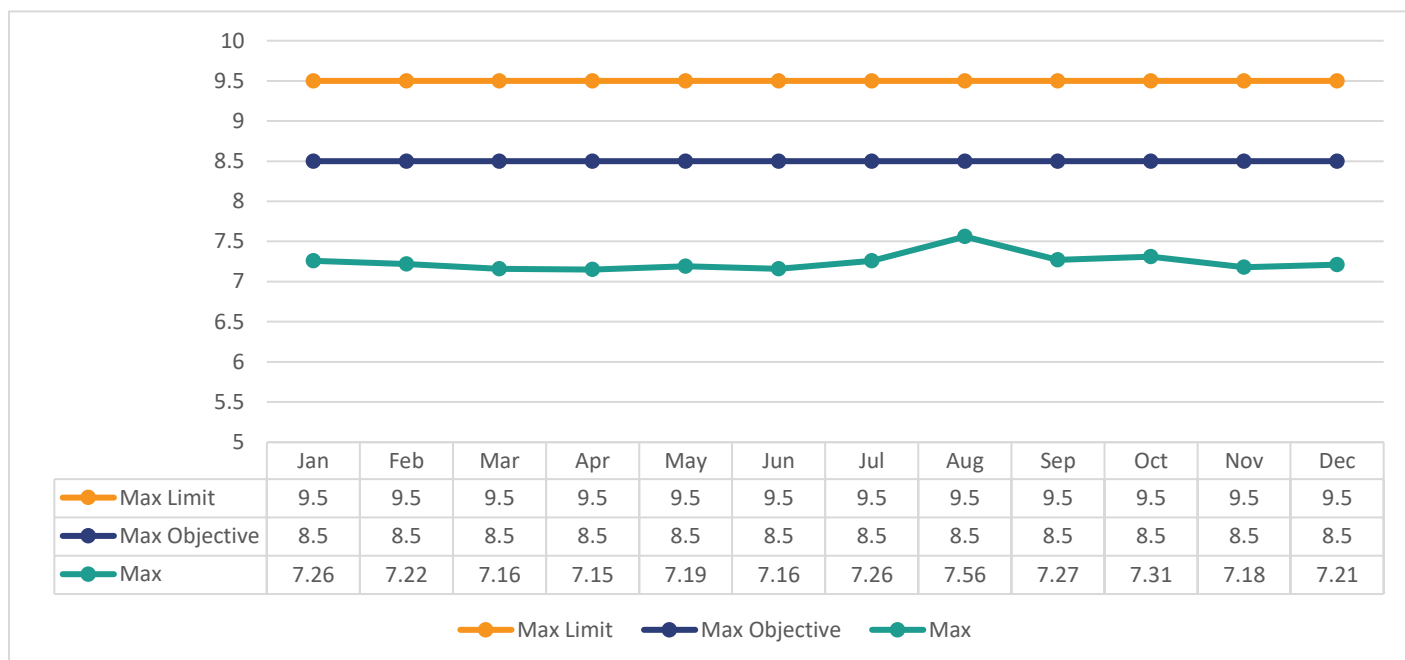
All of the 2024 samples resulted in a 0% mortality rate for Rainbow Trout. The October 3 sample resulted in a mean mortality of 6.7% and January 4 sample resulted in a mean mortality and immobility of 3.3% to *Daphnia Magna* only. A summary of the results are provided in **Appendix I: Acute Lethality Analysis Results**.

pH

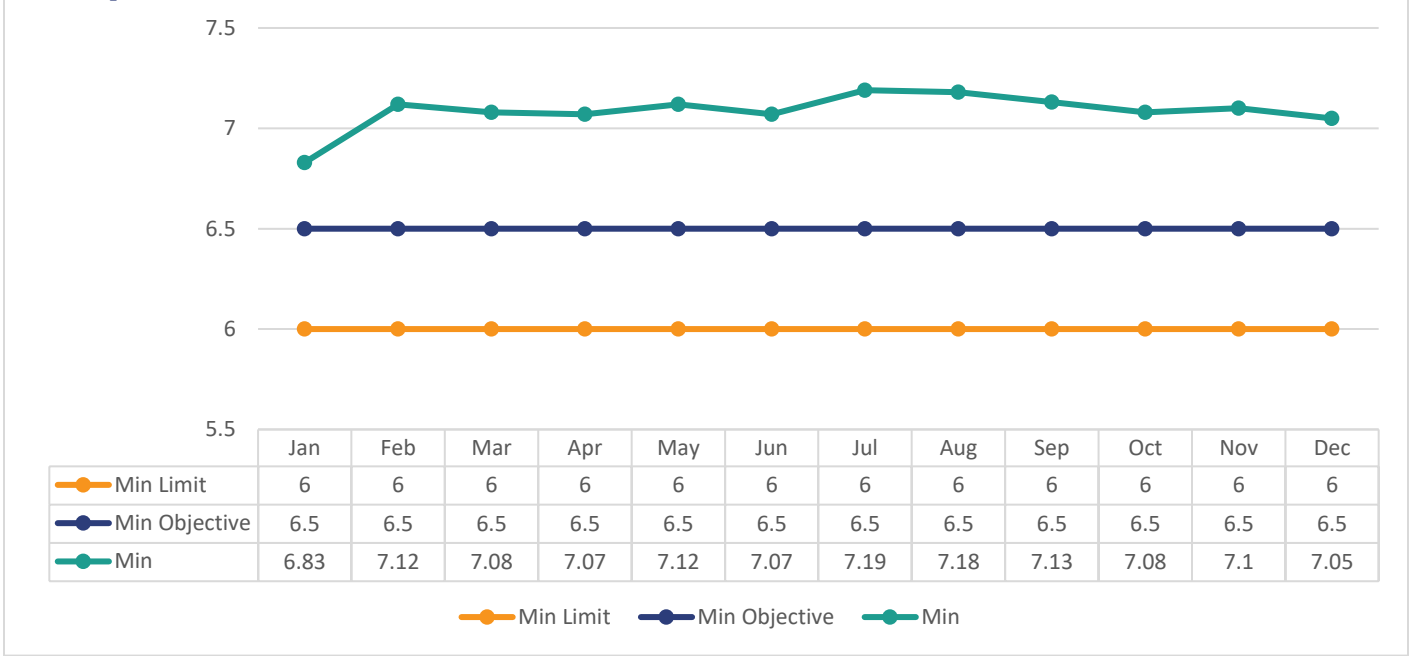
ECA #1696-BPLL4R set a pH compliance limit within the range of 6.0 to 9.5, inclusive, at all times on the effluent. Every pH reading in 2024 was within the compliance limits set by the ECA.

ECA #1696-BPLL4R set the pH objective of each single sample result between 6.5 and 8.5, inclusive, at all times on the effluent. Every pH reading in 2024 was within the compliance objectives set by the ECA.

Graph 42. 2024 Monthly Final Effluent Maximum pH Concentration Comparisons



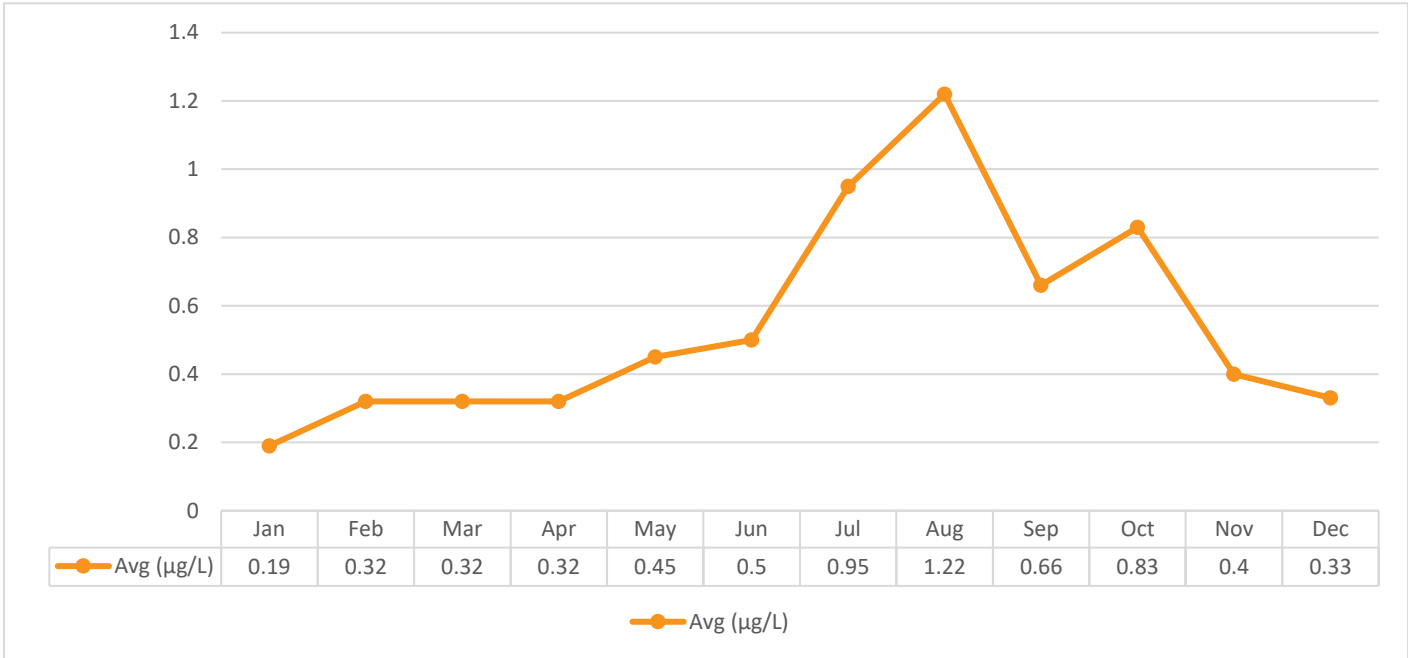
Graph 43. 2024 Monthly Final Effluent Minimum pH Concentration Comparisons



Unionized Ammonia

Unionized Ammonia is calculated monthly based on the final effluent Total Ammonia Nitrogen results and the field pH and Temperature collected at the same time as the TAN sample. The average monthly results ranged between 0.19 µg/L and 1.22 µg/L. ECA #1696-BPLL4R does not set an Unionized Ammonia limit or objective.

Graph 44. 2024 Monthly Final Effluent Unionized Ammonia Average Concentration



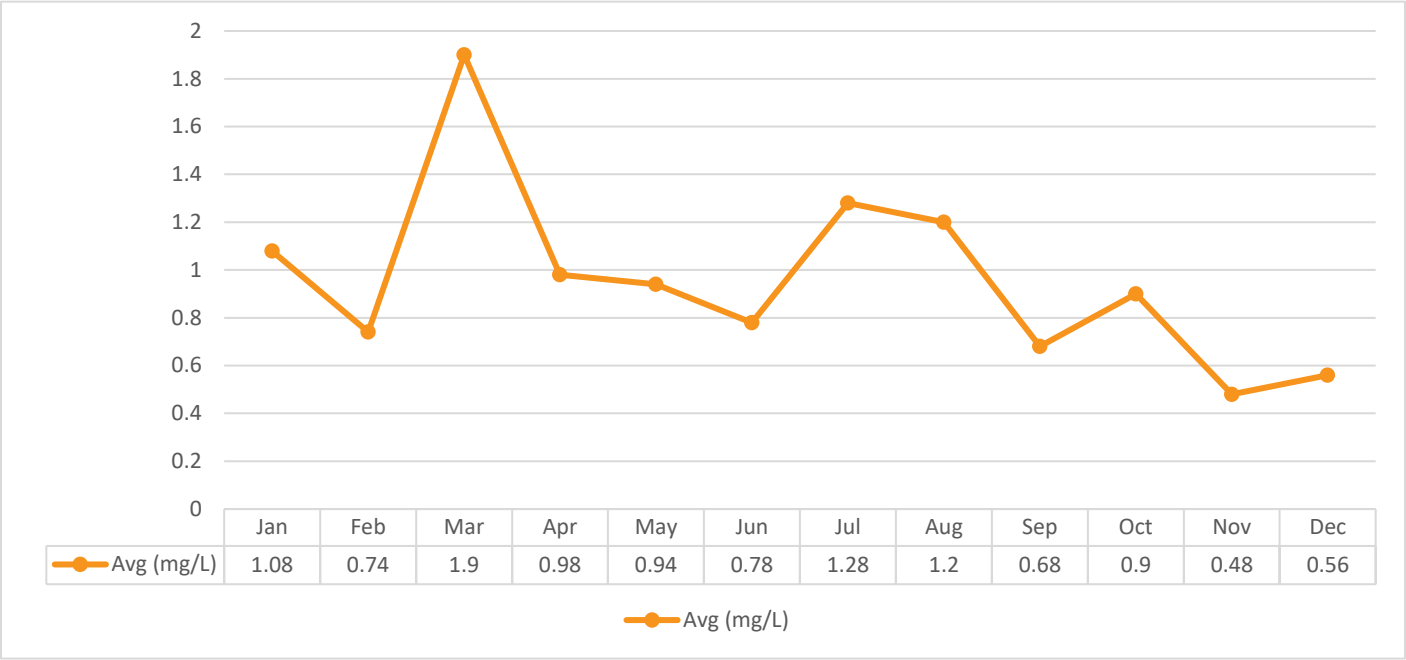
Additional Parameters

The following parameters are requirements of ECA #1696-BPLL4R, but are not designated average concentration limits or average waste loading limits.

Total Kjeldahl Nitrogen (TKN)

Total Kjeldahl Nitrogen is sampled weekly and the average monthly results ranged between 0.62 mg/L and 1.70 mg/L in 2024.

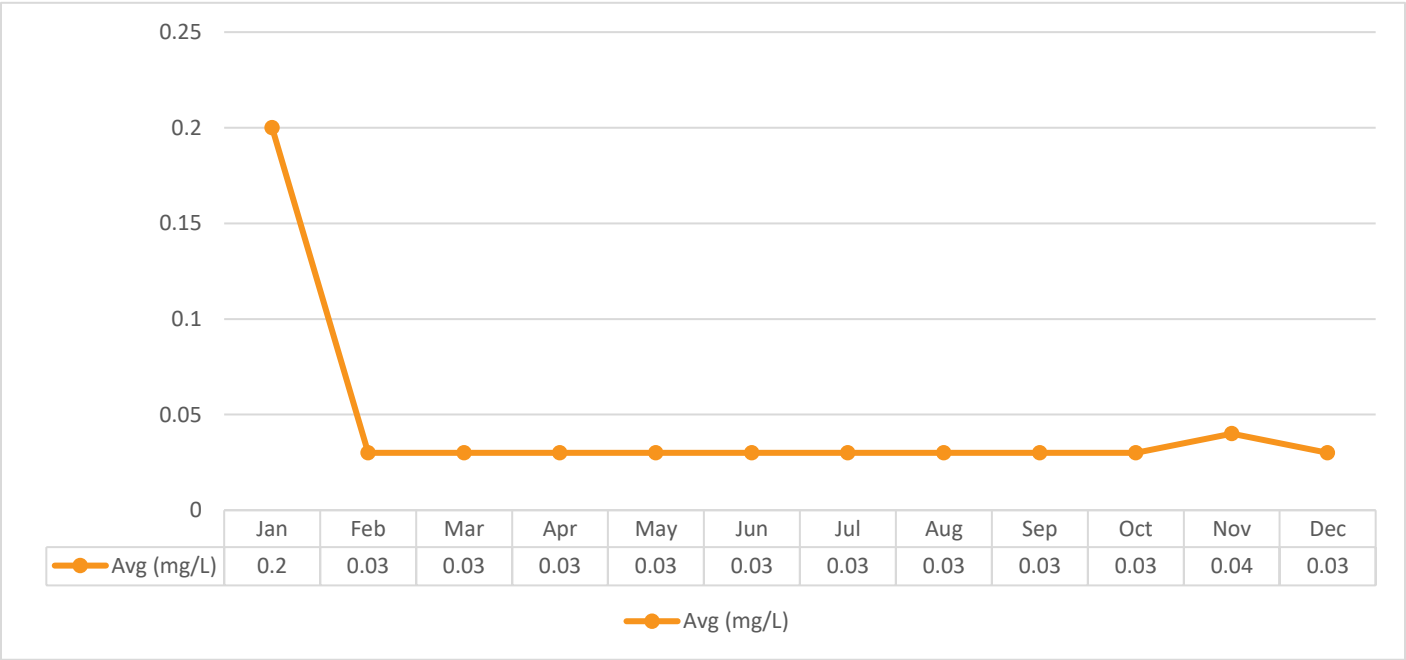
Graph 45. 2024 Monthly Final Effluent TKN Average Concentration



Nitrite as Nitrogen

Nitrite is sampled weekly and the average monthly results ranged between the laboratory method detection limit of <0.03 mg/L and 0.20 mg/L in 2024.

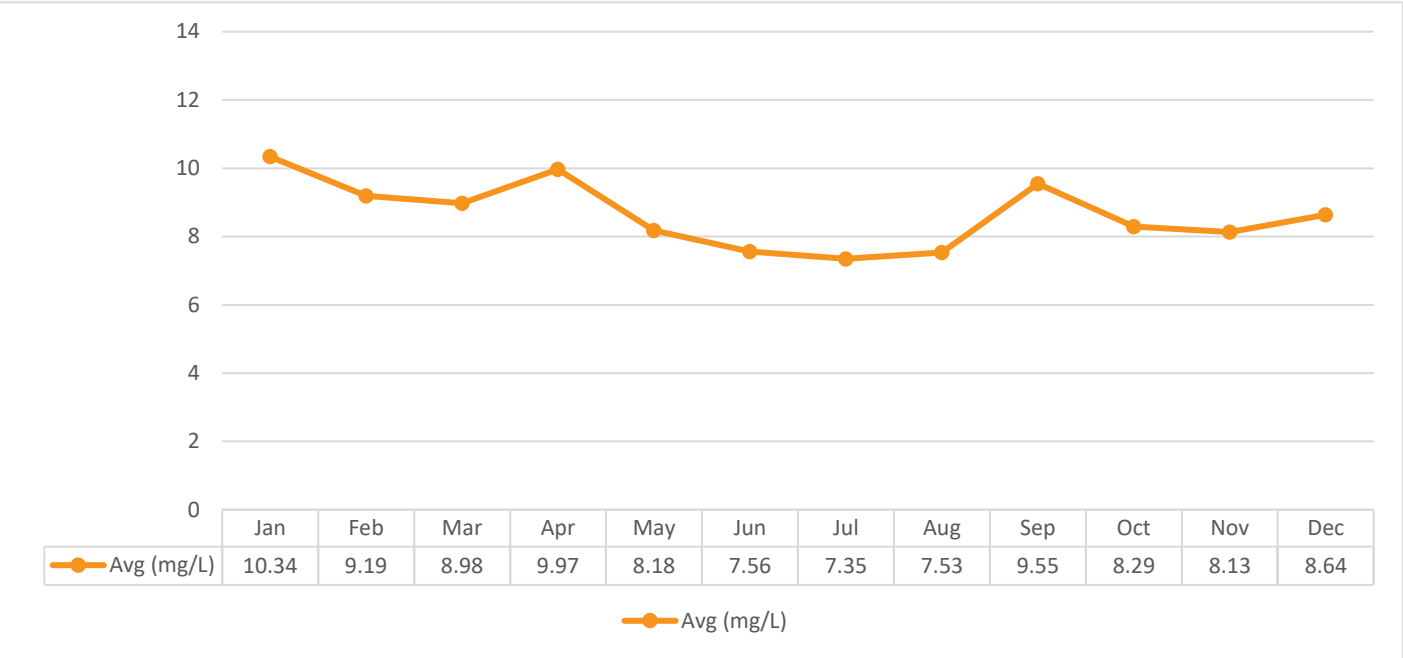
Graph 46. 2024 Monthly Final Effluent Nitrite Average Concentration



Nitrate as Nitrogen

Nitrate is sampled weekly and the average monthly results ranged between 7.35 mg/L and 10.34 mg/L in 2024.

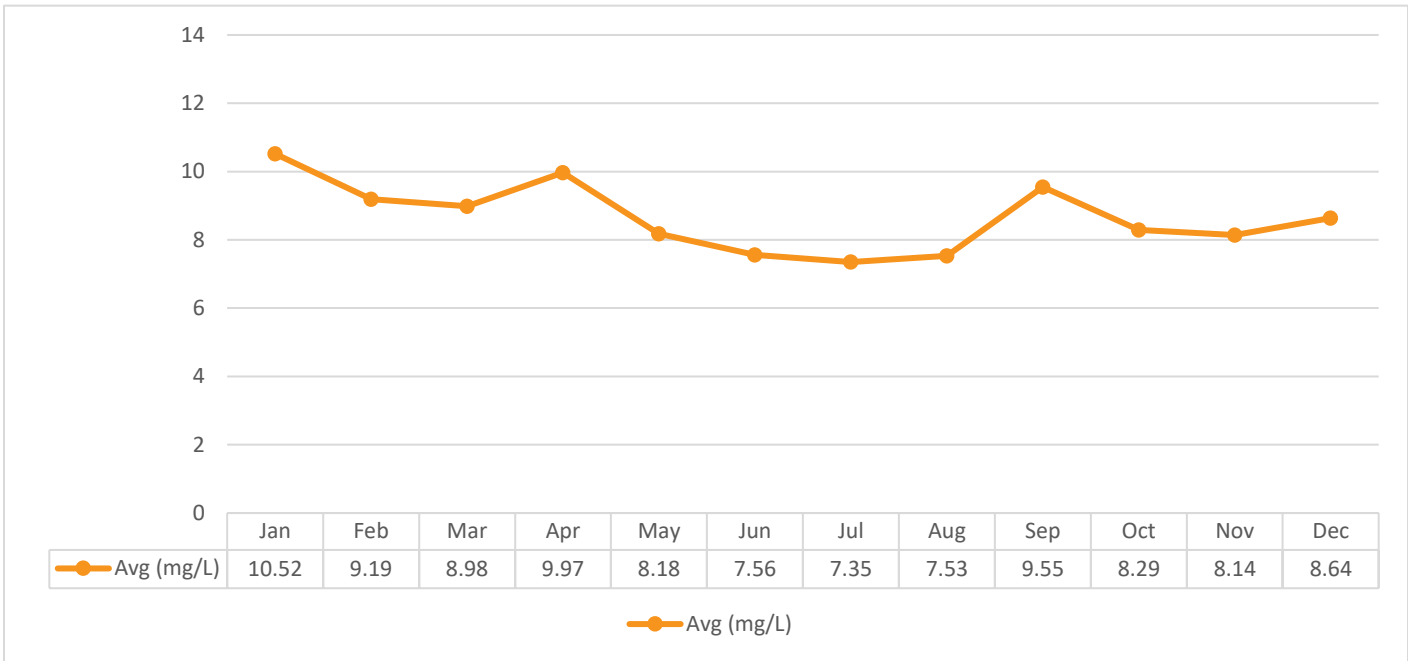
Graph 47. 2024 Monthly Final Effluent Nitrate Average Concentration



Nitrite + Nitrate as Nitrogen

Nitrite + Nitrate is sampled weekly and the average monthly results ranged between 7.35 mg/L and 10.52 mg/L in 2024.

Graph 48. 2024 Monthly Final Effluent Nitrite + Nitrate Average Concentration



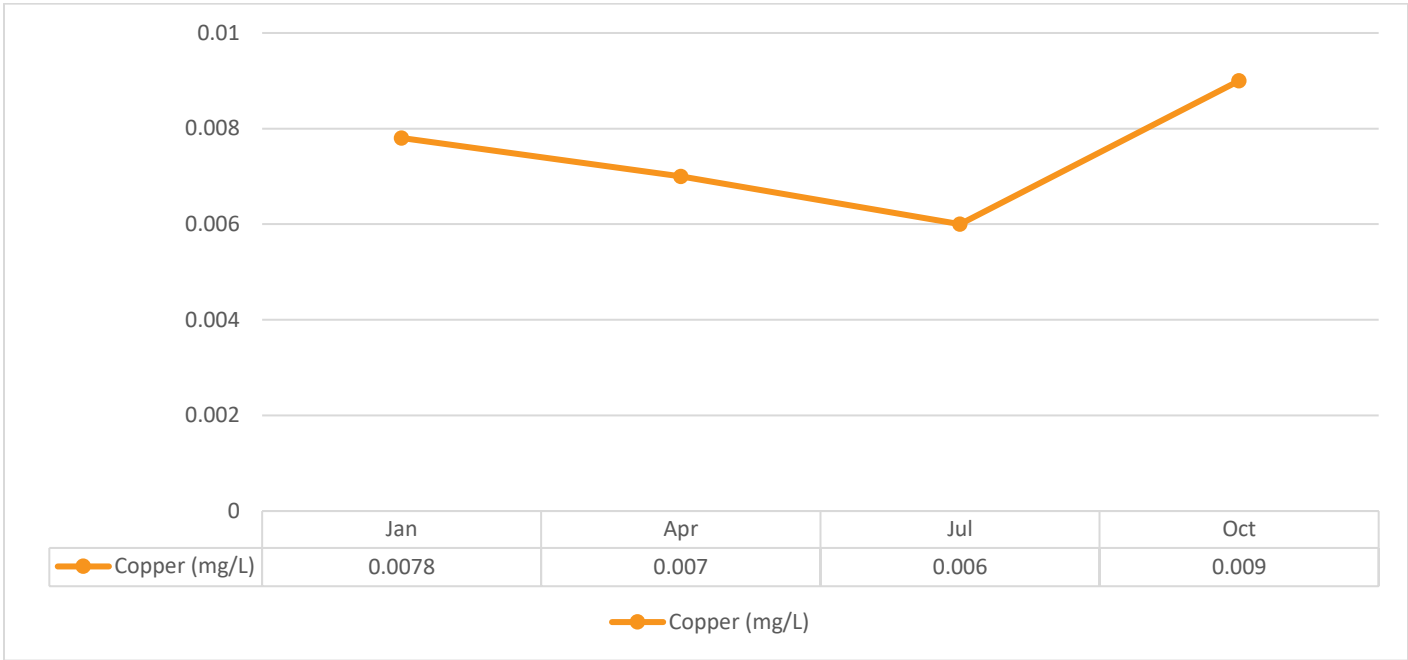
Final Effluent Samples Used for Leachate Related Monitoring

Samples are collected of the Final Effluent quarterly for the purpose of Leachate related monitoring for the Lindsay Ops Landfill as a requirement of ECA #1696-BPLL4R.

Copper

Copper was sampled quarterly in 2024 and the results ranged between 0.006 mg/L and 0.0090 mg/L.

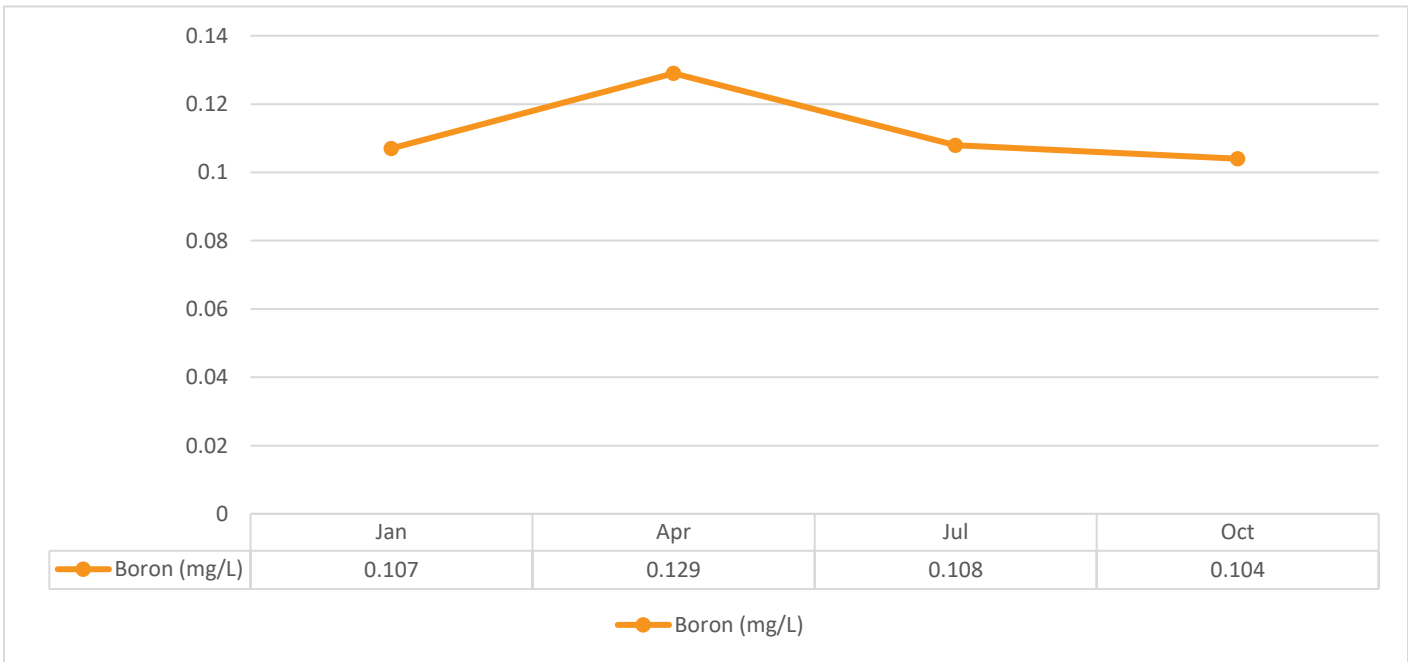
Graph 49. 2024 Final Effluent Copper Concentration



Boron

Boron was sampled quarterly in 2024 and the results ranged between 0.104 mg/L and 0.129 mg/L.

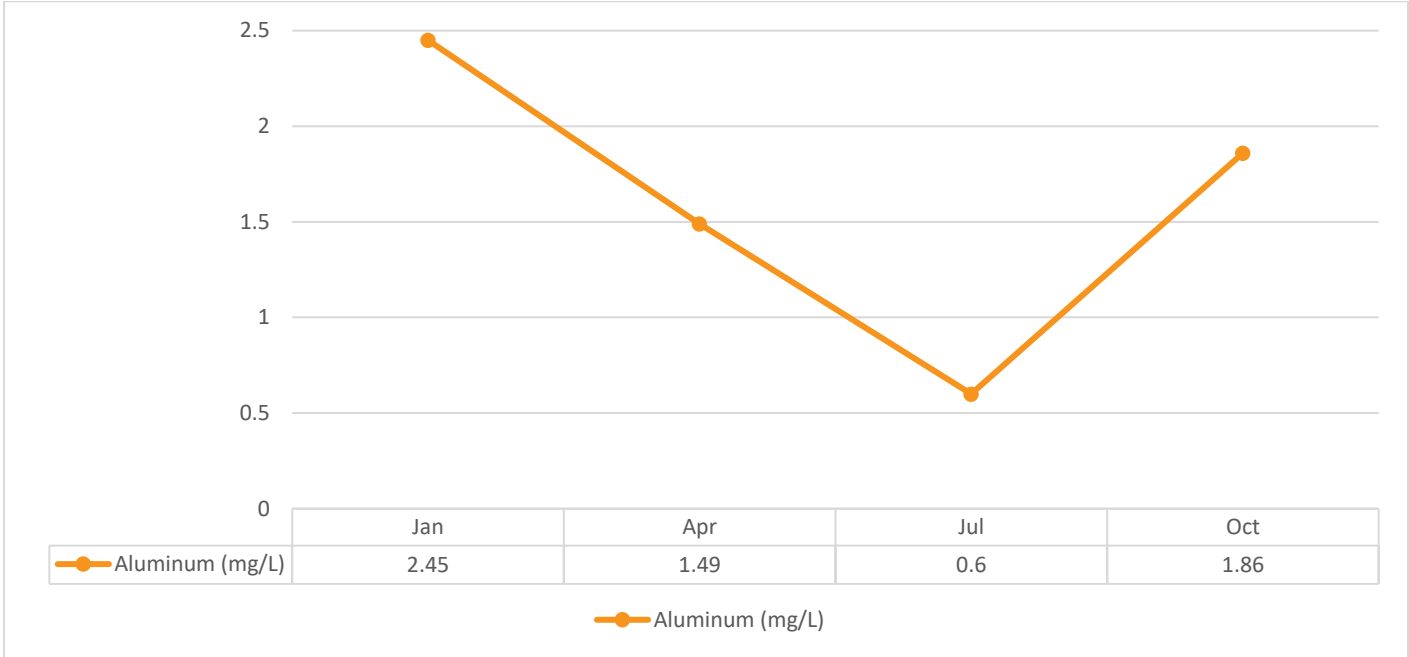
Graph 50. 2024 Final Effluent Boron Concentration



Aluminum (Total)

Aluminum was sampled quarterly in 2024 and the results ranged between 0.595 mg/L and 2.45 mg/L.

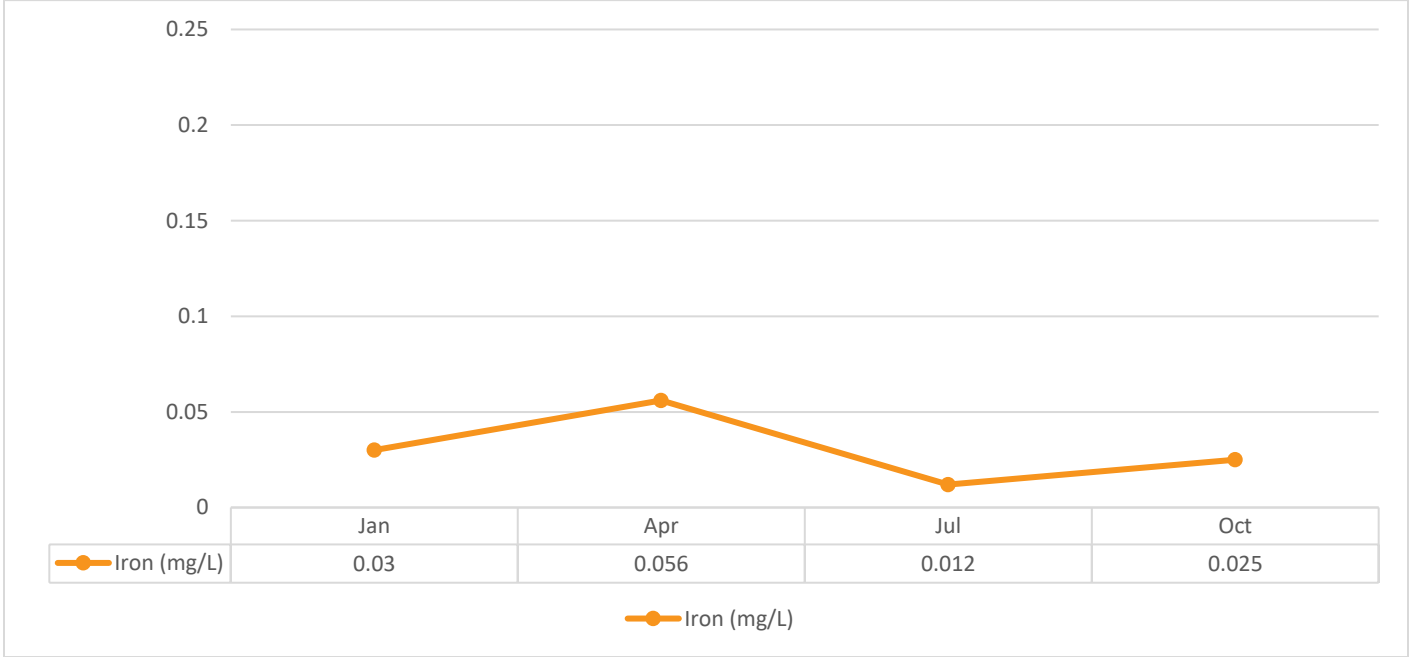
Graph 51. 2024 Final Effluent Aluminum Concentration



Iron (Total)

Iron was sampled quarterly in 2024 and the results ranged between 0.012 mg/L and 0.56 mg/L.

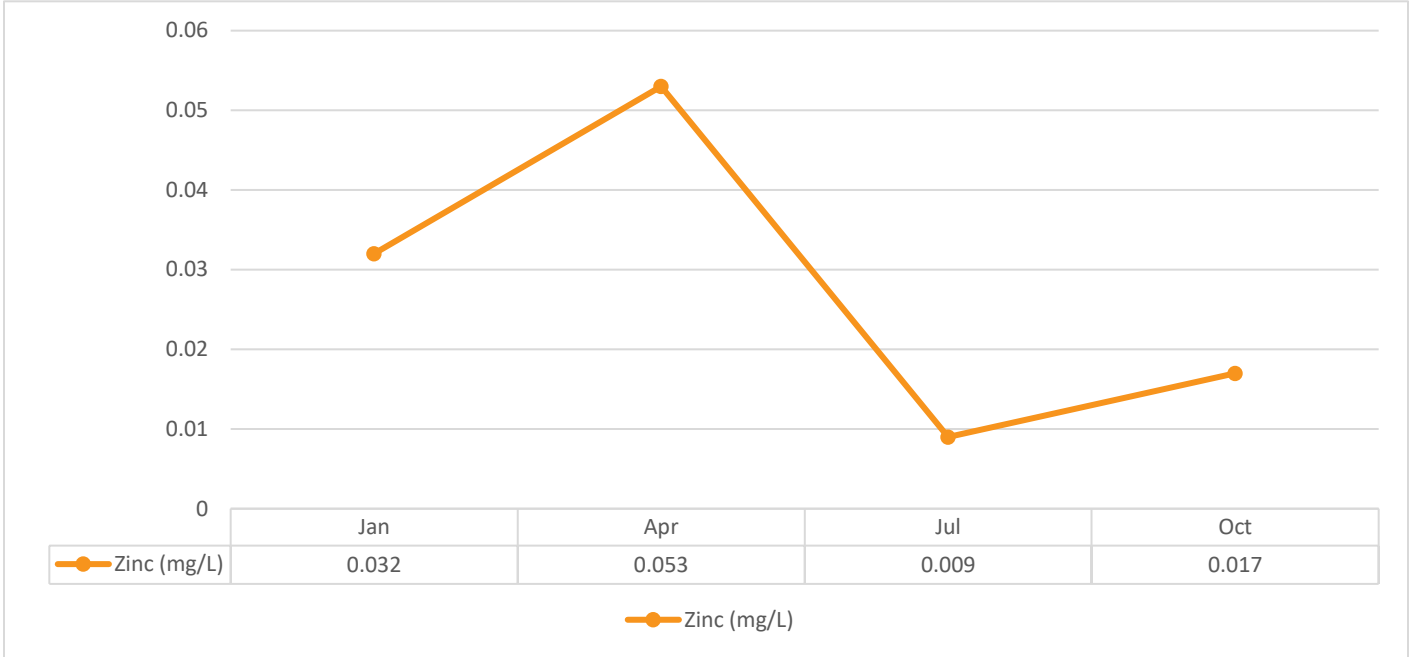
Graph 52. 2024 Final Effluent Iron Concentration



Zinc (Total)

Zinc was sampled quarterly in 2024 and the results ranged between 0.009 mg/L and 0.053 mg/L.

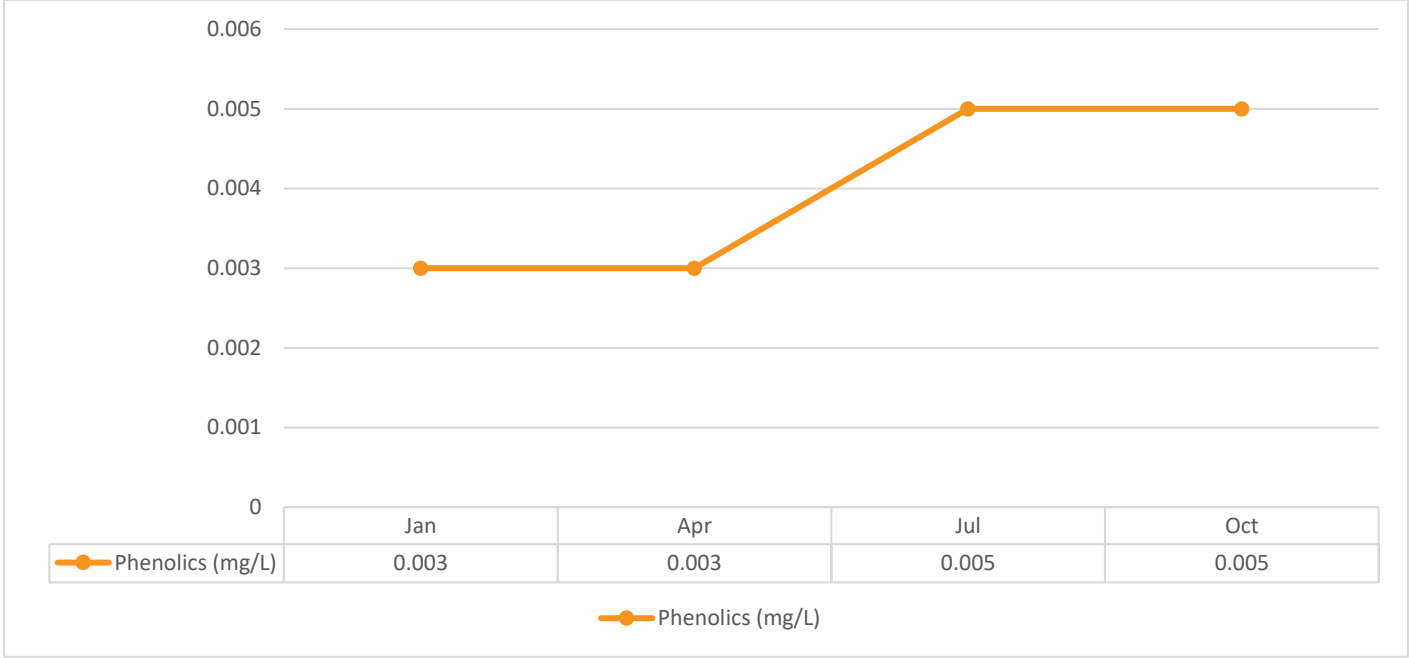
Graph 53. 2024 Final Effluent Zinc Concentration



4AAP-Phenolics

4AAP-Phenolics was sampled quarterly in 2024 and the results ranged between 0.003 mg/L and 0.005 mg/L.

Graph 54. 2024 Final Effluent 4AAP-Phenolics Concentration



Benzene

Benzene was sampled quarterly in 2024 and the results were consistent each quarter at 0.50 µg/L.

Toluene

Toluene was sampled quarterly in 2024 and the results were consistent each quarter at <0.5 µg/L, except for the first quarter result of 0.6 µg/L.

Ethylbenzene

Ethylbenzene was sampled quarterly in 2024 and the results were consistent in each quarter at <0.50 µg/L.

Xylene

Xylene was sampled quarterly in 2024 and the results were consistent in each quarter at <0.50 µg/L.

Quarterly Samples

ECA #1696-BPLL4R requires a grab sample be collected at least quarterly and analyzed for Bis(2-ethylhexyl) Phthalate, Cobalt, Magnesium, Manganese, Potassium and Strontium. Limits are not defined in the ECA.

Table 7. 2024 Final Effluent Results for Quarterly Samples Required by ECA

Parameter	January 4, 2024	April 4, 2024	July 4, 2024	October 3, 2024
Bis (2-ethylexyl) Phthalate (µg/L)	<2	<2	<2	<2
Cobalt (mg/L)	0.000191	0.000244	0.000137	0.000242
Magnesium (mg/L)	14.4	14.0	13.4	12.4
Manganese (mg/L)	0.0138	0.00881	0.00176	0.00174
Potassium (mg/L)	10.8	12.5	13.1	15.8
Strontium (mg/L)	0.405	0.403	0.336	0.332

Operational Challenges and Corrective Actions

(c) The following details describe all operating problems encountered during the reporting period and the corrective actions taken.

Table 8. Lindsay WWTP Operational Challenges

Month	Challenges	Corrective Actions
January	Actiflo 1 Failure	Pump out and repair made to broken mixer blade.
	Actiflo 1 Polymer Low Flow	Flush lines, replace solenoid valve.
	Equalization pump fault	Changed settings and back into service.
	Wellington St SPS Pump 2 Failure	Replace broken blow off and back into service.
	Lindsay St North SPS Pump 3 Failure	Replace fuse in VFD and back into service.
	North Clarifier Scum Rake Not Moving	Heater installed to unfreeze ring gear. Adjust clutch and back into service.
	Rivera Park SPS Pump 4 Failure	Replace fuse and back into service.
	Lindsay ST N SPS Pump 1	Hook up to disconnect and in service.
	Actiflow Effluent Quality	Increase dosing, adjust and calibrate auger dosages.
	Linsday St N SPS Pump 3 Failures	Control board replaced.
February	Lindsay ST N SPS Pump 3 Failure	Remove mouse in control panel causing failure and back into service. Board in VFD panel loose and was put in properly and back into service.
	Polymer Dosing	Manually open valves until replace valves onsite and installed.
	Actiflo 2 Recirculating Pump Failure	Clean splitter screens and back into service. Belt replacement.
	Alum Isolation Valve	Switch to standby pump.
	Sump Pump Polymer Room Failure	Replace with new pump.
	WAS Pump Failure	Replace fuse.
	Actiflo 2 Knife Valve Failure	Take offline for repairs and back into service.
	Equalization Tank Level Erratic	Switch to secondary level, replace level transducer and Miltonic's controller.
	PLC Communication Failure	Run equalization pumps in hand and reset HMI's.
March	Lindsay St N SPS Water Leak	Hooked up potable water truck to feed water to pumps. Complete repair on leak.
	Actiflo Train High Flows	Decrease flows due to high rain and divert to lagoon. Rake splitter box screens.
	Equalization Pump 1 Fault	Locked out until replaced, failed megger test

Month	Challenges	Corrective Actions
	Equalization Tank Radar Level Control	Ran echo profile, replace cable with a shielded cable to prevent electronic interference.
	Rideout SPS Pump 2 Failure	Blockage cleared.
April	Equalization Tank Pump 1	Out for repair.
	Equalization Tank High Level	High flows due to rain storm, inlet flow diverting to lagoon.
	Rideout SPS Pump 1 Failure No Power	Check for electrical issue, no issue found reset breaker, in service.
	Mary St SPS No Pump Operation	Replace blown fuse.
	Polymer System Clogged	Unclog the polymer system. Mixer replaced.
	Lindsay Leachate	Low flow from pumps, turn off pump 2 and leave pump 1 online.
	Central Leachate High Alarm – Transducer Under Water	Pump down and Pump 2 ordered.
	Equalization Tank Level Indicator	Replaced.
	Equalization Tank Pump 2 Failure	Clean bar screens.
May	Central Leachate High Alarm – Transducer Under Water	Pump down.
	Rivera Park SPS – Pump 4 MAS Failure	Pulled to rebuild.
	Wasting Pump 1 Failure	Changed volume amount.
	Actiflo Return Pump Low Pressure	Unclog and return to service.
	Equalization Tank – Miltonic's Replacement	Replace the Miltonic's and transducer.
June	Mary St SPS Pump 1 Failure	Power failure blew fuse, replace fuse and back in service.
	Mary St SPS – Pump 2 Failure	Clear blockage and back into service.
	Wellington St SPS – Pump 1 Line Failure	Replace ball valve on discharge side of pump and back into service.
	Clarifier 2 RAS Pump Failure	Reset alarm and clean weirs.
	Actiflo Sump Pump Failure	Replace pump with spare.
	Actiflo 1 Failure – High Flows	Clean screens. Adjust gate screen.
July	Jennings Creek SPS – Pump Faults	Reset all 3 pumps fault alarms from power failure.
	Mechanical Bar Screen – Plate Come Off	Bolted down rake plate.
	UV Module Failure	Replace module.

Month	Challenges	Corrective Actions
	Anoxic Zone Mixer Failure – Seized	Remove from service.
	Wasting Pump – Isolation Swing Arm Failure	Tighten arm on pump.
	Actiflo 2 Failure – High Flows	Clean screens.
	UV Bank 1 Major Alarm	Clean UV.
	Clarifier 1 Scum Box Clogged	Unclog Scum Box.
	Ridout SPS Generator Failure – causing collection system back up.	Return to utility power, and install rental generator.
August	North Leachate SPS – Pump 2 Failure	Replacement of pump 2.
	Equalization Tank – Pump 2	Replacement of pump 2.
	Ridout SPS – Pump 2 Failure	Unclog pump and back to service.
	Wasting Pump 2 – Low Flow, Discharge Valve Failure	Replace broken air fitting.
	Actiflo 2 – Return Pump Low Pressure	Remove Debris.
	UV Bank 1B	Replace Bulbs and clean.
	Clarifier Return Pump Failure	Reset and monitor.
	Jennings Creek SPS – Level Readings	Pumps on when level is low, turn pumps off to clear alarm and back on when normal level reads normally.
September	Jennings Creek SPS – Pump 3	Turned off, tested and operating.
	Actiflo 2 Failure – Return Pump 2 Low Pressure	Rotate standby then back to duty, clear alarm.
	Lindsay St N SPS – Pump 1 Cooling Water Solenoid Failure	Out of service.
	UV Bank 1B	Acknowledge alarm and cleared. Changed bulbs.
	Actiflo 1 Failure – Inlet Control Valve Failure	Valve not closing completely, close valve manually.
	South Clarifier – Scum Box Full, Pumps Faulted	Reset tripped breakers. Pump 1 still tripping but is fine electronically is offline.
	UV Bank 1A	Changed lamp and sleeves, acknowledge alarm. Clean sleeves.
	UV Bank 1A - Module 3 Failure	Found to be electrical issue, offline
October	UV Bank 1A – Module 3 Failure	Reset power loss and order a control driver.
	Mary ST SPS – Pump 2 Fail	Reset and operating.
	Equalization Tank Blockage	Open valve to remove blockage and back to normal.

Month	Challenges	Corrective Actions
	Actiflo 1 Inlet Valve Failure	Valve faulted on open, open manually. Keeps failing, SCADA not seeing the transfer.
	Jennings Creek SPS - Pump 1 and 2 Failure	Reset VFD and monitor.
	UV Bank 1A –Module 4 Lamp 6	Replace bulb.
	Clarifier Scum Pump 2 – Vibration and Noise	Clear blockage.
	UV Bank 1B	Clean sleeves. Replace bulbs in module 15,16,17
November	Jennings Creek SPS – Pump 3 Failure	Reset VFD and changed set points.
	Ridout SPS – Pump 2 Failure	Showing inhibit on SCADA, cycled power and cleared. Monitor cycles.
	UV Rack 1A	Clean sleeves. Replaced bulbs in module 5 and 17.
	UV Bank 1A – Module 3 Failure	Reset and waiting on parts.
	Actiflo 1 – Inlet Valve Failure	Parts ordered. Changed torque settings.
December	UV Failure – Bank 1A	Module 15, 16 replace lamps.
	Actiflo 1 – Inlet Valve Failure	Repair valve, open and close manually.
	Alum line clogged	Cleaned injectors.
	UV Bank 1A – Module 3 Failure	Waiting on parts, reset controller.
	Ridout SPS – Pump 2 Failure	Reset and monitor pump cycle.
	Polymer Hopper Clogged	Clean Hopper and remove broken piece.
	UV Failure	Both banks working fine, clear faults on controller.

Maintenance Summary

(d) OCWA uses a Work Maintenance System (WMS) to schedule normal maintenance activities and track repairs. WMS is a maintenance tracking system that can generate work orders as well as give summaries of completed and scheduled work. During the year, the operating authority at the facility generates scheduled work orders on a weekly, monthly and annual basis. The service work is recorded in the work order history. This ensures routine and preventative maintenance is carried out and assets are maintained to manufacturer's and/or industry standards. Emergency and capital repair maintenance is completed and added to the system

Refer to **Appendix III: WMS Work Order Summary** for details of equipment upgrades, repairs and service performed in 2024.

Effluent Quality Assurance or Control

(e) Effluent quality assurance is maintained in several ways. Laboratory samples are sent to an accredited laboratory (SGS Canada Inc. – Lakefield or Nautilus Environmental) for analysis of all effluent parameters. Sampling calendars are issued to the operator which denote frequency of sampling. Calendars are used as a tracking mechanism throughout the month to ensure all required samples are collected. These calendars are submitted to the Process Compliance Technician at the end of each month for review. Raw and effluent samples are collected as per the Amended Environmental Compliance Approval and the results are reviewed on a regular basis to ensure compliance with the site’s objectives and limits.

Work orders illustrating all scheduled and preventative maintenance to be completed are issued to the operator and/or mechanic. OCWA conducts internal audits of the facility and develops Action Plans to ensure deficiencies are identified.

Calibrations

(f) Calibrations on effluent monitoring equipment were performed by Franklin Empire on December 3-5, 2024 for equipment located at the Lindsay Wastewater Treatment Plant and Sewage Pumping Stations. Masstec Weighing Systems completed calibrations on the Inbound and Outbound scales at the Lindsay Ops Landfill on March 6, 2024 and December 4, 2024.

Please see **Appendix IV: Calibration Reports**.

Best Efforts to Achieve Design Objectives of Condition 6

(g) OCWA uses a number of best efforts to achieve the Effluent Objectives. Effluent quality assurance and control measures include in-house sampling and testing for operational parameters such as suspended solids, pH, phosphorus, dissolved oxygen, etc. In-house testing provides real time results which are then used to enhance process and operational performance. OCWA also collects raw sewage and effluent samples as per the ECA and reviews these results on a regular basis to ensure compliance with ECA objectives and limits.

OCWA uses a computerized maintenance management system, which generates work orders to ensure maintenance of equipment is proactively performed. In addition, OCWA provides regular status reports to the Owner, which includes operational data, equipment inventory, financial statements, maintenance activities and capital improvement recommendations.

OCWA has developed comprehensive manuals detailing operations, maintenance, instrumentation and emergency procedures. To ensure facilities are operated in compliance with applicable legal requirements, facility staff have access to a network of operational compliance and support experts at the cluster, regional and corporate level.

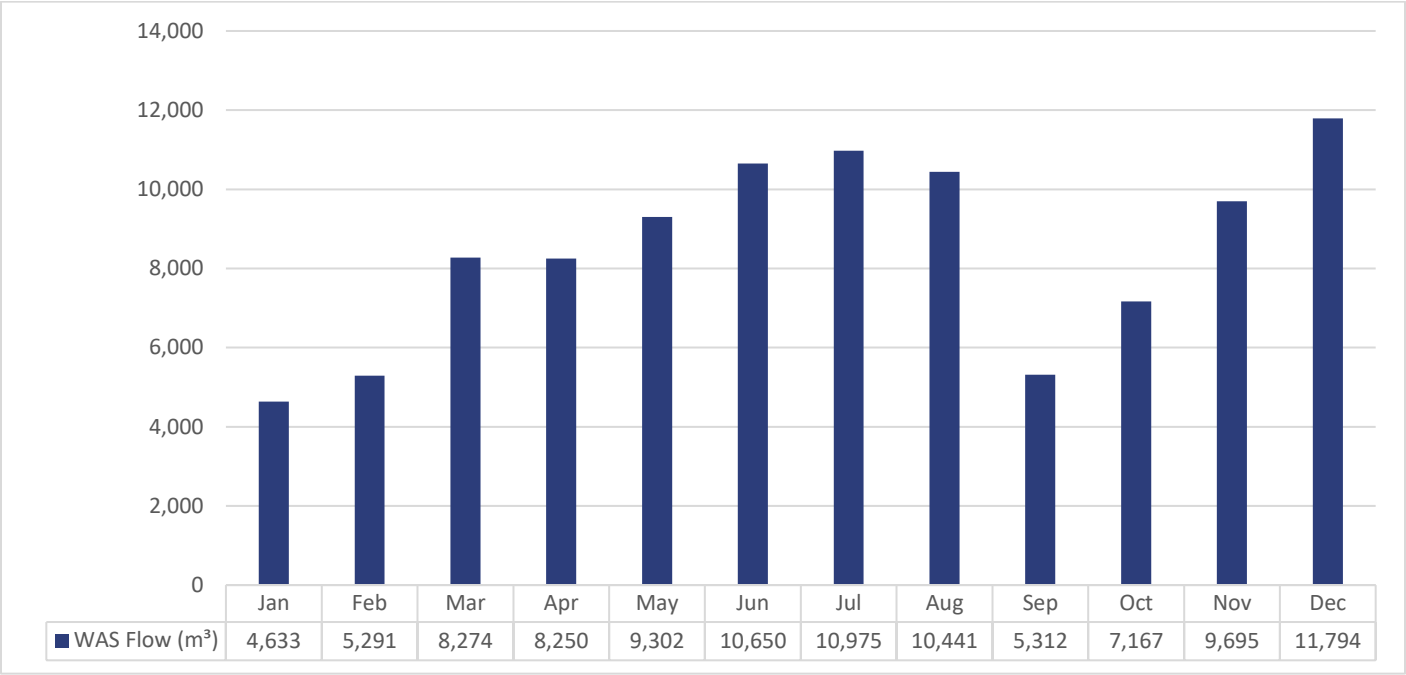
Continuous efforts were made to meet the Effluent Objectives in 2024 including:

- Development of the sampling plan which meets or exceeds the minimum sampling requirements in the ECA;
- Visual Inspection of the entire process while performing rounds;
- Influent monitoring;
- Ensuring that chemicals are being dosed and adjusted as required;
- Continually optimizing the Actiflo process;
- Calibration of lab equipment;
- Annual calibration of flow meters;
- Performing preventative maintenance activities in accordance with work order schedules;
- Performing in-house lab tests on days that data is collected;
- Monitoring treatment processes by performing regular laboratory analysis and review of lab results;
- Sludge monitoring of primary clarifiers & adjustments to pumping volume based on tank levels to reduce solids carryover to the secondary clarifiers;
- Visual review of microbiological activity of activated sludge to ensure appropriate F/M ratio;
- Aeration blower maintenance;
- Pumping lagoon wastewater back to headworks has managed to reduce influent loadings when DO is low.

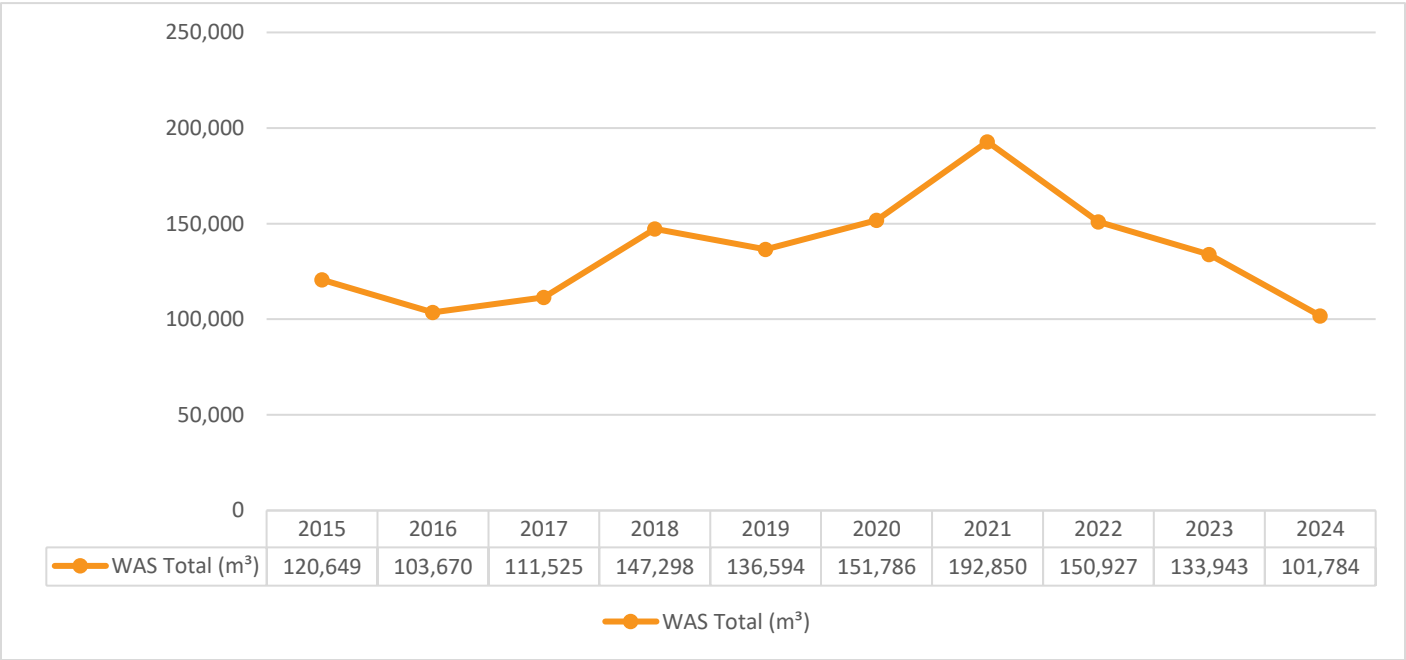
Sludge

(h) The total volume of sludge generated in 2024 was 101,784 m³, which was a 24.01% decrease in the amount of sludge generated in 2023. Sludge is stored in onsite storage lagoons at the Lindsay WWTP and the volume is not expected to be appreciably different in the next reporting period.

Graph 55. 2024 Monthly Sludge Generation Volumes



Graph 56. Historical Sludge Volume Comparisons



Sludge Removal

There was no sludge removed from the Lindsay WWTP in 2024.

Complaints

(i) a summary of complaints received by the owner and operating authority is provided in the following table.

Table 9. Summary of Community Complaints

Date	Issue	Actions Taken
April 24, 2024	Resident reported sewer smell along street.	City sanitary sewer within area inspected, and no issues identified. Homeowner advised could be an internal plumbing issue.
May 13, 2024	Resident reported sewage backing up into basement. Determined that main line sewer was also backed up.	City sanitary sewer on Kyle Court was flushed and two bricks and a Ziploc bag of concrete removed, which had caused a blockage.
June 11, 2024	Resident called to complain about noise of manhole lid making noise when cars drive over it.	Cold patch was placed around manhole lid to stop movement.
July 15, 2024	Resident called to report sewer backup in rental property over weekend (July 12 th). Backup was caused by no power and generator failure at Ridout St. sewage pumping station	Generator failed due to overheating and coolant line blowing off. Was able to get temporarily running to bring down system levels, until utility power restored. Generator was damaged, and rental brought it.
August 5, 2024	Resident called to report odour coming from “candy cane” vent on forcemain along Angeline St. N.	It was explained to the resident that these vents are air release valves on a forcemain pipe, and are designed to release air, which may be odourous due to sewage in pipe. Vents are equipped with carbon filters, and are checked/changed regularly.
September 17, 2024 (issue occurred September 13, 2024)	Resident at 7 Division St. called to report strong sewage odour in house during regular sewer flushing.	Resident advised that house will be added to list for sewer flushing contractor to be mindful of operations in area.

Date	Issue	Actions Taken
September 17, 2024 (issue occurred September 13, 2024)	Resident at 9 Division St. called to report strong sewage odour in house during regular sewer flushing.	Resident advised that house will be added to list for sewer flushing contractor to be mindful of operations in area.

By-pass, Spill or Abnormal Discharge Events

(j) A summary of By-pass, Overflows, situations outside Normal Operating Conditions, Spills within the meaning of Part X of EPA and Abnormal Discharge Events during 2024.

Bypasses

There were not any bypasses at the Lindsay WWTP during 2024.

Spills

There were not any spills at the Lindsay WWTP during 2024.

Overflows

There were not any overflows at the Lindsay WWTP or pumping stations in 2024.

Abnormal Discharge Events

There were not any abnormal discharge events at the Lindsay WWTP in 2024.

Refer to **Appendix VI: Bypasses, Overflows, Spills or Abnormal Events** for copies of the quarterly Bypass and Overflow reports, and Notice of Exceedance submitted to the Ministry of Environment, Conservation and Parks.

Situations Outside Normal Operating Conditions

“Normal Operating Conditions” means the condition when all unit process(es), excluding Preliminary Treatment System, in a treatment train is operating within its design capacity. In the instances of Situations Outside Normal Operating Conditions, ECA #1696-BPLL4R directs to collect daily sample(s) of the Final Effluent, on any day when there is any situation outside Normal Operating Conditions and sampled for CBOD₅, TSS, Total Phosphorus, TKN. As a best practice, samples are also tested for TAN, Nitrite, Nitrate and Nitrite + Nitrate.

There were no instances of Situations outside Normal Operating Conditions in 2024.

Notice of Modifications to Sewage Works

(k) There were not any Notices of Modifications to Sewage Works initiated, worked on or completed in 2024.

A summary of all modifications completed which did not require a Notices of Modifications to Sewage Works are included in **Appendix III: WMS Work Order Summary**.

Conformance with Procedure F-5-1

(I) A summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflows with estimated budget forecast for the year following that for which the report is submitted.

During the 2024 reporting period there were no incidents of a bypass or overflow within the sanitary sewer system.

The City of Kawartha Lakes continues to work on a Master Servicing Study and Capacity Assessment for all facilities analyzing existing capacity and future growth requirements. Sanitary sewer flushing is conducted on an annual basis (3 years of dead ends/trouble areas and 4th year is a full system flush). During this program, any manholes with infiltration issues are identified and are included in operational maintenance contracts for grouting, frame and cover replacements, etc. A summary of this work can be found in Table X below.

Changes/Updates Construction Schedule

(m) ECA #1696-BPLL4R states that the annual report must contain “any change or updates to the schedule for the completion of construction and commissioning operations of major process(es)/equipment groups in the Proposed Works”.

There is work remaining to complete the replacement of the North clarifier column/ scraper, and the South clarifier weir covers. The North clarifier work has been completed and the South clarifier weir covers are scheduled to be completed in 2025.

Deviation from Monitoring Program

(n) ECA #1696-BPLL4R states that the annual report must contain “a summary of any deviations from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year”.

The 2024 sample plan states that weekly samples would be collected on Wednesdays and monthly samples would be collected on the first Wednesday of each month. Annual samples were scheduled to be sampled on July 4, 2024. Weekly sampling occurring on Thursday's did need to be considerate of holidays and there was a need to pre-plan alternate sample dates to accommodate holidays and accredited lab holiday hours in 2024. Due to the holidays and the accredited lab holiday hours the third week in December was collected on Wednesday, the fourth and fifth week in December was collected on Monday.

As noted in an email from Sargo Okhovatian, Ministry of the Environment, Conservation and Parks – Review Engineer Assistant, dated October 12, 2018 since neither the City of Kawartha Lakes nor the Ontario Clean Water Agency has control of the delivery schedule of Imported Sewage, the monthly Imported Sewage samples are not required to be sampled on specific dates. As long as there is a minimum one sample from each Imported Sewage stream (Abattoir Waste and Receiving Station) each month then there will be no deviation from the Sample Plan.

There were deviations from the Sample Plan in 2024:

Table 10. Deviations from Sample Plan in 2024

Date	Deviation	Reason
March 2024	Monthly – Abattoir sample not collected	Operations staff were not notified by hauler of abattoir waste being delivered. Amount of abattoir waste has decreased slightly (see Graph 14)
May 2024	Monthly – Abattoir sample not collected	Operations staff were not notified by hauler of abattoir waste being delivered. Amount of abattoir waste has decreased slightly (see Graph 14)
September 2024	Monthly – Abattoir sample not collected	There was no abattoir hauled this month. Amount of abattoir waste has decreased slightly (see Graph 14)
October 10, 2024	Weekly – Bacteriological sample was taken on October 10, 2024 but needed to be resampled and was taken on October 11, 2024	The sample take on October 10, 2024 had developed ice in the bottle and was discarded at lab, the resample was taken the following day to be analyzed.
December 19, 2024	Weekly – Samples scheduled for December 19, 2024, sampled on December 18, 2024	Weekly samples collected one day early due to accommodate holiday for following week.
December 26, 2024	Weekly – Samples scheduled for December 26, 2024, Sampled on December 23, 2024	Weekly samples fell on a holiday and was scheduled on the Monday to accommodate the holiday and accredited lab holiday schedule.

For the Lindsay WWTP 2025 Sample Plan refer to **Appendix II: 2025 Sample Plan**.

Reporting Requirements – Wastewater Collection System

In accordance with the Consolidated Linear Infrastructure – Environmental Compliance Approval #141-W601 the owner shall prepare a performance report on a calendar basis and submit to the Ministry of Environment, Conservation and Parks by March 31 of the calendar year following the period being reported upon.

4.6 (a) a summary of all required monitoring data along with an interpretation of the data and any conclusions drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.

There are no required monitoring data requirements for the Lindsay Sewage Collection System.

4.6 (b) a summary of any operating problems encountered and corrective actions taken.

A summary of any operating problems encountered at any sewage pumping stations within the Lindsay Sewage Collection System are included in **Table 8. 2024 Lindsay WWTP Operational Challenges** above.

Below is a summary of any operating problems encountered in the rest of the collection system.

Table 11. Summary of Operating Problems in Collection System and Corrective Actions (not including pumping stations)

Date	Operational Issue	Corrective Action Taken
February 19, 2024	Manhole chimney failure on King St. (1 st manhole West of St. David St.)	Chimney section replaced with moduloc and frame and cover reset.
March 21, 2024	Blockage in sewer main Broad Street @ Thrushwood to North End.	Sewers flushed and cleaned MH497 – MH213 MH213 – MH1206 MH213 – MH535
May 13, 2024	Residents reported sewage backing up into basement. Inspection revealed two manholes on main sewer line on Kyle Court were backed up.	Vac truck called in to flush main line, was determined blockage caused by two bricks and Ziploc bag full of concrete, which was removed.
July 12, 2024	Due to generator failure, and loss of power at Ridout St. SPS a backup occurred in the collection system, backing up into basements.	Power was restored to bring down levels in system, septic hauler brought in to lower levels. Rental generator brought in to replace failed generator.

4.6 (c) a summary of all calibration, maintenance, and repairs carried out on any major structure, equipment, apparatus, mechanisms, or thing forming part of the Municipal Sewage Collection System.

Calibrations on effluent monitoring equipment were performed by Franklin Empire in December 2024 for equipment located at the Lindsay Wastewater Treatment Plant and associated Pumping Stations, as required. Refer to **Appendix IV: Calibration Reports**.

Attached is **Appendix III: WMS Work Order Summary**, a Work Order Summary report, showing all preventative and corrective maintenance activities performed at the Lindsay WWTP, including the pumping stations within the collection system, during 2024.

All other collection system repairs are summarized in the table below:

Table 12. Summary of Major Structure & Equipment Maintenance and Repair

Major Structure	Work Performed
Manhole General Repair	53 Colborne St. E - Reset manhole frame King St (West of St. David St.) – Chimney failed, replaced moduloc sections, reset frame and cover. MH380 St. David St. – remove broken frame pieces from inside manhole.
Manhole Rain Stopper Installation	MH1264 – 71 Ardmore Ave MH235 – Angeline St. N at Langton Court
Manhole Moduloc, Frame and Cover Repair	MH150 60 Duke St. – Replace approximately 4” moduloc + clean out debris MH63 Durham St. E at Duke St. – Replace approximately 4” moduloc + Frame & Cover MH894 10 Pottinger St. – Replace approximately 4” moduloc + Frame & Cover MH1320 27 Walker St. – Replace approximately 14” chimney MH790 149 William St. N – Replace approximately 6” moduloc MH1326 245 Mary St. W – Replace Frame & Cover MH447 133 Queen St. – Replace 6” moduloc + Frame & Cover

Major Structure	Work Performed
Sanitary Lateral Cleaning – Municipal Portion	22 Albert St. N – annual lateral cleaning 97 Pottinger St. – annual root cutting/cleaning

4.6 (d) a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.

A summary of complaints is above in **Table 9: Summary of Community Complaints.**

4.6 (e) a summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat.

The table below provides a summary of the projects that saw alterations to the collection system in 2024.

Table 13. Summary of Alterations to Authorized System

Alteration to the Authorized System Project Name	Project Details	Does This Project Pose a Significant Drinking Water Threat (SDWT)?
Lindsay Heights Subdivision – Phase 1	Establishment of new municipal sanitary drainage components for Lindsay Heights Subdivision – Phase 1. Includes 300 and 375 mm diameter sewers on McKay Ave and 200 mm diameter sewers on local streets.	No
Melody Gardens Commercial – Fairgrounds	85.8 m of 200 mm diameter PVC sewers connecting to existing 300 mm PVC sanitary sewers.	No
King St. Reconstruction		No

4.6 (f) a summary of all Collection System Overflow(s) and Spill(s) of Sewage, including:

i) Dates;

ii) Volumes and durations

iii) If applicable, loadings for total suspended solids, BOD, total phosphorus, and total Kjeldahl nitrogen, and sampling results for E. coli;

iv) Disinfection, if any; and

v) Any adverse impact(s) and any corrective actions, if applicable.

The Lindsay Sewage Collection system did not experience any collection system Overflows or Spills in 2024.

4.6 (g) a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:

i) A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted.

Annually manhole inspections are completed by City operations staff within the collection systems to identify any deficiencies that may result in excess flows increasing the risk of potential overflows. In an effort to reduce all excess flows, the City has an annual manhole rehabilitation program which includes but is not limited to grouting; modoloc replacement; and frame and cover replacements.

Operationally, where manholes are located in lower lying areas and are at risk of being submerged and contributing to inflow, rain bladders are installed to prevent excess water from entering the system, further reducing the risk of overflow.

During the 2024 reporting period there were not incidents of a bypass or overflow within the sanitary sewer system or the WWTP. However, a summary of operational activities that were performed to help reduce overflow potential are summarized in **Table 12. Summary of Major Structure & Equipment Maintenance and Repair** above.

A project in 2025 includes flushing and CCTV of the entire collection system to help identify deficiencies within the collection system that are contributing to infiltration and inflow, which will help eliminate bypasses and overflows. The budget amount for this project is \$800,000. There is also an operational budget of \$62,500 available for any other necessary operational repairs to the collection system.

ii) Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timeline.

The Lindsay Sewage Collection System does not contain combined sewers and therefore is not required to complete a Pollution Prevention and Control Plan (PPCP).

iii) An assessment of the effectiveness of each action taken.

N/A

iv) An assessment of the ability to meet Procedure F-5-1 or Procedure F-5-5 objectives (as applicable) and if able to meet the objectives, an overview of next steps and estimated timelines to meet the objectives.

N/A

v) Public reporting approach including proactive efforts

SOP WWC02 Wastewater Bypass/Overflow Notification Procedure has been developed and has been in practice since 2021, which clearly outlines all reporting protocols to both regulatory agencies and the public in various situations. This procedure was developed in consultation with Ontario Clean Water Agency, Ministry of Environment, Conservation and Parks and Ministry of Health.



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix I: Acute Lethality Analysis Results

Work Order : 253689
 Sample Number : 80934

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2024-01-04
Location :	Lindsay ON	Sampling Time :	10:40
Substance :	Final Effluent	Date Received :	2024-01-05
Sampling Method :	Grab	Time Received :	13:30
Sampled By :	Z. White	Temperature at Receipt :	8 °C
Sample Description :	Cloudy, light green.	Date Tested :	2024-01-06

 Test Method : Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna*. Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	3.3 %
	Mean Mortality	3.3 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	7.4 days
Organism Batch :	Dm23-25	Average Brood Size :	31.3
Culture Mortality :	0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms / Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms / Test Level :	30
Duration of Pre-Aeration :	30 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride	LC50 :	6.2 g/L
Date Tested :	2024-01-02	95% Confidence Limits :	6.0 - 6.4 g/L
Organism Batch :	Dm23-25	Historical Mean LC50 :	6.3 g/L
Analyst(s) :	FM	Warning Limits (± 2SD) :	5.8 - 6.9 g/L
Statistical Method :	Spearman-Kärber		

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By :

Project Manager

Work Order : 253689

Sample Number : 80934

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.2	8.5	1332	22	103	370 mg/L

0 HOURS

Date & Time : 2024-01-06 10:10

Analyst(s) : FM (PG)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	7.4	8.3	1328	22	100	370
100	B	0	0	7.4	8.3	1328	22	100	370
100	C	0	0	7.4	8.3	1328	22	100	370
Control	A	0	0	8.2	8.2	413	21	98	140
Control	B	0	0	8.2	8.2	413	21	98	140
Control	C	0	0	8.2	8.2	413	21	98	140

Notes:

24 HOURS

Date & Time : 2024-01-07 9:50

Analyst(s) : FM (PG)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	21
100	B	—	0	—	—	—	21
100	C	—	0	—	—	—	21
Control	A	—	0	—	—	—	21
Control	B	—	0	—	—	—	21
Control	C	—	0	—	—	—	21

Notes:

48 HOURS

Date & Time : 2024-01-08 10:20

Analyst(s) : NP

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.3	8.2	1320	21
100	B	0	0	8.3	8.1	1316	21
100	C	1	1	8.3	8.1	1307	21
Control	A	0	0	8.3	8.3	422	21
Control	B	0	0	8.3	8.3	420	21
Control	C	0	0	8.3	8.3	420	21

Notes: Test organisms in the Control were floating.

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

Test Data Reviewed By : JJ

Date : 2024-01-11

Work Order : 253689

Sample Number : 80934

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2024-01-04
Location :	Lindsay ON	Sampling Time :	10:40
Substance :	Final Effluent	Date Received :	2024-01-05
Sampling Method :	Grab	Time Received :	13:30
Sampled By :	Z. White	Temperature at Receipt :	8 °C
Sample Description :	Cloudy, light green.	Date Tested :	2024-01-06

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007 and February 2016 amendments).

Procedure for pH Stabilization During the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout. Environment Canada, EPS 1/RM/50 (March 2008), with deviation(s) as noted.

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	36.2 mm
Organism Batch :	T23-30	Range of Fork Lengths :	31 - 41 mm
Control Sample Size :	10	Mean Wet Weight :	0.4 g
Cumulative stock tank mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.2 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Sample Treatment :	pH Stabilization	Number of Replicates :	1
pH Adjustment :	Yes (as per EPS 1/RM/50)	Organisms Per Replicate :	10
pH Stabilization Technique :	pH Controller	Organisms Per Test Level :	10
Gas Mixture Used :	100% CO ₂	Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L
Test Aeration :	Yes	Total Pre-Aeration Time :	30 minutes
Volume Tested (L) :	20	Test Method Deviation(s) :	Yes (see 'COMMENTS')

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T23-30	LC50 :	4454 mg/L
Date Tested :	2024-01-05	95% Confidence Limits :	4026 - 4823 mg/L
Analyst(s) :	AJS, PG, NM, JGR	Historical Mean LC50 :	3700 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	2798 - 4893 mg/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.
- Noted Deviation: pH controllers are calibrated at the start of the test, and not daily as described in the test method. Extensive internal method validation of this approach has confirmed the accuracy and stability of the pH controllers over the course of the 96-h test. Additionally, pH of the test and control solutions is measured daily throughout the test.

Approved By : _____
 Project Manager

Work Order : 253689
Sample Number : 80934

Rainbow Trout
EPS 1/RM/13
EPS 1/RM/50

Page 2 of 2

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³	TAN (mg/L) ¹	NH ₃ (mg/L) ²
Initial Water Chemistry (100%) :	7.1	9.5	1475	15	101	<0.050	0.000
After 30 min pre-aeration :	7.1	9.4	1447	15	100	—	—

0 HOURS

Date & Time	2024-01-06	12:00							
Analyst(s) :	PG								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³	Hardness (mg/L as CaCO ₃)	Total Chlorine (mg/L)
100%	0	0	7.1	9.4	1447	15	100	370	—
Control	0	0	8.3	9.4	651	15	99	—	—
Notes:									

24 HOURS

Date & Time	2024-01-07	12:00							
Analyst(s) :	NM								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²	
100%	0	0	7.2	—	—	15	—	—	
Control	0	0	8.4	—	—	15	—	—	
Notes:									

48 HOURS

Date & Time	2024-01-08	12:00							
Analyst(s) :	JGR								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²	
100%	0	0	7.2	—	—	15	—	—	
Control	0	0	8.4	—	—	15	—	—	
Notes:									

72 HOURS

Date & Time	2024-01-09	12:00							
Analyst(s) :	JGR								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²	
100%	0	0	7.2	—	—	15	—	—	
Control	0	0	8.3	—	—	15	—	—	
Notes:									

96 HOURS

Date & Time	2024-01-10	12:00							
Analyst(s) :	JGR								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) [†]	NH3 (mg/L) [‡]	Average pH (0 - 96 h)
100%	0	0	7.2	9.0	1473	15	—	—	7.2
Control	0	0	8.3	9.0	651	15	—	—	8.3
Notes:									

¹ TAN = Total ammonia (as N); analysis conducted by Bureau Veritas S.A., Mississauga ON; MDL = 0.05 mg/L.

² NH₃ = Un-ionized ammonia (calculated from TAN, pH, and temperature according to the test method).

³ adjusted for temperature and barometric pressure

"—" = not measured/not required

Number impaired does not include number dead.

Test Data Reviewed By : JL

Date : 2024-01-14

CHAIN OF CUSTODY RECORD

AQUATOX

AquaTox Work Order No:

253089

Shipping Address: AquaTox Testing & Consulting Inc.
B-11 Nicholas Beaver Road
Puslinch, Ontario Canada N0B 2J0

Voice: (519) 763-4412

Fax: (519) 763-4419

P.O. Number: 1313 (Kawartha - Lindsay WWTP)	+
Field Sampler Name (print): ZACHARY WHITE	
Signature: [Signature]	
Affiliation: Ontario Clean Water Agency	
Sample Storage (prior to shipping): N/A	
Custody Relinquished by: ZAC WHITE	
Date/Time Shipped: 01/04/2024	

Client: Ontario Clean Water Agency Lindsay WWTP 48 Lagoon Street Lindsay, ON K9V4R3	+
Phone: (705) 731-9125	
Fax: (705) 324-9374	
Contact: Julie Mather	

Sample Identification					Analyses Requested												Sample Method and Volume		
Date Collected (yyyy-mm-dd)	Time Collected (e.g. 14:30, 24 hr clock)	Sample Name	AquaTox Sample Number	Temp. on arrival	Rainbow Trout Single Concentration	Rainbow Trout LC50	RBT Single Conc. pH Stabilization	RBT LC50 pH Stabilization	Daphnia magna Single Concentration	Daphnia magna LC50	Fathead Minnow Survival & Growth	Ceriodaphnia dubia Survival & Reproduction	Pseudokirchnerella subcapitata Growth	Ammonia	Other (please specify below)	Grab	Composite	# of Containers and Volume (eg. 2 x 1L, 3 x 10L, etc.)	
2024-01-04	10:40	Final Effluent	80934	8			✓		✓							✓		1 x 23L	

For Lab Use Only

Received By:

Date:

Time:

Storage Location:

Storage Temp.(°C)

Please list any special requests or instructions:

Work Order : 254417

Sample Number : 81927

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2024-04-04
Location :	Lindsay ON	Sampling Time :	08:59
Substance :	Final Effluent	Date Received :	2024-04-05
Sampling Method :	Grab	Time Received :	13:25
Sampled By :	T. Smith	Temperature at Receipt :	11 °C
Sample Description :	Clear, light yellow	Date Tested :	2024-04-06
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).		

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	8.2 days
Organism Batch :	Dm24-06	Average Brood Size :	38.0
Culture Mortality :	1.0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	30 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2024-04-09	LC50 :	6.1 g/L
Organism Batch :	Dm24-06	95% Confidence Limits :	5.8 - 6.3 g/L
Analyst(s) :	FM, AA, JN	Historical Mean LC50 :	6.3 g/L
Statistical Method :	Spearman-Kärber	Warning Limits (± 2SD) :	5.9 - 6.8 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By :

Project Manager

Work Order : 254417

Sample Number : 81927

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.2	8.6	1517	21	102	360 mg/L

0 HOURS

Date & Time : 2024-04-06 11:25

Analyst(s) : AA/FM (JJ)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	7.6	8.5	1514	21	100	360
100	B	0	0	7.6	8.5	1514	21	100	360
100	C	0	0	7.6	8.5	1514	21	100	360
Control	A	0	0	8.2	8.4	475	21	100	150
Control	B	0	0	8.2	8.4	475	21	100	150
Control	C	0	0	8.2	8.4	475	21	100	150

Notes:

24 HOURS

Date & Time : 2024-04-07 10:50

Analyst(s) : FM (JJ)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	21
100	B	—	0	—	—	—	21
100	C	—	0	—	—	—	21
Control	A	—	0	—	—	—	21
Control	B	—	0	—	—	—	21
Control	C	—	0	—	—	—	21

Notes:

48 HOURS

Date & Time : 2024-04-08 11:15

Analyst(s) : FM (SF)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.3	8.2	1504	21
100	B	0	0	8.3	8.1	1505	21
100	C	0	0	8.3	8.2	1486	21
Control	A	0	0	8.3	8.4	488	21
Control	B	0	0	8.3	8.4	489	21
Control	C	0	0	8.2	8.4	488	21

Notes:

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

Test Data Reviewed By : EM

Date : 2024-04-11

Work Order : 254417
 Sample Number : 81927

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2024-04-04
Location :	Lindsay ON	Sampling Time :	08:59
Substance :	Final Effluent	Date Received :	2024-04-05
Sampling Method :	Grab	Time Received :	13:25
Sampled By :	T. Smith	Temperature at Receipt :	11 °C
Sample Description :	Clear, light yellow	Date Tested :	2024-04-08

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

Procedure for pH Stabilization During the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout. Environment Canada, EPS 1/RM/50 (March 2008), with deviation(s) as noted.

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	38.7 mm
Organism Batch :	T24-05	Range of Fork Lengths :	35 - 42 mm
Control Sample Size :	10	Mean Wet Weight :	0.5 g
Cumulative stock tank mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.3 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Sample Treatment :	pH Stabilization	Number of Replicates :	1
pH Adjustment :	Yes (as per EPS 1/RM/50)	Organisms Per Replicate :	10
pH Stabilization Technique :	pH Controller	Organisms Per Test Level :	10
Gas Mixture Used :	100% CO ₂	Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L
Test Aeration :	Yes	Total Pre-Aeration Time :	30 minutes
Volume Tested (L) :	20	Test Method Deviation(s) :	Yes (see 'COMMENTS')

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T24-05	LC50 :	4476 mg/L
Date Tested :	2024-04-05	95% Confidence Limits :	4070 - 4903 mg/L
Analyst(s) :	NP, JGR, SV, PC	Historical Mean LC50 :	4180 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	3135 - 5573 mg/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.
- Noted Deviation: pH controllers are calibrated at the start of the test, and not daily as described in the test method. Extensive internal method validation of this approach has confirmed the accuracy and stability of the pH controllers over the course of the 96-h test. Additionally, pH of the test and control solutions is measured daily throughout the test.

Approved By : _____
 Project Manager

Work Order : 254417
Sample Number : 81927

Rainbow Trout
EPS 1/RM/13
EPS 1/RM/50

Page 2 of 2

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³	TAN (mg/L) ¹	NH ₃ (mg/L) ²
Initial Water Chemistry (100%) :	7.1	9.3	1430	16	98	<0.050	0.000
After 30 min pre-aeration :	7.2	9.5	1430	16	100	—	—

0 HOURS

Date & Time	2024-04-08	11:40							
Analyst(s) :	NWP (SF)								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³	Hardness (mg/L as CaCO ₃)	Total Chlorine (mg/L)
100%	0	0	7.2	9.5	1430	16	100	360	—
Control	0	0	8.0	9.5	718	15	99	—	—
Notes:									

24 HOURS

Date & Time	2024-04-09	11:40						
Analyst(s) :	AJS							
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²
100%	0	0	7.2	—	—	15	—	—
Control	0	0	8.1	—	—	15	—	—
Notes:								

48 HOURS

Date & Time	2024-04-10	11:40						
Analyst(s) :	NP (SV)							
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²
100%	0	0	7.2	—	—	15	—	—
Control	0	0	8.1	—	—	15	—	—
Notes:								

72 HOURS

Date & Time	2024-04-11	11:40						
Analyst(s) :	NWP (JGR)							
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²
100%	0	0	7.3	—	—	15	—	—
Control	0	0	8.1	—	—	15	—	—
Notes:								

96 HOURS

Date & Time	2024-04-12	11:40							
Analyst(s) :	PC								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²	Average pH (0 - 96 h)
100%	0	0	7.3	9.6	1530	16	—	—	7.2
Control	0	0	8.2	9.7	748	16	—	—	8.1
Notes:									

¹ TAN = Total ammonia (as N); analysis conducted by Bureau Veritas S.A., Mississauga ON; MDL = 0.05 mg/L.

² NH₃ = Un-ionized ammonia (calculated from TAN, pH, and temperature according to the test method).

³ adjusted for temperature and barometric pressure

"—" = not measured/not required

Number impaired does not include number dead.

Test Data Reviewed By : EM

Date : 2024-04-15

CHAIN OF CUSTODY RECORD



AquaTox Work Order No:

254 417

Shipping Address: AquaTox Testing & Consulting Inc.
B-11 Nicholas Beaver Road
Puslinch, Ontario Canada N0B 2J0

Voice: (519) 763-4412

Fax: (519) 763-4419

P.O. Number: 1313 (Kawartha - Lindsay WWTP)
Field Sampler Name (print): Ty Smith
Signature: <i>Ty Smith</i>
Affiliation: Ontario Clean Water Agency
Sample Storage (prior to shipping): N/A
Custody Relinquished by:
Date/Time Shipped: 2024/04/04

Client: Ontario Clean Water Agency Lindsay WWTP 48 Lagoon Street Lindsay, ON K9V4R3
Phone: (705) 731-9125
Fax: (705) 324-9374
Contact: Julie Mather

Sample Identification					Analyses Requested												Sample Method and Volume		
Date Collected (yyyy-mm-dd)	Time Collected (e.g. 14:30, 24 hr clock)	Sample Name	AquaTox Sample Number	Temp. on arrival	Rainbow Trout Single Concentration	Rainbow Trout LC50	RBT Single Conc. pH Stabilization	RBT LC50 pH Stabilization	Daphnia magna Single Concentration	Daphnia magna LC50	Fathead Minnow Survival & Growth	Centodaphnia dubia Survival & Reproduction	Pseudokirchneriella subcapitata Growth	Ammonia	Other (please specify below)	Grab	Composite	# of Containers and Volume (eg. 2 x 1L, 3 x 10L, etc.)	
2024-04-04	08:59	Final Effluent	81927	11			✓		✓							✓		1 x 23L	

For Lab Use Only
Received By: <i>Mup</i>
Date: 2024-04-05
Time: 13:25
Storage Location:
Storage Temp.(°C)

Please list any special requests or instructions:

Work Order : 255237

Sample Number : 83038

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2024-07-04
Location :	Lindsay ON	Sampling Time :	11:06
Substance :	Final Effluent	Date Received :	2024-07-05
Sampling Method :	Grab	Time Received :	10:00
Sampled By :	T. Smith	Temperature at Receipt :	21 °C
Sample Description :	Clear, light green	Date Tested :	2024-07-05
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).		

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	7.0 days
Organism Batch :	Dm24-12	Average Brood Size :	35.3
Culture Mortality :	0.3% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	0 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2024-07-02	LC50 :	6.0 g/L
Organism Batch :	Dm24-12	95% Confidence Limits :	5.6 - 6.4 g/L
Analyst(s) :	GR, AA	Historical Mean LC50 :	6.3 g/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	5.9 - 6.8 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By :

Project Manager

Work Order : 255237

Sample Number : 83038

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.3	7.5	1244	22	92	380 mg/L

0 HOURS

Date & Time : 2024-07-05 14:35

Analyst(s) : JGR/AA (JGR)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	7.3	7.5	1244	22	92	380
100	B	0	0	7.3	7.5	1244	22	92	380
100	C	0	0	7.3	7.5	1244	22	92	380
Control	A	0	0	8.2	8.3	451	21	99	140
Control	B	0	0	8.2	8.3	451	21	99	140
Control	C	0	0	8.2	8.3	451	21	99	140

Notes:

24 HOURS

Date & Time : 2024-07-06 14:15

Analyst(s) : AA (NM)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	21
100	B	—	0	—	—	—	21
100	C	—	0	—	—	—	21
Control	A	—	0	—	—	—	21
Control	B	—	0	—	—	—	21
Control	C	—	0	—	—	—	21

Notes:

48 HOURS

Date & Time : 2024-07-07 14:40

Analyst(s) : NM

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.3	8.6	1231	21
100	B	0	0	8.3	8.5	1222	21
100	C	0	0	8.3	8.5	1226	21
Control	A	0	0	8.2	8.4	455	21
Control	B	0	0	8.3	8.4	457	21
Control	C	0	0	8.2	8.5	455	21

Notes:

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

Test Data Reviewed By : JJ

Date : 2024-07-10

Work Order : 255237

Sample Number : 83038

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2024-07-04
Location :	Lindsay ON	Sampling Time :	11:06
Substance :	Final Effluent	Date Received :	2024-07-05
Sampling Method :	Grab	Time Received :	10:00
Sampled By :	T. Smith	Temperature at Receipt :	21 °C
Sample Description :	Clear, light green	Date Tested :	2024-07-06

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

Procedure for pH Stabilization During the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout. Environment Canada, EPS 1/RM/50 (March 2008), with deviation(s) as noted.

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	45.5 mm
Organism Batch :	T24-12	Range of Fork Lengths :	40 - 50 mm
Control Sample Size :	10	Mean Wet Weight :	0.9 g
Cumulative stock tank mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.4 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Sample Treatment :	pH Stabilization	Number of Replicates :	1
pH Adjustment :	Yes (as per EPS 1/RM/50)	Organisms Per Replicate :	10
pH Stabilization Technique :	pH Controller	Organisms Per Test Level :	10
Gas Mixture Used :	100% CO ₂	Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L
Test Aeration :	Yes	Total Pre-Aeration Time :	30 minutes
Volume Tested (L) :	20	Test Method Deviation(s) :	Yes (see 'COMMENTS')

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T24-12	LC50 :	4446 mg/L
Date Tested :	2024-07-01	95% Confidence Limits :	3949 - 5004 mg/L
Analyst(s) :	DT, AJS	Historical Mean LC50 :	4325 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	3595 - 5204 mg/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.
- Noted Deviation: pH controllers are calibrated at the start of the test, and not daily as described in the test method. Extensive internal method validation of this approach has confirmed the accuracy and stability of the pH controllers over the course of the 96-h test. Additionally, pH of the test and control solutions is measured daily throughout the test.

Approved By : _____
 Project Manager

Work Order : 255237
Sample Number : 83038

Rainbow Trout
EPS 1/RM/13
EPS 1/RM/50

Page 2 of 2

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³	TAN (mg/L) ¹	NH ₃ (mg/L) ²
Initial Water Chemistry (100%) :	7.3	8.5	1247	15	90	<0.050	0.000
After 30 min pre-aeration :	7.4	8.5	1248	15	89	—	—

0 HOURS

Date & Time	2023-07-06	11:10							
Analyst(s) :	JCS								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³	Hardness (mg/L as CaCO ₃)	Total Chlorine (mg/L)
100%	0	0	7.4	8.5	1248	15	89	380	—
Control	0	0	8.2	9.4	747	15	100	—	—
Notes:									

24 HOURS

Date & Time	2023-07-07	10:00							
Analyst(s) :	JCS								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²	
100%	0	0	7.3	—	—	15	—	—	
Control	0	0	8.2	—	—	15	—	—	
Notes:									

48 HOURS

Date & Time	2023-07-08	11:40							
Analyst(s) :	JGR								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²	
100%	0	0	7.5	—	—	15	—	—	
Control	0	0	8.1	—	—	15	—	—	
Notes:									

72 HOURS

Date & Time	2023-07-09	10:30							
Analyst(s) :	DT								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²	
100%	0	0	7.3	—	—	15	—	—	
Control	0	0	8.1	—	—	15	—	—	
Notes:									

96 HOURS

Date & Time	2023-07-10	10:45							
Analyst(s) :	DT								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²	Average pH (0 - 96 h)
100%	0	0	7.5	8.6	1267	16	—	—	7.4
Control	0	0	8.0	9.1	733	16	—	—	8.1
Notes:									

¹ TAN = Total ammonia (as N); analysis conducted by Bureau Veritas S.A., Mississauga ON; MDL = 0.05 mg/L.

² NH₃ = Un-ionized ammonia (calculated from TAN, pH, and temperature according to the test method).

³ adjusted for temperature and barometric pressure

"—" = not measured/not required

Number impaired does not include number dead.

Test Data Reviewed By : EM

Date : 2024-07-11

AQUATOX

255 237

Fax: (519) 763-4419

Client:	Ontario Clean Water Agency Lindsay WWTP 48 Lagoon Street Lindsay, ON K9V4R3
Phone:	(705) 731-9125
Fax:	(705) 324-9374
Contact:	Julie Mather

[illegible]

For Lab Use Only

Received By: WOP/DT

Date: 2024-07-05

Time: 10:00

Storage Location: _____

Storage Temp. (°C) _____

Please list any special requests or instructions:

Work Order : 256069

Sample Number : 84342

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2024-10-03
Location :	Lindsay ON	Sampling Time :	12:50
Substance :	Final Effluent	Date Received :	2024-10-07
Sampling Method :	Grab	Time Received :	15:20
Sampled By :	T. Blacklock	Temperature at Receipt :	17 °C
Sample Description :	Clear, light yellow.	Date Tested :	2024-10-08
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).		

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	6.7 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	7.2 days
Organism Batch :	Dm24-19	Average Brood Size :	35.9
Culture Mortality :	3.0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	30 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride	LC50 :	6.3 g/L
Date Tested :	2024-10-11	95% Confidence Limits :	5.8 - 6.8 g/L
Organism Batch :	Dm24-19	Historical Mean LC50 :	6.3 g/L
Analyst(s) :	JGR, NM, SSF	Warning Limits (± 2SD) :	5.8 - 7.0 g/L
Statistical Method :	Binomial		

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By :

Project Manager

Work Order : 256069

Sample Number : 84342

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.5	9.2	1315	20	107	290 mg/L

0 HOURS

Date & Time : 2024-10-08 12:35

Analyst(s) : GR (NM)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	8.0	8.5	1309	20	100	290
100	B	0	0	8.0	8.5	1309	20	100	290
100	C	0	0	8.0	8.5	1309	20	100	290
Control	A	0	0	8.3	8.6	503	21	100	150
Control	B	0	0	8.3	8.6	503	21	100	150
Control	C	0	0	8.3	8.6	503	21	100	150

Notes:

24 HOURS

Date & Time : 2024-10-09 12:00

Analyst(s) : CGR

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	1	—	—	—	20
100	B	—	0	—	—	—	20
100	C	—	0	—	—	—	20
Control	A	—	0	—	—	—	20
Control	B	—	0	—	—	—	20
Control	C	—	0	—	—	—	20

Notes:

48 HOURS

Date & Time : 2024-10-10 12:35

Analyst(s) : MK (JGR)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	2	0	8.5	8.2	1320	20
100	B	0	0	8.5	8.2	1317	20
100	C	0	0	8.5	8.2	1309	20
Control	A	0	0	8.4	8.3	515	20
Control	B	0	0	8.3	8.3	513	20
Control	C	0	0	8.3	8.3	509	20

Notes:

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

 Test Data Reviewed By : EM

 Date : 2024-10-08

Work Order : 256069

Sample Number : 84342

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2024-10-03
Location :	Lindsay ON	Sampling Time :	12:50
Substance :	Final Effluent	Date Received :	2024-10-07
Sampling Method :	Grab	Time Received :	15:20
Sampled By :	T. Blacklock	Temperature at Receipt :	17 °C
Sample Description :	Clear, light yellow.	Date Tested :	2024-10-08

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

Procedure for pH Stabilization During the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout. Environment Canada, EPS 1/RM/50 (March 2008), with deviation(s) as noted.

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	38.5 mm
Organism Batch :	T24-20	Range of Fork Lengths :	36 - 41 mm
Control Sample Size :	10	Mean Wet Weight :	0.5 g
Cumulative stock tank mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.3 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Sample Treatment :	pH Stabilization	Number of Replicates :	1
pH Adjustment :	Yes (as per EPS 1/RM/50)	Organisms Per Replicate :	10
pH Stabilization Technique :	pH Controller	Organisms Per Test Level :	10
Gas Mixture Used :	100% CO ₂	Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L
Test Aeration :	Yes	Total Pre-Aeration Time :	30 minutes
Volume Tested (L) :	16	Test Method Deviation(s) :	Yes (see 'COMMENTS')

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T24-20	LC50 :	3381 mg/L
Date Tested :	2024-10-01	95% Confidence Limits :	2880 - 3923 mg/L
Analyst(s) :	AJS, NWP, JGR, GR	Historical Mean LC50 :	3580 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	2572 - 4982 mg/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.
- Noted Deviation: pH controllers are calibrated at the start of the test, and not daily as described in the test method. Extensive internal method validation of this approach has confirmed the accuracy and stability of the pH controllers over the course of the 96-h test. Additionally, pH of the test and control solutions is measured daily throughout the test.

Approved By : _____

Project Manager

Work Order : 256069
Sample Number : 84342

TOXICITY TEST REPORT

Rainbow Trout
EPS 1/RM/13
EPS 1/RM/50

Page 2 of 2

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³	TAN (mg/L) ¹	NH ₃ (mg/L) ²
Initial Water Chemistry (100%) :	7.4	9.8	1243	14	99	0.069	0.000
After 30 min pre-aeration :	7.5	9.5	1224	14	98	—	—

0 HOURS

Date & Time	2024-10-08	14:50							
Analyst(s) :	NWP								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³	Hardness (mg/L as CaCO ₃)	Total Chlorine (mg/L)
100%	0	0	7.5	9.5	1224	14	98	290	—
Control	0	0	8.0	9.9	749	14	100	—	—
Notes:									

Notes:

24 HOURS

Date & Time	2024-10-09	14:20						
Analyst(s) :	AJS							
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²
100%	0	0	7.5	—	—	15	—	—
Control	0	0	8.2	—	—	15	—	—

Notes:

48 HOURS

Date & Time	2024-10-10	12:50						
Analyst(s) :	NWP							
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²
100%	0	0	7.6	—	—	15	—	—
Control	0	0	8.0	—	—	15	—	—

Notes:

72 HOURS

Date & Time	2024-10-11	14:50						
Analyst(s) :	NM							
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²
100%	0	0	7.5	—	—	15	—	—
Control	0	0	8.1	—	—	15	—	—

Notes:

96 HOURS

Date & Time	2024-10-12	13:50							
Analyst(s) :	NWP								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²	Average pH (0 - 96 h)
100%	0	0	7.5	9.5	1233	15	—	—	7.5
Control	0	0	8.0	9.1	748	15	—	—	8.1

Notes:

¹ TAN = Total ammonia (as N); analysis conducted by Bureau Veritas S.A., Mississauga ON; MDL = 0.05 mg/L.

² NH₃ = Un-ionized ammonia (calculated from TAN, pH, and temperature according to the test method).

³ adjusted for temperature and barometric pressure

"—" = not measured/not required

Number impaired does not include number dead.

Test Data Reviewed By : JJ

Date : 2024-10-16

AQUATOX

256069

Voice: (519) 763-4412

Fax: (519) 763-4419

P.O. Number: 1313 (Kawartha - Lindsay WWTP)
 Field Sampler Name (print): T. S. Chalk
 Signature: [Signature]
 Affiliation: Ontario Clean Water Agency
 Sample Storage (prior to shipping): N/A
 Custody Relinquished by:
 Date/Time Shipped:

Client:	Ontario Clean Water Agency Lindsay WWTP 48 Lagoon Street Lindsay, ON K9V4R3
Phone:	(705) 731-9125
Fax:	(705) 324-9374
Contact:	Julie Mather

[illegible]

For Lab Use Only

Received By: ELP

Date: 2024-10-08

Time: 11:00 15:20

Storage Location: CN

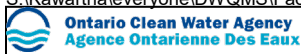
Storage Temp (°C): 2024-10-10

Please list any special requests or instructions:



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix II: 2025 Sample Plan



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

Weekly	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

Quarterly	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

Monthly	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

Annual	
Biosolids - Grab Lagoon 4	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
 Sampler to initial on the date samples are taken and check off the appropriate sample box

January 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days		1 Stat Holiday New Year's Day	2	3	4
5	6	7 ☐ Weekly ☐ Monthly ☐ Quarterly	8	9	10	11
12	13	14 ☐ Weekly	15	16	17	18
19	20	21 ☐ Weekly	22	23	24	25
26	27	28 ☐ Weekly	29	30	31	



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

Weekly	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

Quarterly	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

Monthly	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

Annual	
Biosolids - Grab Lagoon 4	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
 Sampler to initial on the date samples are taken and check off the appropriate sample box

February 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days					1
2	3	4 ☐ Weekly ☐ Monthly	5	6	7	8
9	10	11 ☐ Weekly	12	13	14	15
16	17 Stat Holiday Family Day	18 ☐ Weekly	19	20	21	22
23	24	25 ☐ Weekly	26	27	28	



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Sampling Calendar Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

Weekly	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

Quarterly	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

Monthly	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (InW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

Annual	
Biosolids - Grab Lagoon 4	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
 Sampler to initial on the date samples are taken and check off the appropriate sample box

March 2025

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days					1
2	3	4	5	6	7	8
		☐ Weekly ☐ Monthly				
9	10	11	12	13	14	15
		☐ Weekly				
16	17	18	19	20	21	22
		☐ Weekly				
23	24	25	26	27	28	29
		☐ Weekly				
30	31					



Sampling Calendar Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

Weekly	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

Quarterly	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

Monthly	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage -	-BOD, TSS, TP, Total (Ammonia+
Abattoir (IndW)	Ammonium) /nitrogen, TKN
Imported Sewage -	- BOD, TSS, TP, Total (Ammonia+
Septage Receiving	Ammonium) /nitrogen, TKN
Station (InW2)	

Annual	
Biosolids - Grab	- Total Solids, Total Phosphorus, Total
Lagoon 4	Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
(all collection and submission complete as per ECA, WSER, etc. plus any special requirements).

Sampler to initial on the date samples are taken and check off the appropriate sample box

April 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
		☐ Weekly ☐ Monthly ☐ Quarterly				
6	7	8	9	10	11	12
		☐ Weekly				
13	14	15	16	17	18	19
		☐ Weekly			Stat Holiday Good Friday	
20	21	22	23	24	25	26
	Stat Holiday Easter Monday	☐ Weekly				
27	28	29	30		Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days
		☐ Weekly				



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Sampling Calendar Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Annual</u>	
Biosolids - Grab Lagoon 4	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
(all collection and submission complete as per ECA, WSER, etc. plus any special requirements).

Sampler to initial on the date samples are taken and check off the appropriate sample box

May 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days			1	2	3
4	5	6 ☐ Weekly ☐ Monthly	7	8	9	10
11	12	13 ☐ Weekly	14	15	16	17
18	19 Stat Holiday Victoria Day	20 ☐ Weekly	21	22	23	24
25	26	27 ☐ Weekly	28	29	30	31



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage -	-BOD, TSS, TP, Total (Ammonia+
Abattoir (IndW)	Ammonium) /nitrogen, TKN
Imported Sewage -	- BOD, TSS, TP, Total (Ammonia+
Septage Receiving	Ammonium) /nitrogen, TKN
Station (InW2)	

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Annual</u>	
Biosolids - Grab	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium
Lagoon 4	

Operator Name: _____ Operator Signature: _____ Date: _____
(all collection and submission complete as per ECA, WSER, etc. plus any special requirements).

Sampler to initial on the date samples are taken and check off the appropriate sample box

June 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3 ☐ Weekly ☐ Monthly	4	5	6	7
8	9	10 ☐ Weekly	11	12	13	14
15	16	17 ☐ Weekly	18	19	20	21
22	23	24 ☐ Weekly	25	26	27	28
29	30				Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

Weekly	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

Quarterly	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

Monthly	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

Annual	
Biosolids - Grab Lagoon 4	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
(all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
Sampler to initial on the date samples are taken and check off the appropriate sample box

July 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 Stat Holiday Canada Day	2	3	4	5
		☐ Weekly ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biosolids				
6	7	8 ☐ Weekly	9	10	11	12
13	14	15 ☐ Weekly	16	17	18	19
20	21	22 ☐ Weekly	23	24	25	26
27	28	29 ☐ Weekly	30	31	Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Annual</u>	
Biosolids - Grab Lagoon 4	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
(all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
Sampler to initial on the date samples are taken and check off the appropriate sample box

August 2025

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
Sample Collection Time Frames (Days) Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days					1	2
3	4 Stat Holiday Civic Day	5 ☐ Weekly ☐ Monthly	6	7	8	9
10	11	12 ☐ Weekly	13	14	15	16
17	18	19 ☐ Weekly	20	21	22	23
24	25	26 ☐ Weekly	27	28	29	30
31						



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

Weekly	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

Quarterly	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

Monthly	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

Annual	
Biosolids - Grab Lagoon 4	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium)

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
 Sampler to initial on the date samples are taken and check off the appropriate sample box

September 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 Stat Holiday Labour Day	2 ☐ Weekly ☐ Monthly	3	4	5	6
7	8	9 ☐ Weekly	10	11	12	13
14	15	16 ☐ Weekly	17	18	19	20
21	22	23 ☐ Weekly	24	25	26	27
28	29	30 Stat Holiday T&R			Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Annual</u>	
Biosolids - Grab Lagoon 4	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
(all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
Sampler to initial on the date samples are taken and check off the appropriate sample box

October 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days		1 ☐ Weekly ☐ Monthly ☐ Quarterly	2	3	4
5	6	7 ☐ Weekly	8	9	10	11
12	13 Stat Holiday Thanksgiving Day	14 ☐ Weekly	15	16	17	18
19	20	21 ☐ Weekly	22	23	24	25
26	27	28 ☐ Weekly	29	30	31	



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Sampling Calendar Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Annual</u>	
Biosolids - Grab Lagoon 4	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
 Sampler to initial on the date samples are taken and check off the appropriate sample box

November 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days					1
2	3	4 ☐ Weekly ☐ Monthly	5	6	7	8
9	10	11 Stat Holiday Remembrance Day ☐ Weekly	12	13	14	15
16	17	18 ☐ Weekly	19	2	21	22
23	24	25 ☐ Weekly	26	27	28	29
30						



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Sampling Calendar Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Annual</u>	
Biosolids - Grab Lagoon 4	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
 Sampler to initial on the date samples are taken and check off the appropriate sample box

December 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
		☐ Weekly ☐ Monthly				
7	8	9	10	11	12	13
		☐ Weekly				
14	15	16	17	18	19	20
		☐ Weekly				
21	22	23	24	25	26	27
*Please review SGS's Holiday schedule prior to sampling		☐ Weekly	Stat Holiday Christmas Day	Stat Holiday Boxing Day		
28	29	30	31		Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days
		☐ Weekly				



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix III: WMS Work Order Summary

Work Order	Description
2774645	DEFERRED 1313, Lindsay WWT, Covid Surveillance, Sampling
3108259	DEFERRED 1313, Lindsay WWT Sump Pump Grating RAS/WAS Basement
3289939	DEFERRED 1313, Central Leachate SPS, Pump 4, Overload, Replace
3341488	DEFERRED 1313, Lindsay St N. SPS, Motor Pump Subm #1, Seal, Leak
3575720	DEFERRED 1313, Lindsay WWT, ESA Inspection Defects, Repairs
3624330	DEFERRED 1313, Lindsay WWT, Alum Isolation Valve, Replacement
3703722	DEFERRED 1313, Lindsay St. North SPS, Transfer Switch, Indicator Lights, Replace
3705725	DEFERRED 1313, Jennings Creek SPS, Roof Repair/Refurbish
3706509	DEFERRED 1313, Lindsay WWT, EQ Lagoon Pipe, Inspection
3706594	DEFERRED 1313, Wellington SPS, Piping Repair
3710245	Alarm Dialer Testing (1m) - 1313 SPS - KTC
3710252	Blower Inspection (1m) - 1313 - KTC
3710589	Building and Grounds Maintenance (1m) - 1313 - KTC
3710591	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3710600	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3710609	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3710635	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC
3710654	Engine Diesel (1m) - 1313 Logie SPS - KTC
3710673	Engine Diesel (1m) - 1313 Riverview SPS - KTC
3710692	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC
3710711	Engine Diesel (1m) - 1313 Ridout SPS - KTC
3710730	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC
3710749	Engine Diesel (1m) - 1313 Main Plant - KTC
3710768	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC
3710774	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC
3712972	Tank Alum Inspection (1m) - 1313 - KTC
3713238	FEP Contact List Update (1y) - 1313 - KTC
3713242	Pump Cent Insp/Service (3m) - 1313 Ridout SPS Pump #1 - KTC
3713250	Pump Cent Insp/Service (3m) - 1313 Ridout SPS Pump #2 - KTC
3713258	Pump Cent Insp/Service (3m) - 1313 Ridout SPS Pump #3 - KTC
3713266	Pump Cent Insp/Service (6m) - 1313 Clarifier #1 RASP401 - KTC
3713274	Pump Cent Insp/Service (6m) - 1313 Clarifier #2 RASP402 - KTC
3713282	Pump Cent Insp/Service (6m) - 1313 WASP401 - KTC
3729015	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3729148	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC
3732546	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
3734062	Chemical Feed System Insp (1m) - 1313 - KTC
3734748	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC
3734772	Odour Control Fan Maintenance (3m) - 1313 Rivera Park SPS - KTC
3735183	Lagoon Inspection (1m) - 1313 - KTC
3735546	HS03 H & S Equipment Check (1m) - 1313 - KTC
3736148	Actuator Electric Inspection/Service (1y) - 1313 - KTC

3738291	Operator PDM Entry & Review (1m) - 1313 - KTC
3738927	Corporate Facility Workplace H & S Inspection (1m) - 1313 - KTC
3758943	1313, Lindsay WWTP, WAS Pump 1 Fault, Alarm
3760026	1313, Lindsay WWT, Heat Trace Water Damage, Inspect Heat Trace Control Cabinet
3760036	1313, Lindsay WWT, FEP101 VFD Display Mounting, Mount Danfoss VFD Display on MCC Door
3760037	1313, Lindsay St North SPS, UPS Failure, UPS in PLC Cabinet, New
3760043	1313, Lindsay WWT, WAS Pump 1 Solenoid Failure, Replace
3760486	1313, Fairgrounds SPS, UPS Error, Investigate/Repair
3761589	1313, Lindsay WWT, Actiflo 1, Injection Mixer, Repair
3761629	1313, Lindsay WWT, Polymer Distribution System, Solenoid/Injection Site, Clean/Repair
3761640	1313, Lindsay WWT, Certify Davit Lifting Device Bases, Repair
3761922	1313, Wellington SPS, Pump, Blowoff, Ball Valve, Replacement
3761946	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC
3762029	1313, Lindsay WWT, Low Tertiary Building Temperature, Alarm
3762089	1313, Wellington SPS, Sump Pump, Replacement
3762211	1313, Lindsay ST North, Pump #3 Fault, Alarm
3762213	1313, Jennings Creek SPS, Generator Running, Alarm
3762217	1313, Jennings Creek SPS, Generator Running, Alarm
3762218	1313, Jennings Creek SPS, Generator Running, Alarm
3762220	1313, Jennings Creek SPS, Generator Running, Alarm
3762228	1313, Lindsay WWTP, Actiflo #2, Fault
3762584	1313, Lindsay WWT, Actiflo 1 Fault
3762766	1313, Lindsay WWT, 2" Portable Pump, Repair
3762769	1313, Ridout SPS, Pump #1 & #2, Fault
3763330	1313, Lindsay WWT, Actiflo Training and Optimization
3764292	1313, Rivera Park SPS, Pump Fault
3764976	1313, Lindsay WWT, Valve Packing Leaking/Bolts Needs Tightening
3765180	1313, Lindsay WWT, Propane Heater, Garage, Repair
3767141	Alarm Dialer Testing (1m) - 1313 SPS - KTC
3767148	Blower Inspection (1m) - 1313 - KTC
3767381	Building and Grounds Maintenance (1m) - 1313 - KTC
3767383	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3767392	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3767401	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3767422	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC
3767441	Engine Diesel (1m) - 1313 Logie SPS - KTC
3767460	Engine Diesel (1m) - 1313 Riverview SPS - KTC
3767479	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC
3767498	Engine Diesel (1m) - 1313 Ridout SPS - KTC
3767517	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC
3767536	Engine Diesel (1m) - 1313 Main Plant - KTC
3767555	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC

3767561	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC
3769296	Tank Alum Inspection (1m) - 1313 - KTC
3769408	Pump Cent Insp/Service (1y) - 1313 Blower Pump #1 EP501 - KTC
3769416	Pump Cent Insp/Service (1y) - 1313 Blower Pump #2 EP502- KTC
3769424	Mixer Flocculator Insp/Service (1y) - 1313 Actiflo #1 MM501- KTC
3769432	Mixer Flocculator Insp/Service (1y) - 1313 Actiflo #2 MM502 - KTC
3781098	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3781209	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC
3783189	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
3784509	Chemical Feed System Insp (1m) - 1313 - KTC
3784843	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC
3785172	Lagoon Inspection (1m) - 1313 - KTC
3785308	HS03 H & S Equipment Check (1m) - 1313 - KTC
3787080	Operator PDM Entry & Review (1m) - 1313 - KTC
3787616	Corporate Facility Workplace H & S Inspection (1m) - 1313 - KTC
3802461	1313, Lindsay St North SPS, Pumping Station Pump #3, Repair
3802798	1313, Lindsay St N SPS, Pump 3 Fault, Alarm
3803520	1313, Lindsay WWT, Office Window, Replacement
3804431	1313, Lindsay WWT, Generator Combustion Louvers, Purchase
3804533	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC
3804695	1313, Lindsay St North Leachate SPS, Refurbish Pump Control Board, Refurbish/Repair
3804716	1313, Lindsay WWT, Seperator Grit CY-520 Pump Fail, Duplicate
3804722	1313, Lindsay WWT, Seperator Grit CY-520, Pump Fail, Alarm
3804973	1313, Lindsay WWT, Actiflo Alum Room, Sump Pump, Replace
3804999	1313, Lindsay WWTP, Separator Grit CY-520, Recirculation Pump, Repair
3806104	1313, Lindsay WWT Lagoon Sludge Surveys
3806336	1313, Lindsay St North SPS, Transfer Switch LEDS Failure, Replace
3806885	1313, Lindsay WWT, Fly Pest Control,
3807075	1313, Lindsay WWT, EQ Fault, Alarm
3807189	1313, Ridout SPS, Generator Running
3807191	1313, Lindsay St. North SPS, Generator Running
3807198	1313, Lindsay WWT, EQ Milltronics, Alarm
3807275	1313, Lindsay WWT, Meter, Level, Spare
3808921	Alarm Dialer Testing (1m) - 1313 SPS - KTC
3808928	Blower Inspection (1m) - 1313 - KTC
3809147	Building and Grounds Maintenance (1m) - 1313 - KTC
3809149	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3809158	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3809167	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3809188	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC
3809207	Engine Diesel (1m) - 1313 Logie SPS - KTC
3809226	Engine Diesel (1m) - 1313 Riverview SPS - KTC
3809245	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC
3809264	Engine Diesel (1m) - 1313 Ridout SPS - KTC

3809283	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC
3809302	Engine Diesel (1m) - 1313 Main Plant - KTC
3809321	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC
3809327	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC
3811045	Compressor Air Insp/Service (1y) - 1313 - KTC
3811055	Gear Drive Service (1y) - 1313 - KTC
3811083	Tank Alum Inspection (1m) - 1313 - KTC
3811096	UV Light Cleaning & Insp. (1y) - 1313 - KTC
3811376	Heat Trace Inspection (6m) - 1313 - KTC
3811384	Mixer Flocculator Insp/Service (1y) - 1313 Actiflo #1 IM501 - KTC
3811392	Mixer Flocculator Insp/Service (1y) - 1313 Actiflo #2 IM502 - KTC
3811403	Pump Cent Insp/Service (1y) - 1313 Inlet Coagulant Transfer CTP201 - KTC
3811411	Pump Cent Insp/Service (1y) - 1313 Alum Transfer CTP701 - KTC
3811419	Pump Cent Insp/Service (1y) - 1313 Actiflo #2 Coagulant Transfer - KTC
3819731	UPS Insp/Service (1y) - 1313 - KTC
3823742	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3823929	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC
3826696	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
3828086	Chemical Feed System Insp (1m) - 1313 - KTC
3828414	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC
3828722	Lagoon Inspection (1m) - 1313 - KTC
3828877	HS03 H & S Equipment Check (1m) - 1313 - KTC
3830018	Odour Control Force Main Vent Filter Change (6m) - 1313 Jennings Creek SPS - KTC
3830597	Operator PDM Entry & Review (1m) - 1313 - KTC
3830868	Boiler System Water Treatment Service by Contractor (3m) - 1313 - KTC
3831197	Corporate Facility Workplace H & S Inspection (1m) - 1313 - KTC
3840086	Pump Cent Insp/Service (6m) - 1313 Ridout SPS - KTC
3847202	1313, Jennings Creek, SPS, Pump 1 & 2
3847608	1313, Lindsay WWTP, 2023 Annual Report Work
3848850	1313, Lindsay St North, Water Pipe, Repair
3848864	1313, Lindsay ST North, Water Main Shut Down
3848876	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC
3849060	1313, Lindsay WWT, MECP Inspection
3849206	1313, Lindsay WWTP, Actiflo 1 Fault, Alarm
3849457	1313, Lindsay WWT, EQ PUMP FEP-101 Fault, Inspect/Replace
3849937	1313, Lindsay WWT, Process, Actiflo 2 Fault, Alarm
3850046	1313, Ridout SPS, Generator Block Heater Switch, Replacement
3850446	1313, Lindsay WWT, Actiflo RM, Kick Plate/Chain Barrier, Replacement
3850447	1313, Lindsay WWT, Actiflo/ UV Room, Emergence Lights Mount, Repair
3850768	1313, Ridout SPS, Pump 2 Fault, Alarm
3851309	1313, Mary SPS, Power Fail, Sewage Haulage
3851584	1313, Lindsay WWTP, EQ Pump 1 VFD Display, Mount / Install
3851633	1313, Fairgrounds SPS, UPS "Open Cell Voltage" Alarm, Replace/Refurbish
3851638	1313, Wellington SPS, UPS Battery Alarm, Replace

3853570	Alarm Dialer Testing (1m) - 1313 SPS - KTC
3853577	Blower Inspection (1m) - 1313 - KTC
3853824	Building and Grounds Maintenance (1m) - 1313 - KTC
3853826	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3853835	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3853844	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3853865	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC
3853884	Engine Diesel (1m) - 1313 Logie SPS - KTC
3853903	Engine Diesel (1m) - 1313 Riverview SPS - KTC
3853922	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC
3853941	Engine Diesel (1m) - 1313 Ridout SPS - KTC
3853960	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC
3853979	Engine Diesel (1m) - 1313 Main Plant - KTC
3853998	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC
3854004	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC
3856009	Tank Alum Inspection (1m) - 1313 - KTC
3856303	FEP Site Plan Review (1y) - 1313 - KTC
3869549	Clarifier Arm Install/Remove (6m) - 1313 - KTC
3870292	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3870301	Pump Submersible Insp. (1y) - 1313 Leachate SPS - KTC
3870425	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC
3874128	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
3875573	Chemical Feed System Insp (1m) - 1313 - KTC
3876024	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC
3876048	Odour Control Fan Maintenance (3m) - 1313 Rivera Park SPS - KTC
3876307	Lagoon Inspection (1m) - 1313 - KTC
3876687	HS03 H & S Equipment Check (1m) - 1313 - KTC
3877350	Facility Window Cleaning by Contractor (1y) - 1313 - KTC
3878912	Operator PDM Entry & Review (1m) - 1313 - KTC
3879532	Corporate Facility Workplace H & S Inspection (1m) - 1313 - KTC
3889016	Pump Cent Insp/Service (1y) - 1313 Actiflo Recirc Pumps - KTC
3899925	1313, Lindsay WWT, Actiflo 2 Fault, Alarm
3900022	1313, Riverview SPS, Generator Running/Power Failure, Alarm
3900027	1313, Lindsay St North SPS, No Test Signal, Alarm
3900106	1313, Lindsay WWT, Bar Screen MBS201, Repair
3901306	1313, Lindsay St North, Generator Fault, Alarm
3901308	1313, Ridout SPS, Generator Starter Issue, Repair
3901445	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC
3901557	1313, Lindsay St North, Water Pipe Leak, Repair
3901710	1313, Mary SPS, Power Failure, Alarm
3902156	1313, Ridout SPS, Pump 1 Fault, Investigate
3902253	1313, Ridout SPS, Pump Fault, Alarm
3902255	1313, Wellington SPS, Pump 2 Fault, Power Fail, Alarm
3902258	1313, River Park SPS, Pump Fault, Power Fail, Alarm

3902260	1313, Riverview SPS, Power Fail, Alarm
3902359	1313, Lindsay WWT, WAS Compressor, Air Filter, Change
3902364	1313, Lindsay WWT, Equalization and Actiflo 1&2 Fault, Alarm
3902366	1313, Lindsay WWTP, Polymer System, Cleaning
3902386	1313, Lindsay WWTP, Coagulant, Polymer Fault, Alarm
3902398	3902386
3902662	1313, Lindsay WWT, EQ Pit Ultrasonic Multiranger Fail, Replace
3902734	1313, Lindsay St. North SPS, Potable Water Line, Replacement
3904641	1313, Lindsay WWTP, Acitiflow High Flow, Alarm
3906267	Alarm Dialer Testing (1m) - 1313 SPS - KTC
3906274	Blower Inspection (1m) - 1313 - KTC
3906566	Building and Grounds Maintenance (1m) - 1313 - KTC
3906568	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3906577	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3906586	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3906607	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC
3906626	Engine Diesel (1m) - 1313 Logie SPS - KTC
3906645	Engine Diesel (1m) - 1313 Riverview SPS - KTC
3906664	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC
3906683	Engine Diesel (1m) - 1313 Ridout SPS - KTC
3906702	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC
3906721	Engine Diesel (1m) - 1313 Main Plant - KTC
3906740	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC
3906746	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC
3908438	MCC Panel Insp/Service (1y) - 1313 - KTC
3908441	Tank Alum Inspection (1m) - 1313 - KTC
3908628	Tank Wetwell Cleaning/Inspection (1y) - 1313 Fairgrounds SPS - KTC
3908643	Tank Wetwell Cleaning/Inspection (1y) - 1313 Logie SPS - KTC
3908658	Tank Wetwell Cleaning/Inspection (1y) - 1313 Riverview SPS - KTC
3911558	Tank Wetwell Cleaning/Inspection (1y) - 1313 Wellington SPS - KTC
3911573	Tank Wetwell Cleaning/Inspection (1y) - 1313 Jennings Creek SPS - KTC
3922544	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3922672	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC
3925112	Air Conditioning Unit Service by Contractor (1y) - 1313 Main Plant & SPS - KTC
3925133	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
3925615	Tank Wetwell Cleaning/Inspection (1y) - 1313 Mary St SPS - KTC
3926904	Chemical Feed System Insp (1m) - 1313 - KTC
3927279	Tank Wetwell Cleaning/Inspection (1y) - 1313 Rivera Park SPS - KTC
3927294	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC
3927574	Lagoon Inspection (1m) - 1313 - KTC
3927751	HS03 H & S Equipment Check (1m) - 1313 - KTC
3929569	Operator PDM Entry & Review (1m) - 1313 - KTC
3930141	Corporate Facility Workplace H & S Inspection (1m) - 1313 - KTC
3946811	1313, Ridout SPS, Exhausted Flap, Repair

3946814	1313 Wellington SPS, High Level Float, Repair
3949170	1313, Rivera Park SPS, Panel with DSC System, Replace
3949402	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC
3949431	1313, Rivera Park SPS, Pump 4 Fault, Alarm
3949432	1313, Logie SPS, High Level, Alarm
3949673	1313, Ridout SPS, UPS Battery Alarm, Replace
3949811	1313, Rivera Park SPS, Pump 4 Fault, Investigate
3950988	1313, Lindsay WWT, WAS Pump 1 Failure, Investigate/Repair
3951353	1313, Lindsay WWT, Main Building, Central Air, Replace Compressor
3951705	1313, Mary SPS, Cellular Alarm Dialer, Replacement
3951706	1313, Logie SPS, Cellular Dialer, Replacement
3951708	1313, Riverview SPS, Cellular Dialer, Replacement
3952235	1313, Mary SPS, Pump 2, Pump Fault
3952371	1313, Fairgrounds SPS, Bell Line Repair
3954684	Alarm Dialer Testing (1m) - 1313 SPS - KTC
3954691	Blower Inspection (1m) - 1313 - KTC
3955020	Building and Grounds Maintenance (1m) - 1313 - KTC
3955022	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3955031	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3955040	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3955061	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC
3955080	Engine Diesel (1m) - 1313 Logie SPS - KTC
3955099	Engine Diesel (1m) - 1313 Riverview SPS - KTC
3955118	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC
3955137	Engine Diesel (1m) - 1313 Ridout SPS - KTC
3955156	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC
3955175	Engine Diesel (1m) - 1313 Main Plant - KTC
3955194	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC
3955200	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC
3956842	Tank Alum Inspection (1m) - 1313 - KTC
3957086	Lindsay St N Leachate SPS Pump Check/Insp (6m) - 1313 - KTC
3970644	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC
3970822	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC
3973501	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
3976234	Chemical Feed System Insp (1m) - 1313 - KTC
3976646	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC
3977108	Lagoon Inspection (1m) - 1313 - KTC
3977335	HS03 H & S Equipment Check (1m) - 1313 - KTC
3977458	Building Overhead Door Inspection/Service (1y) - 1313 - KTC
3979171	Operator PDM Entry & Review (1m) - 1313 - KTC
3979449	Boiler System Water Treatment Service by Contractor (3m) - 1313 - KTC
3979793	Corporate Facility Workplace H & S Inspection (1m) - 1313 - KTC
3996961	1313, Lindsay WWT, Emergency Light, Repair
3997165	1313, Logie SPS, Low and High Level, Alarm

3997819	1313, Mary SPS, Power Failure, Alarm
3998546	1313, Lindsay WWTP, Splitter Box, Cleaning
3998849	1313, Lindsay WWT, Alarm Panel, Replacement
3998850	1313, Jennings Creek SPS, Alarm Panel, Replacement
3998997	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC
3999035	1313, Jennings Creek SPS, Engine Diesel Generator, Repair
3999180	1313, Lindsay WWT, Inlet Building, Sludge Room, Ventilation Motor, Replace
3999302	1313, Mary SPS, Pump 2, Fuse, Replace
3999760	1313, Mary St SPS, Pump #2 Fault, Alarm
3999761	1313, Lindsay WWTP, Actiflo #1 & #2 Fault, Alarm
3999769	1313, Rivera Park SPS, No Test Signal, Alarm
3999771	1313, Rivera Park SPS, No Test Signal, Alarm
4000020	1313, Jennings Creek SPS, Alarm Dialer, Not Communicating
4000116	1313, Lindsay WWTP, Actiflo #2 Fault, Alarm
4000197	1313, Ridout SPS, Pump 1 Fail, Alarm
4000626	1313, Wellington SPS, Pump Submersible 1, Discharge 1/2" Ball Valve, Replace
4000652	1313, Fairgrounds SPS, No Test Signal, Alarm
4000653	1313, Rivera Park SPS, Odor Control Room, High Temp
4000655	1313, Ridout SPS, No Test Signal
4000656	1313, Lindsay WWT, No Test Signal
4000658	1313, Fairgrounds SPS, Generator Fault, Alarm
4000677	1313, Lindsay WWT, RAS Pump 2, Fault
4000708	1313, Lindsay WWT, South Clarifier, Weirs, Cleaning
4000709	1313, Lindsay WWT, Daylight Lagoon 2 & 4 WAS Valves
4000734	1313, Lindsay WWT, Separator Grit CY-520 Hydrocyclone 520, Rebuild
4000946	1313, Lindsay WWT, Lagoon 3 Transfer
4000979	1313, Lindsay WWT, Actiflo 1, Fault
4001186	1313, Lindsay WWT, Actiflo 1, Fault
4001189	1313, Lindsay WWT, Coagulant/Polymer, Fault
4001230	1313, Logie SPS, Mlltronics Display Fail, Power Reset
4001346	1313, Lindsay WWT, Environment Canada Inspection
4001463	1313, Lindsay WWT Lagoon Berm Clearing
4001703	1313, Lindsay WWT, Hydrocyclone Actiflo 1&2, Rebuild
4002009	1313, Lindsay WWT, Inlet Emergency Lights, Investigate
4002013	1313, Lindsay WWT, Exterior Light Failure, Investigate
4004331	Alarm Dialer Testing (1m) - 1313 SPS - KTC
4004338	Blower Inspection (1m) - 1313 - KTC
4004594	Building and Grounds Maintenance (1m) - 1313 - KTC
4004596	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4004605	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4004614	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4004635	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC
4004654	Engine Diesel (1m) - 1313 Logie SPS - KTC
4004673	Engine Diesel (1m) - 1313 Riverview SPS - KTC

4004692	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC
4004711	Engine Diesel (1m) - 1313 Ridout SPS - KTC
4004730	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC
4004749	Engine Diesel (1m) - 1313 Main Plant - KTC
4004768	Gear Drive Insp/Service (1m) - 1313 Inlet Grit Removal - KTC
4004774	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC
4006695	Tank Alum Inspection (1m) - 1313 - KTC
4006952	Pump Cent Insp/Service (6m) - 1313 Clarifier #1 RASP401 - KTC
4006960	Pump Cent Insp/Service (6m) - 1313 Clarifier #2 RASP402 - KTC
4006968	Pump Cent Insp/Service (6m) - 1313 WASP401 - KTC
4019073	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4019203	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC
4021853	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
4023673	Chemical Feed System Insp (1m) - 1313 - KTC
4024056	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC
4024080	Odour Control Fan Maintenance (3m) - 1313 Rivera Park SPS - KTC
4024360	Lagoon Inspection (1m) - 1313 - KTC
4024700	HS03 H & S Equipment Check (1m) - 1313 - KTC
4026700	Operator PDM Entry & Review (1m) - 1313 - KTC
4027224	Corporate Facility Workplace H & S Inspection (1m) - 1313 - KTC
4046263	1313, Lindsay WWT, Actiflo 1, Seperator Grit, CY-511 Hydrocyclone, Rebuild
4046264	1313, Lindsay WWT, Actiflo 1, Grit Seperator, CY-510 Hydrocyclone, Rebuild
4046308	1313, Lindsay WWT, Actiflo #1, High Flow, Alarm
4046322	1313, Jennings Creek SPS, Pump #1 Fault, Alarm
4046647	1313, Lindsay WWT, Generator Run Damper Fault, Investigate/Repair
4048370	1313, Lindsay WWT, AC Unit, Main Building, MCC Room, Replace
4048593	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC
4049333	1313, Ridout SPS, LPT AC Power Failure Alarm
4049435	1313, Fairgrounds SPS, Generator Fault, Alarm
4049438	1313, Ridout SPS, Generator Running / Pump 1 and 3 Fault, Alarm
4050000	1313, Jennings Creek SPS, Improper Burglar Alarm In MCC Room, Repair
4050666	1313, Mary SPS, Low Level, Alarm
4051002	1313, Lindsay WWT, Metcan Grit Removal, Water Solenoid, Replace
4051146	1313, Lindsay WWT, Actiflo 2 Fault
4052001	1313, Lindsay WWTP, Solids Discharge Bin Lagoon, Install
4052213	1313, Lindsay WWT, Clarifier 1, Scum Box, Plugged, Flush Line
4052214	1313, Lindsay WWT, Aeration Tank 1, Anoxic Zone, Scum Cleaning
4052215	1313, Lindsay WWT, Aeration Tank 2, Anoxic Zone, Cleaning
4052217	1313, Lindsay WWT, South Clarifier, Weir Cleaning
4053772	Alarm Dialer Testing (1m) - 1313 SPS - KTC
4053779	Blower Inspection (1m) - 1313 - KTC
4054021	Building and Grounds Maintenance (1m) - 1313 - KTC
4054032	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4054041	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC

4054062	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC
4054081	Engine Diesel (1m) - 1313 Logie SPS - KTC
4054100	Engine Diesel (1m) - 1313 Riverview SPS - KTC
4054119	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC
4054138	Engine Diesel (1m) - 1313 Ridout SPS - KTC
4054157	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC
4054176	Engine Diesel (1m) - 1313 Main Plant - KTC
4054195	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC
4054201	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC
4055950	Tank Alum Inspection (1m) - 1313 - KTC
4056052	Panel Transfer Insp. (1y) - 1313 Generator - KTC
4067075	Building Eavestrough Inspection/Cleaning (1y) - 1313 - KTC
4067456	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4067567	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC
4069639	Drive VFD Inspection (1y) - 1313 Route - KTC
4069787	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
4071736	Chemical Feed System Insp (1m) - 1313 - KTC
4072057	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC
4072325	Lagoon Inspection (1m) - 1313 - KTC
4072476	HS03 H & S Equipment Check (1m) - 1313 - KTC
4074120	Operator PDM Entry & Review (1m) - 1313 - KTC
4074654	Corporate Facility Workplace H & S Inspection (1m) - 1313 - KTC
4092117	1313, Wellington SPS, Loss of Communication, Alarm
4092122	1313, Jennings Creek SPS, Loss of Communication, Alarm
4092123	1313, Riverview SPS, Loss Of Communication, Alarm
4092126	1313, Logie SPS, Loss Of Communication, Alarm
4092332	1313, North Leachate SPS, Raw Sewage Pump #2 fault, Investigate/Repair
4093023	1313, Ridout SPS, Temporary Generator, Install
4093028	1313, Ridout SPS, Pump 2 Fault, Alarm
4093231	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC
4093824	1313, Mary SPS, Flow Mitigation
4094144	1313, Lindsay St North Leachate, Bypass, Repair
4094193	1313, Wellington SPS, Fencing Barbwire, Repair
4094706	1313, Lindsay WWTP, Clarifier 2 RAS Pump Fault, Alarm
4094708	1313, Lindsay WWTP, Fairgrounds SPS Generator Fault, Alarm
4095986	1313, Mary SPS, Pump Fault
4095991	1313, Lindsay WWT, Internet upgrade, Upgrade
4096620	1313, Lindsay WWT, North Clarifier, Tank, Cleaning
4096627	1313, The Lindsay WWT, Actiflo 1, Hi Hi Flow
4098127	Blower Inspection (1m) - 1313 - KTC
4098346	Building and Grounds Maintenance (1m) - 1313 - KTC
4098348	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4098357	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4098366	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC

4098387	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC
4098425	Engine Diesel (1m) - 1313 Riverview SPS - KTC
4098444	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC
4098463	Engine Diesel (1m) - 1313 Ridout SPS - KTC
4098482	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC
4098501	Engine Diesel (1m) - 1313 Main Plant - KTC
4098520	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC
4098526	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC
4100191	Harmonic Filter Insp/Service (1y) - 1313 Jennings Creek SPS - KTC
4100193	Tank Alum Inspection (1m) - 1313 - KTC
4100582	HS09 Chemical Review (1y) - 1313 - KTC
4100601	Heat Trace Inspection (6m) - 1313 - KTC
4113837	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4113971	Heater Unit Inspection (1y) - 1313 SPS Route - KTC
4113975	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC
4116451	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
4118916	Chemical Feed System Insp (1m) - 1313 - KTC
4119344	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC
4119683	Lagoon Inspection (1m) - 1313 - KTC
4119900	HS03 H & S Equipment Check (1m) - 1313 - KTC
4121139	Odour Control Force Main Vent Filter Change (6m) - 1313 Jennings Creek SPS - KTC
4121837	Operator PDM Entry & Review (1m) - 1313 - KTC
4122056	Boiler System Water Treatment Service by Contractor (3m) - 1313 - KTC
4122363	Corporate Facility Workplace H & S Inspection (1m) - 1313 - KTC
4132497	Pump Cent Insp/Service (6m) - 1313 Ridout SPS - KTC
4141293	1313, Jennings Creek SPS, High Level, Alarm
4141294	1313, Mary SPS, High Level, Alarm
4141298	1313, Lindsay WWT, Actiflo 2 Fault, Alarm
4141977	Engine Diesel Inspection/Service by Contractor (1y) - 1313 Lindsay St N SPS - KTC
4141989	Engine Diesel Inspection/Service by Contractor (1y) - 1313 Ridout SPS - KTC
4142037	1313, Lindsay WWT, Clear Lagoon Culverts
4143064	1313, Lindsay WWT, Actiflo 1 Fault
4143079	1313, Lindsay WWT, Polymer Carry Water Solenoid Failure Train 2, Replace
4143356	Transformer Inspection/Maintenance by Contractor (2y) - 1313 Main Plant - KTC
4143427	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC
4143503	1313, Lindsay St. N, Phone Line, Repair
4143519	1313, Lindsay WWT, Actiflo Air Scour, Upgrade
4143577	1313, Lindsay St North SPS, Bluetooth Alarm (High Level), Investigate/Repair
4143585	1313, Lindsay WWT, Actiflo Emergency Light Broken, Repair/Replace
4143705	1313, Lindsay St North SPS, Bluetooth, Alarm
4144596	1313, Jennings Creek SPS, Generator Running, Alarm
4144600	1313, Jennings Creek SPS, Generator Fault, Alarm
4145019	1313, Fairgrounds SPS, Heat Sensor and Fire Zones Active, Investigate/Repair
4145037	1313, Lindsay WWT, Isolation Valve, Installation, Process Water for Metcan

4146037	6670, Victoria Place WT, UV Fault
4146060	1313, Lindsay WWT, MCC emergency light failure, Investigate/Repair
4148602	Alarm Dialer Testing (1m) - 1313 SPS - KTC
4148609	Blower Inspection (1m) - 1313 - KTC
4148879	Building and Grounds Maintenance (1m) - 1313 - KTC
4148881	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4148890	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4148899	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4148920	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC
4148939	Engine Diesel (1m) - 1313 Logie SPS - KTC
4148958	Engine Diesel (1m) - 1313 Riverview SPS - KTC
4148977	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC
4148996	Engine Diesel (1m) - 1313 Ridout SPS - KTC
4149015	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC
4149034	Engine Diesel (1m) - 1313 Main Plant - KTC
4149053	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC
4149059	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC
4151026	Tank Alum Inspection (1m) - 1313 - KTC
4163659	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC
4163774	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC
4167038	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
4168681	Chemical Feed System Insp (1m) - 1313 - KTC
4169383	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC
4169407	Odour Control Fan Maintenance (3m) - 1313 Rivera Park SPS - KTC
4169720	Pump Diaphragm Inspection/Service (1y) - 1313 - KTC
4169752	Lagoon Inspection (1m) - 1313 - KTC
4170064	HS03 H & S Equipment Check (1m) - 1313 - KTC
4172241	Operator PDM Entry & Review (1m) - 1313 - KTC
4172829	Corporate Facility Workplace H & S Inspection (1m) - 1313 - KTC
4179800	1313, Lindsay WWT, UV Fault, Alarm
4180363	1313, Lindsay WWT, UV Fault, Alarm
4180851	1313, Lindsay WWT, UV Fault, Alarm
4192086	1313, Lindsay WWTP, Burglary Inlet Building, Alarm
4192502	1313, Lindsay WWT, UV Light Bank1 Module 3 Fault, Alarm
4192777	1313, Lindsay St. North SPS, Transformer, Compound Vegetation, Removal
4192985	1313, Lindsay WWT, Metcan Grit Separator, Piping Repair
4193774	1313, Lindsay WT, Clarifier RAS Pump Fault, Alarm
4193891	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC
4193972	1313, Mary SPS, Pump 2 Fault, Alarm
4194644	1313, Jennings Creek SPS, Generator Running, Alarm
4195108	1313, Jennings Creek SPS, Pump #1 & #2 Fault
4195119	6665, Manorview WT, Actiflo #1 Fault/Coagulant/Polymer Fault, Alarm
4195384	1313, Lindsay WWT, Clarifier 2 RAS Low Low, Alarm
4195459	1313, Wellington SPS, Power Failure, Alarm

4195460	1313, Lindsay WWTP, Clarifier 2 RAS Pump Fault, Alarm
4195464	1313, Lindsay St N SPS, Generator Running, Alarm
4195466	1313, Riverview SPS, Generator Running/Fault, Alarm
4195472	1313, Rivera Park SPS, Generator Running/Com Fail, Alarm
4195513	1313, Wellington SPS, Power Transfer, Alarm
4195698	1313, Lindsay WWT, UV Fail, Alarm
4196683	1313, Fairgrounds SPS, Low Temperature, Alarm
4196903	1313, Lindsay WWT, Propane Furnace # 2, Repair
4197010	1313, Lindsay WWT, Backflow Preventer, Inlet Building, Metcan Process Water, Replace
4197021	1313, Lindsay WWT, Actiflo Actuator Failure BFV501, Investigate/Replace
4199354	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC
4207254	Pump Cent Insp/Service (1y) - 1313 Actiflo Recirc Pumps - KTC
4214284	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC
4216562	Lagoon Inspection (1m) - 1313 - KTC
4216929	Grit Chamber Clean-out/Inspection by Contractor (1y) - 1313 - KTC
4218328	Operator PDM Entry & Review (1m) - 1313 - KTC
4223255	1313, Logie SPS, Generator Run/Power Fail, Trouble, Alarm
4224063	1313, Logie SPS, Generator Run/Power Fail, Trouble, Alarm
4225659	1313, Lindsay WWT, Scum Pit, Cleanout
4235514	1313, Logie SPS, High Level, Alarm
4235516	1313, Jennings Creek SPS, Pump 3 Fault, Alarm
4236915	1313, Lindsay WWT, Actiflo Actuator Electric BFV501
4237007	1313, Lindsay WWT, Basement Sump Pump not Turning off, Investigate/Repair
4241339	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix IV: Calibration Reports



Franklin Empire

550 Braidwood Ave. Unit 4
Peterborough ON K9J 1W1, CANADA

Tel: (705) 745-1626

Fax: (705) 745-3493

OCWA Kawartha Lindsay WWTP

2024 Flow Calibrations

Leaders in Instrumentation and Control

	CALIBRATION REPORT	Report No.: LINDSWW 24 FIT-501
		Date: 04-Dec-24

SITE:	Lindsay WWTP	SERVICE DATE:	December 4, 2024
PROCESS AREA:	Actiflo 1	TECHNICIAN:	M Manley
INSTR. TAG:	FIT-501	JOB REFERENCE:	LINDSWW 24
MANUFACTURER:	Krohne		
MODEL:	IFC 090		
SERIAL No.:	A98 18896		
INSTR. RANGE:	0000423853		

Input (Test)			Output (Signal)		(Process)	
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	m3/day
Min:	0.00		Min:	4.00	0.00	
Max:	2.15		Max:	20.00	373.30	32250.00
DN (mm):	450	18	coil 118.8 ohms			
GK=1 GKL=2	1					
GK:	3.589		open to ground			
Constant:	4177.44					
			Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	4.00	0.00%	4.00	0.00%
0.50	A	7.73	7.72	-0.13%	7.76	0.39%
1.00	B	11.46	11.45	-0.09%	11.44	-0.17%
2.00	C	18.91	18.89	-0.11%	18.90	-0.05%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 16, 2024	Mar. 26, 2024	

Comments:
Total 43.019 E6m3

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



	CALIBRATION REPORT	Report No.: LINDSWW 24 FIT-502
		Date: 04-Dec-24

SITE:	Lindsay WWTP	SERVICE DATE:	December 4, 2024
PROCESS AREA:	Actiflo 2	TECHNICIAN:	M Manley
INSTR. TAG:	FIT-502	JOB REFERENCE:	LINDSWW 24
MANUFACTURER:	Krohne		
MODEL:	IFC 090		
SERIAL No.:	A98 18895		
INSTR. RANGE:	0000423852		

Input (Test)			Output (Signal) (Process)			
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	m3/day
Min:	0.00		Min:	4.00	0.00	
Max:	2.17		Max:	20.00	373.30	32250.00
DN (mm):	450	18				
GK=1 GKL=2	1					
GK:	3.548					
Constant:	4177.44					
			coil		118.4 ohms	
			open to ground			
			Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	4.00	0.00%	4.00	0.00%
0.50	A	7.69	7.66	-0.39%	7.66	-0.39%
1.00	B	11.37	11.34	-0.26%	11.34	-0.26%
2.00	C	18.74	18.67	-0.37%	18.67	-0.37%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 16, 2024	Mar. 26, 2024	

Comments: 44.440 E6 m3

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



Report No.: LINDSWW
24 FIT-101

Date: Dec. 3, 2024

SITE:	Lindsay WWTP
PROCESS AREA:	Middle Leachate FIT-101
MANUFACTURER:	Krohne
MODEL:	IFC 090
SERIAL No.:	A03 29326
INSTR. RANGE:	0000423619

SERVICE DATE: Dec. 3, 2024

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 24

Input (Test) Type: GS 8 (X val) Min: 0.00 Max: 6.67 DN (mm): 80 3 inch GK=1 GKL=2 1 GK: 2.445 Constant: 4177.44			Output (Signal) (Process) Type or EGU: mA l/s Min: 4.00 0.00 Max: 20.00 25.00 coil 62.0 ohms open to ground			
			Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	4.01	0.25%	4.01	0.00%
0.50	A	5.20	5.21	0.19%	5.21	0.19%
1.00	B	6.40	6.41	0.16%	6.41	0.16%
2.00	C	8.79	8.77	-0.23%	8.77	-0.23%
5.00	D	15.99	15.98	-0.06%	15.98	-0.06%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 16, 2024	Mar. 26, 2024	

Comments: In Panel outside, fuse marked on instrument. (CB#8 3rd from right) (mA input 2 on RCI 800)

226680m3

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:

White Male

	CALIBRATION REPORT	Report No.: LINDSWW 24 FIT-201
		Date: 04-Dec-24

SITE: Lindsay WWTP
PROCESS AREA: South Leachate
FIT-201
MANUFACTURER: Krohne
MODEL: IFC100
SERIAL No.: S15302427
INSTR. RANGE: 0000423730

SERVICE DATE: December 4, 2024
TECHNICIAN: M Manley
JOB REFERENCE: LINDSWW 24

Input (Test)			Output (Signal) (Process)			
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	
Min:	0.00		Min:	4.00	0.00	
Max:	2.74		Max:	20.00	10.00	
DN (mm):	80	3 inch				
GK=1 GKL=2	2					
GK:	4.757					
Constant:	4177.44					
			Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	4.00	0.00%	4.00	-0.25%
0.50	A	6.92	6.91	-0.14%	6.91	-0.14%
1.00	B	9.83	9.83	0.00%	9.83	0.00%
2.00	C	15.66	15.68	0.13%	15.68	0.13%
5.00	D	33.15				
10.00	E	62.31				

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 16, 2024	Mar. 26, 2024	

Comments: Total AF 143432.9 m3
S78 123S
SWB SRWS

AS FOUND: PASS AS LEFT: PASS

CERTIFIED BY:



	CALIBRATION REPORT	Report No.: LINDSWW 24 FIT-203
		Date: 04-Dec-24

SITE:	Lindsay WWTP	SERVICE DATE:	December 4, 2024
PROCESS AREA:	North / Middle Leachate	TECHNICIAN:	M Manley
INSTR. TAG:	FIT-203	JOB REFERENCE:	LINDSWW 24
MANUFACTURER:	Krohne		
MODEL:	IFC 090		
SERIAL No.:	A03 21903		
INSTR. RANGE:	0000422119		

Input (Test)			Output (Signal) (Process)			
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	
Min:	0.00		Min:	4.00	0.00	
Max:	15.22		Max:	20.00	90.00	
DN (mm):	100	4	coil 103.5 ohms open to ground			
GK=1 GKL=2	1					
GK:	2.470					
Constant:	4177.44		Before Calibration		After Calibration	
Input (Y pos)	Knob Setting		Calc. O/P (mA)	Output (mA)	%Error	Output (mA)
0.00	0	4.00	4.00	0.00%	4.00	0.00%
0.50	A	4.53	4.52	-0.22%	4.52	-0.22%
1.00	B	5.05	5.05	0.00%	5.05	0.00%
2.00	C	6.10	6.10	0.00%	6.10	0.00%
5.00	D	9.26	9.23	-0.32%	9.23	-0.32%
10.00	E	14.51	14.46	-0.34%	14.46	-0.34%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 16, 2024	Mar. 26, 2024	

Comments:
Display cycles 2Xper second and pushbuttons not working.
Noisy signal, somewhat erratic, Consider replacement.

AS FOUND: PASS AS LEFT: PASS

CERTIFIED BY: 

	CALIBRATION REPORT	Report No.: LINDSWW 24 FIT-202
		Date: Dec. 5, 2024

SITE:	Lindsay WW	SERVICE DATE:	Dec. 5, 2024
PROCESS AREA:	Reject	TECHNICIAN:	M Manley
INSTR. TAG:	FIT-202	JOB REFERENCE:	LINDSWW 24
MANUFACTURER:	Greyline Transit Time		
MODEL:	TTFM 1.0		
SERIAL No.:	53787		
Type:	0000423880		

Input (Test)			Output (Signal) (Process)			
Type:	Simulation		Type or EGU:	mA	m3/day	m3/hr
Min:	0		Min:	4.00	0	0
Max:	25920		Max:	20.00	25920.000	1080
Pipe OD:	12.75					
Sensor Spacing:	4.5 inch	1 Pass				
Material:	Stainless Steel		Before Calibration		After Calibration	
Input	Input %	Calc. m3/day	Output	%Error	Output	%Error
0			0		0	
630		630	620	-1.59%	620	-1.59%
Simulation	Input %	Calc. mA	Output	%Error	Output	%Error

Calibration Equipment			
Type:	DMM	Clamp-on Transit time Flowmeter	
Manufacturer:	Fluke	Siemens	
2018 Flow Calibrat	Model 87	FUP1010	
Serial No.:	13440128	Service	
Last Cal. Date:	Feb. 16, 2024		

Comments:

Unsteady flow but seemed to compare with our clamp flowmeter, flow surged from 200 - 1000 m3/d
correction factor 1.00

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



	CALIBRATION REPORT	Report No.: LINDSWW 24 FIT-101
		Date: Dec. 3, 2024

SITE: Lindsay WWTP
PROCESS AREA: Ridout SPS
INSTR. TAG: FIT-101
MANUFACTURER: Krohne
MODEL: IFC 020D
SERIAL No.: A0246587
INSTR. RANGE: 0000422553

SERVICE DATE: Dec. 3, 2024
TECHNICIAN: M Manley
JOB REFERENCE: LINDSWW 24

Input (Test)			Output (Signal)		(Process)	
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	m3/day
Min:	0.00		Min:	4.00	0.00	
Max:	7.31		Max:	20.00	450.00	
DN (mm):	300	12	coil		100.8 ohms	
GK=1 GKL=2	1		open to ground			
GK:	2.856					
Constant:	4177.44		Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	3.99	-0.25%	3.99	0.00%
0.50	A	5.09	5.04	-0.98%	5.04	-0.98%
1.00	B	6.19	6.11	-1.29%	6.11	-1.29%
2.00	C	8.38	8.28	-1.19%	8.28	-1.19%
5.00	D	14.94	14.75	-1.27%	14.75	-1.27%
10.00	E	25.88				

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 16, 2024	Mar. 26, 2024	

Comments: Total 1324782

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



	CALIBRATION REPORT	Report No.: LINDSWW 24 FIT-W SPS
		Date: Dec. 3, 2024

SITE:	Lindsay WW Wellington SPS	SERVICE DATE:	Dec. 3, 2024
PROCESS AREA:	Wellington SPS	TECHNICIAN:	M Manley
INSTR. TAG:	FIT-W SPS	JOB REFERENCE:	LINDSWW 24
MANUFACTURER:	Greyline Doppler		
MODEL:	DFM-IV		
SERIAL No.:	20450		
Type:	0000422219		

Input (Test)			Output (Signal) (Process)			
Type:	Simulation		Type or EGU:	mA	m3/s	m3/day
Min:	0.00		Min:	4.00	0	0
Max:	0.024		Max:	20.00	0.024	2074
Pipe ID:	3.96					
Material:	Cast Iron		Before Calibration		After Calibration	
Input	Input %	Calc. m3/day	Output	%Error	Output	%Error
Simulation	Input %	Calc. mA	Output	%Error	Output	%Error
0.000	0.00%	4.00	4.01		4.01	
0.006	25.00%	8.00	8.01		8.01	
0.120	50.00%	12.00	11.99		11.99	
0.018	75.00%	16.00	15.98		15.98	
0.024	100.00%	20.00	19.99		19.99	

Calibration Equipment			
Type:	DMM		
Manufacturer:	Fluke		
2018 Flow Calibrat	Model 87		
Serial No.:	13440128		
Last Cal. Date:	Feb. 16, 2024		

Comments: 2019 Tested pump 2, ran at 0.009 m3/sec
2020 Tested Pump 2, ran at 0.01 m3/sec
2021 Tested Pump 1, ran at 0.010 m3/s
2022 Tested Pump 1, ran at 0.009 m3/s
2023 P1 (new pump), ran at 0.012m3/s
2024 Tested Pump 1, ran at 0.012m3/s
Functional test and mA output check only. This meter was not compared to any reference.

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

CERTIFIED BY:



	CALIBRATION REPORT	Report No.: LINDSWW 24 232 FIT 101
		Date: Dec. 3, 2024

SITE:	Lindsay WWTP	SERVICE DATE:	Dec. 3, 2024
PROCESS AREA:	Logie St	TECHNICIAN:	M Manley
TAG:	232 FIT 101	JOB REFERENCE:	LINDSWW 24
MANUFACTURER:	Krohne		
MODEL:	IFC 300		
SERIAL No.:	S0825543 CG30011100		
INSTR. RANGE:	0000421415		

Input (Test)			Output (Signal)		(Process)	
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	
Min:	0.00		Min:	4.00	0.00	
Max:	3.22		Max:	20.00	200.00	
DN (mm):	250	10 inch	coil open to ground			
GK=1 GKL=2	2					
GK:	8.304					
Constant:	4177.44					
			Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (l/s)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	4.00	0.00%	4.00	0.00%
0.50	A	6.48	6.47	-0.15%	6.47	-0.15%
1.00	B	8.97	8.92	-0.56%	8.92	-0.56%
2.00	C	13.94	13.84	-0.72%	13.84	-0.72%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 16, 2024	Mar. 26, 2024	

Comments:

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



	CALIBRATION REPORT	Report No.: LINDSWW 24 FIT-Fair
		Date: Dec. 5, 2024

SITE:	Lindsay WW Fairgrounds	SERVICE DATE:	Dec. 5, 2024
PROCESS AREA:	Fairgrouds SPS	TECHNICIAN:	M Manley
INSTR. TAG:	FIT-Fair	JOB REFERENCE:	LINDSWW 24
MANUFACTURER:	Greyline Doppler		
MODEL:	DFM-IV		
SERIAL No.:	19456		
Type:	0000421388		

Input (Test)			Output (Signal) (Process)			
Type:	Simulation		Type or EGU:	mA	m3/s	m3/day
Min:	0.00		Min:	4.00	0	0
Max:			Max:	20.00	0.056	4838
Pipe ID:	6	5.1 programmed				
Material:	plastic		Before Calibration		After Calibration	
Input	Input %	Calc. m3/s	Output	%Error	Output	%Error
0	0.00%	0	0	0.00%	0	0.00%
22.7	l/s	0.0178	0.018	1.12%	0.018	1.12%
		17.8 l/s				

Calibration Equipment			
Type:	DMM	Clamp-on Transit time Flowmeter	
Manufacturer:	Fluke	Siemens	
2018 Flow Calibrat	Model 87	FUP1010	
Serial No.:	13440128	Service	
Last Cal. Date:	Feb. 16, 2024		

Comments: Verified with clamp on flowmeter, ALC 78, 1486 fps

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



Report No.: LINDSWW
24 FIT 1

Date: Dec. 5, 2024

SITE:	Mary St SPS
PROCESS AREA:	Pump 1
INSTR. TAG	FIT 1
MANUFACTURER:	Krohne
MODEL:	IFC100
SERIAL No.:	S17315264
OCWA Code.	0000423609

SERVICE DATE: Dec. 5, 2024

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 24

Input (Test)			Output (Signal) (Process)			
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	
Min:	0.00		Min:	4.00	0.00	
Max:	3.69		Max:	20.00	25.00	
DN (mm):	100	4 inch				
GK=1 GKL=2	2					
GK:	5.657					
Constant:	4177.44					
			Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (l/s)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	3.99	-0.25%	3.99	0.00%
0.50	A	6.17	6.15	-0.32%	6.15	-0.32%
1.00	B	8.33	8.32	-0.12%	8.32	-0.12%
2.00	C	12.67	12.64	-0.24%	12.64	-0.24%
5.00	D	25.67				
10.00	E	47.33				

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 16, 2024	Mar. 26, 2024	

Comments: SRB SRWS

34M ohms to ground. These meters have had moisture in the junction boxes. Recommend dry them out in the summer and fill them with potting compound.

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:

White Male

Report No.: LINDSWW
24

FIT 2

SITE:	Mary St SPS
PROCESS AREA:	Pump 2
INSTR. TAG	FIT 2
MANUFACTURER:	Krohne
MODEL:	IFC100
SERIAL No.:	S17315262
OCWA Code.	0000423611

JOB REFERENCE: LINDSWW 24

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 16, 2024	Mar. 26, 2024	

2 M ohms to ground. These meters have had moisture in the junction boxes. Recommend dry them out in the summer and fill them with potting compound.

AS LEFT: PASS

White Male

Report No.: LINDSWW
24 FIT 101

SITE:	Rivera SPS
PROCESS AREA:	FIT 101
INSTR. TAG	FIT 101
MANUFACTURER:	Siemens
MODEL:	Model 6000 Industry
SERIAL No.:	333901H188

TECHNICIAN: M Manley

Input (Test)			Output (Signal) (Process)			
Type:	Simulation		Type or EGU:	SCADA	1/s	
Min:	0%		Min:	0.00	0.00	
Max:	100%		Max:	400.00	400.00	
DN (mm):	450	18 inch	coil open to ground			
LF Cutoff	1.50%					
Empty Pipe	ON					
Cal Factor:	169.7953					
			Before Calibration		After Calibration	
Simulation	mA	O/P (l/s)	Scada (l/s)	%Error	Scada (l/s)	%Error
0.00	4.00	0.0	0.0	0.00%	0.0	0.00%
100.00	8.00	100.0				
200.00	12.00	200.0	200.2	0.10%	200.2	0.10%
300.00	16.00	300.0				
400.00	20.00	400.0	399.9	-0.01%	399.9	-0.01%

Type:	DMM		
Manufacturer:	Fluke		
2018 Flow Calibrat	Model 87		
Serial No.:	13440128		
Last Cal. Date:	Feb. 16, 2024		

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:

White Manley

	CALIBRATION REPORT	Report No.: LINDSWW 24 FIT 201
		Date: Dec. 5, 2024

SITE:	Rivera SPS	SERVICE DATE:	Dec. 5, 2024
PROCESS AREA:	FIT 201	TECHNICIAN:	M Manley
INSTR. TAG	FIT 201	JOB REFERENCE:	LINDSWW 24
MANUFACTURER:	Siemens		
MODEL:	Model 6000 Industry		
SERIAL No.:	333801H188		

Input (Test)			Output (Signal) (Process)			
Type:	Simulation		Type or EGU:	SCADA l/s		
Min:	0%		Min:	0.00 0.00		
Max:	100%		Max:	400.00 400.00		
DN (mm):	450	18 inch				
LF Cutoff	1.50%					
Empty Pipe	ON					
Cal Factor:	171.2212					
			Before Calibration		After Calibration	
Simulation	mA	O/P (l/s)	Scada (l/s)	%Error	Scada (l/s)	%Error
0.00	4.00	0.0	0.0	0.00%	0.0	0.00%
100.00	8.00	100.0				
200.00	12.00	200.0	200.4	0.20%	200.4	0.20%
300.00	16.00	300.0				
400.00	20.00	400.0	400.0	0.00%	400.0	0.00%

Calibration Equipment			
Type:	DMM		
Manufacturer:	Fluke		
2018 Flow Calibrat	Model 87		
Serial No.:	13440128		
Last Cal. Date:	Feb. 16, 2024		

Comments: Checked Signal suitability +9

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



Plant operator: OCWA.

Device information

Location	Lindsay WWTP
Device tag	Promag
Module name	C300-01
Nominal diameter	DN750 / 30"
Device name	Promag 500
Order code	5W5B7F-1K11/0
Serial number	T10D6919000
Firmware version	01.01.06

**Calibration**

Calibration factor	1.0939
Zero point	-10

Verification information

Operating time (counter)	848d00h22m05s
Date/time (manually recorded)	04.12.24 10:09
Verification ID	5
Verification mode	Internal verification

Overall verification result*

 Passed	Details see next page
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*Result of the complete device functionality test via Heartbeat Technology

Confirmation

Heartbeat Verification verifies the function of the flowmeter within the specified measuring tolerance, over the useful lifetime of the device, with a total test coverage > 94 %, and complies with the requirements for traceable verification according to DIN EN ISO 9001:2008 – Section 7.6 a. (attested by TÜV-SÜD Industrieservices GmbH)

Notes

Date

Operator's signature

Inspector's signature

Plant operator: OCWA.

Device identification and verification identification

Serial number	T10D6919000
Device tag	Promag
Verification ID	5



Sensor		☒ Passed
Shot time symmetry		☒ Passed
Hold voltage symmetry		☒ Passed
Coil current loss		☒ Passed
Coil current stability		☒ Passed
Coil resistance		☒ Passed
Electrode circuit 1		☒ Passed
Electrode circuit 2		☒ Passed
Electrode circuit EPD		☒ Passed
Sensor electronic module (ISEM)		☒ Passed
Supply voltage		☒ Passed
External reference voltage		☒ Passed
Linearity and reference voltage		☒ Passed
Offset of electrode measuring circuit		☒ Passed
Hold voltage feedback		☒ Passed
Shot voltage feedback		☒ Passed
Electronic current loss		☒ Passed
Coil circuit measurement		☒ Passed
Shot control circuit		☒ Passed
Electrode signal integrity		☒ Passed
System status		☒ Passed
I/O module		☒ Passed
Input/output 1	26-27 (I/O 1)	☒ Passed
Input/output 2	24-25 (I/O 2)	☒ Passed
Input/output 3	22-23 (I/O 3)	☐ Not plugged
Input/output 4	20-21 (I/O 4)	☐ Not plugged

Plant operator: OCWA.

Device identification and verification identification

Serial number	T10D6919000
Device tag	Promag
Verification ID	5



Test item with value	Unit	Actual	Min.	Max.	Visualization
Sensor					
Shot time symmetry deviation		0.9975	0.9000	1.1000	□□□□■□□□□□
Hold voltage symmetry deviation		1.0000	0.9000	1.1000	□□□□■□□□□□
Coil current loss deviation	%	-0.05291	-10.0000	10.0000	□□□□■□□□□□
Coil current offset	%	0.00	-0.1	0.1	□□□□■□□□□□
Coil current deviation	%	-0.016	-0.1	0.1	□□□■□□□□□□
Coil resistance value	Ohm	117.4	50.0	240.0	□□□■□□□□□□
Electrode impedance 1	Ohm	417.06			
Electrode impedance 2	Ohm	394.42			
Electrode EPD impedance	Ohm	436.35			
Electrode impedance E1/E2 on E1	Ohm	405.28			
Electrode impedance E1/E2 on E2	Ohm	383.97			
Sensor electronic module (ISEM)					
External reference voltage 1	V	-nan			
Linearity and reference voltage 1		0.9995			
Linearity and reference voltage 2		0.9997			
Measuring point offset		-1.0381	-100.0000	100.0000	□□□□■□□□□□
Hold voltage feedback value	%	1.05	-10.0	10.0	□□□□□■□□□□
Shot voltage feedback value	%	-0.38	-20.0	20.0	□□□□■□□□□□
Electronic current loss deviation	%	0.075	-10.0000	10.0000	□□□□■□□□□□
Coil circuit value	%	0.055	-1.0	1.0	□□□□■□□□□□
Shot control circuit value	%	-0.0072	-10.0	10.0	□□□□■□□□□□
Electrode signal integrity deviation	%	8.15	-40.0	40.0	□□□□□■□□□□
System status					

Test item with value	Unit	Actual	Min.	Max.	Visualization
I/O module					
I/O module 1 terminal numbers	26-27 (I/O 1)				
Output 1 value 1	mA	0.01103	-0.1846	0.1846	□□□□■□□□□□
Output 1 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□
I/O module 2 terminal numbers	24-25 (I/O 2)				
Output 2 value 1		1.0001	0.9995	1.0005	□□□□□■□□□□
Output 2 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□

Plant operator: OCWA.

Device identification and verification identification

Serial number	T10D6919000
Device tag	Promag
Verification ID	5



Test item with value	Unit	Actual
Process conditions		
Volume flow value verification	m³/d	12417.67
Conductivity value verification	µS/cm	-nan
Electronic temperature	°C	24.0652

Plant operator: OCWA

Device information

Location	Lindsay WW FIT-401
Device tag	FIT401
Module name	K323-00
Nominal diameter	DN450 / 18"
Device name	Promag 400
Order code	5W4C4F-7MD6/0
Serial number	SC22A719000
Firmware version	02.01.01



Calibration

Calibration factor	1.1386
Zero point	-13.0

Verification information

Operating time (counter)	771d20h42m26s
Date/time (manually recorded)	04.12.24 11:00
Verification ID	27
Verification mode	Standard verification

Overall verification result*

 Passed	Details see next page
--	-----------------------

*Result of the complete device functionality test via Heartbeat Technology

Confirmation

Heartbeat Verification verifies the function of the flowmeter within the specified measuring tolerance, over the useful lifetime of the device, with a total test coverage > 94 %, and complies with the requirements for traceable verification according to DIN EN ISO 9001:2008 – Section 7.6 a. (attested by TÜV-SÜD Industrieservices GmbH)

Notes

Date

Operator's signature

Inspector's signature

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A719000
Device tag	FIT401
Verification ID	27



Sensor

 Passed

Shot time symmetry	 Passed
Hold voltage symmetry	 Passed
Coil current loss	 Passed
Coil current stability	 Passed
Coil resistance	 Passed
E1 electrode cable	 Not done
E2 electrode cable	 Not done
EPD electrode cable	 Not done

Sensor electronic module (ISEM)

 Passed

Supply voltage	 Passed
Internal voltages	 Passed
Linearity and reference voltage	 Passed
Offset of electrode measuring circuit	 Passed
Hold voltage feedback	 Passed
Shot voltage feedback	 Passed
Electronic current loss	 Passed
Coil circuit measurement	 Passed
Shot control circuit	 Passed
Electrode signal integrity	 Passed

System status

 Passed

I/O module

 Passed

Input/output 1	 Passed
Input/output 2	 Not done
Input/output 3	 Not done

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A719000
Device tag	FIT401
Verification ID	27



Test item with value	Unit	Actual	Min.	Max.	Visualization
Sensor					
Shot time symmetry deviation		1.0003	0.9000	1.1000	□□□□■□□□□□
Hold voltage symmetry deviation		1.0000	0.9000	1.1000	□□□□■□□□□□
Coil current loss deviation	%	0.1227	-10.0000	10.0000	□□□□■□□□□□
Coil current offset	%	-0.008123	-0.1000	0.1000	□□□□■□□□□□
Coil current deviation	%	0.0000	-0.1000	0.1000	□□□□■□□□□□
Coil resistance value	Ohm	136.9	50.0	240.0	□□□□■□□□□□
E1 electrode impedance	Ohm	993167.2			
E2 electrode impedance	Ohm	1000000			
EPD electrode impedance	Ohm	620238.1			
E1/E2 electrode impedance on E1	Ohm	1000000			
E1/E2 electrode impedance on E2	Ohm	1000000			
Sensor electronic module (ISEM)					
Supply voltage 30.0V	V	31.15	27.000	35.000	□□□□■□□□□□
Linearity and reference voltage 1		0.9994	0.9900	1.0100	□□□□■□□□□□
Linearity and reference voltage 2		0.9995	0.9900	1.0100	□□□□■□□□□□
Measuring point offset		7.0784	-100.0000	100.0000	□□□□■□□□□□
Hold voltage feedback value	%	0.73	-10.0	10.0	□□□□■□□□□□
Shot voltage feedback value	%	-0.70	-20.0	20.0	□□□□■□□□□□
Electronic current loss deviation	%	0.13	-10.0000	10.0000	□□□□■□□□□□
Coil circuit value	%	0.00	-1.0	1.0	□□□□■□□□□□
Shot control circuit value	%	-0.090	-10.0	10.0	□□□□■□□□□□
Electrode signal integrity deviation	%	0.28	-40.0	40.0	□□□□■□□□□□

Test item with value	Unit	Actual	Min.	Max.	Visualization
I/O module					
Output 1 value 1	mA	3.9873	3.8600	4.1400	□□□□■□□□□□
Output 1 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 2 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 3 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A719000
Device tag	FIT401
Verification ID	27



Test item with value	Unit	Actual
Process conditions		
Volume flow value verification	m ³ /d	0.0000
Conductivity value verification	μS/cm	-nan
Electronic temperature	°C	32.0
Current difference potential	V	-0.02381
Current potential electrode 1	V	-0.08525
Current potential electrode 2	V	-0.06257
Current potential electrode Pipe GND	V	0.002075

Plant operator: OCWA

Device information

Location	LINDSAY WWTP FIT-411
Device tag	Promag
Module name	K323-00
Nominal diameter	DN450 / 18"
Device name	Promag 400
Order code	5W4C4F-7MD6/0
Serial number	SC22A819000
Firmware version	02.01.01



Calibration

Calibration factor	1.1444
Zero point	3.0

Verification information

Operating time (counter)	771d16h35m30s
Date/time (manually recorded)	04.12.24 11:33
Verification ID	4
Verification mode	Standard verification

Overall verification result*

 Passed	Details see next page
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*Result of the complete device functionality test via Heartbeat Technology

Confirmation

Heartbeat Verification verifies the function of the flowmeter within the specified measuring tolerance, over the useful lifetime of the device, with a total test coverage > 94 %, and complies with the requirements for traceable verification according to DIN EN ISO 9001:2008 – Section 7.6 a. (attested by TÜV-SÜD Industrieservices GmbH)

Notes

Date

Operator's signature

Inspector's signature

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A819000
Device tag	Promag
Verification ID	4



Sensor	✓ Passed
Shot time symmetry	✓ Passed
Hold voltage symmetry	✓ Passed
Coil current loss	✓ Passed
Coil current stability	✓ Passed
Coil resistance	✓ Passed
E1 electrode cable	✓ Passed
E2 electrode cable	✓ Passed
EPD electrode cable	✓ Passed
Sensor electronic module (ISEM)	✓ Passed
Supply voltage	✓ Passed
Internal voltages	✓ Passed
Linearity and reference voltage	✓ Passed
Offset of electrode measuring circuit	✓ Passed
Hold voltage feedback	✓ Passed
Shot voltage feedback	✓ Passed
Electronic current loss	✓ Passed
Coil circuit measurement	✓ Passed
Shot control circuit	✓ Passed
Electrode signal integrity	✓ Passed
System status	✓ Passed
I/O module	✓ Passed
Input/output 1	✓ Passed
Input/output 2	? Not done
Input/output 3	? Not done

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A819000
Device tag	Promag
Verification ID	4



Test item with value	Unit	Actual	Min.	Max.	Visualization
Sensor					
Shot time symmetry deviation		0.9995	0.9000	1.1000	□□□□■□□□□□
Hold voltage symmetry deviation		0.9984	0.9000	1.1000	□□□□■□□□□□
Coil current loss deviation	%	0.1586	-10.0000	10.0000	□□□□■□□□□□
Coil current offset	%	0.0000	-0.1000	0.1000	□□□□■□□□□□
Coil current deviation	%	0.008123	-0.1000	0.1000	□□□□■□□□□□
Coil resistance value	Ohm	135.5	50.0	240.0	□□□□■□□□□□
E1 electrode impedance	Ohm	487.06			
E2 electrode impedance	Ohm	468.79			
EPD electrode impedance	Ohm	512.34			
E1/E2 electrode impedance on E1	Ohm	475.54			
E1/E2 electrode impedance on E2	Ohm	458.13			
Sensor electronic module (ISEM)					
Supply voltage 30.0V	V	31.17	27.000	35.000	□□□□■□□□□□
Linearity and reference voltage 1		0.9997	0.9900	1.0100	□□□□■□□□□□
Linearity and reference voltage 2		0.9997	0.9900	1.0100	□□□□■□□□□□
Measuring point offset		5.1972	-100.0000	100.0000	□□□□■□□□□□
Hold voltage feedback value	%	0.66	-10.0	10.0	□□□□■□□□□□
Shot voltage feedback value	%	-0.78	-20.0	20.0	□□□□■□□□□□
Electronic current loss deviation	%	0.72	-10.0000	10.0000	□□□□■□□□□□
Coil circuit value	%	0.055	-1.0	1.0	□□□□■□□□□□
Shot control circuit value	%	-0.084	-10.0	10.0	□□□□■□□□□□
Electrode signal integrity deviation	%	-1.93	-40.0	40.0	□□□□■□□□□□

Test item with value	Unit	Actual	Min.	Max.	Visualization
I/O module					
Output 1 value 1	mA	8.6923	8.5034	8.8772	□□□□■□□□□□
Output 1 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 2 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 3 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A819000
Device tag	Promag
Verification ID	4



Test item with value	Unit	Actual
Process conditions		
Volume flow value verification	m ³ /d	4687.971
Conductivity value verification	μS/cm	-nan
Electronic temperature	°F	88.1
Current difference potential	V	-0.01008
Current potential electrode 1	V	0.2720
Current potential electrode 2	V	0.2849
Current potential electrode Pipe GND	V	-0.00004355

Plant operator: OCWA

Device information

Location	Lindsay WWTP FIT-421
Device tag	FIT421
Module name	K323-00
Nominal diameter	DN150 / 6"
Device name	Promag 400
Order code	5W4C1F-1H9E4/0
Serial number	SA25B919000
Firmware version	02.01.01



Calibration

Calibration factor	1.1313
Zero point	1.0

Verification information

Operating time (counter)	771d20h44m52s
Date/time (manually recorded)	12.12.24 11:21
Verification ID	10
Verification mode	Standard verification

Overall verification result*

 Passed	Details see next page
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*Result of the complete device functionality test via Heartbeat Technology

Confirmation

Heartbeat Verification verifies the function of the flowmeter within the specified measuring tolerance, over the useful lifetime of the device, with a total test coverage > 94 %, and complies with the requirements for traceable verification according to DIN EN ISO 9001:2008 – Section 7.6 a. (attested by TÜV-SÜD Industrieservices GmbH)

Notes

Date

Operator's signature

Inspector's signature

Plant operator: OCWA

Device identification and verification identification

Serial number	SA25B919000
Device tag	FIT421
Verification ID	10



Sensor	✓ Passed
Shot time symmetry	✓ Passed
Hold voltage symmetry	✓ Passed
Coil current loss	✓ Passed
Coil current stability	✓ Passed
Coil resistance	✓ Passed
E1 electrode cable	✓ Passed
E2 electrode cable	✓ Passed
EPD electrode cable	✓ Passed
Sensor electronic module (ISEM)	✓ Passed
Supply voltage	✓ Passed
Internal voltages	✓ Passed
Linearity and reference voltage	✓ Passed
Offset of electrode measuring circuit	✓ Passed
Hold voltage feedback	✓ Passed
Shot voltage feedback	✓ Passed
Electronic current loss	✓ Passed
Coil circuit measurement	✓ Passed
Shot control circuit	✓ Passed
Electrode signal integrity	✓ Passed
System status	✓ Passed
I/O module	✓ Passed
Input/output 1	✓ Passed
Input/output 2	? Not done
Input/output 3	? Not done

Plant operator: OCWA

Device identification and verification identification

Serial number	SA25B919000
Device tag	FIT421
Verification ID	10



Test item with value	Unit	Actual	Min.	Max.	Visualization
Sensor					
Shot time symmetry deviation		1.0007	0.9000	1.1000	□□□□■□□□□□
Hold voltage symmetry deviation		1.0000	0.9000	1.1000	□□□□■□□□□□
Coil current loss deviation	%	0.05291	-10.0000	10.0000	□□□□■□□□□□
Coil current offset	%	0.008123	-0.1000	0.1000	□□□□■□□□□□
Coil current deviation	%	0.008123	-0.1000	0.1000	□□□□■□□□□□
Coil resistance value	Ohm	68.2	50.0	240.0	■□□□□□□□□□
E1 electrode impedance	Ohm	513.90			
E2 electrode impedance	Ohm	510.62			
EPD electrode impedance	Ohm	513.67			
E1/E2 electrode impedance on E1	Ohm	519.55			
E1/E2 electrode impedance on E2	Ohm	516.50			
Sensor electronic module (ISEM)					
Supply voltage 30.0V	V	31.18	27.000	35.000	□□□□■□□□□□
Linearity and reference voltage 1		0.9994	0.9900	1.0100	□□□□■□□□□□
Linearity and reference voltage 2		0.9995	0.9900	1.0100	□□□□■□□□□□
Measuring point offset		2.1759	-100.0000	100.0000	□□□□■□□□□□
Hold voltage feedback value	%	2.02	-10.0	10.0	□□□□□■□□□□
Shot voltage feedback value	%	-0.45	-20.0	20.0	□□□□■□□□□□
Electronic current loss deviation	%	-0.090	-10.0000	10.0000	□□□□■□□□□□
Coil circuit value	%	-0.055	-1.0	1.0	□□□□■□□□□□
Shot control circuit value	%	-0.19	-10.0	10.0	□□□□■□□□□□
Electrode signal integrity deviation	%	0.51	-40.0	40.0	□□□□■□□□□□

Test item with value	Unit	Actual	Min.	Max.	Visualization
I/O module					
Output 1 value 1	mA	4.0063	3.8600	4.1400	□□□□■□□□□□
Output 1 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 2 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 3 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□

Plant operator: OCWA

Device identification and verification identification

Serial number	SA25B919000
Device tag	FIT421
Verification ID	10



Test item with value	Unit	Actual
Process conditions		
Volume flow value verification	m ³ /d	0.0000
Conductivity value verification	μS/cm	-nan
Electronic temperature	°C	31.5
Current difference potential	V	0.008133
Current potential electrode 1	V	0.01165
Current potential electrode 2	V	0.005730
Current potential electrode Pipe GND	V	0.001018

Flowmeter Verification Certificate Transmitter

OCWA K

Customer

Jennings

Order code

PROMAG 10 W DN350

Device type

F809B216000

Serial number

V1.03.00

Software Version Transmitter

12/03/2024

Verification date

Lindsay WW

Plant

Tag Name

1.0729 - 1.0729

K-Factor

0

Zero point

Software Version I/O-Module

13:10

Verification time

Verification result Transmitter: Failed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.65 %
Current Output 1	Failed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Failed	

FieldCheck Details

550149

Production number

1.07.10

Software Version

03/2024

Last Calibration Date

Simubox Details

Production number

1.00.01

Software Version

03/2024

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

FieldCheck - Result Tab Transmitter

Customer	OCWA K	Plant	Lindsay WW
Order code	Jennings	Tag Name	-----
Device type	PROMAG 10 W DN350	K-Factor	1.0729 - 1.0729
Serial number	F809B216000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	12/03/2024	Verification time	13:10

Verification Flow end value (100 %): 384.845 l/s

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	19.242 l/s (5%)	1.60 %	-0.53 %
✓		38.485 l/s (10.0%)	1.10 %	-0.92 %
✓		192.424 l/s (50.0%)	0.70 %	-0.03 %
✓		384.846 l/s (100%)	0.65 %	-0.01 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.014 mA
✓		4.800 mA (5%)	0.05 mA	0.007 mA
✓		5.600 mA (10.0%)	0.05 mA	0.009 mA
✓		12.000 mA (50.0%)	0.05 mA	0.018 mA
✗		20.000 mA (100%)	0.05 mA	0.051 mA
—	Pulse Output 1	---	---	---
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	100.001 ms	23.340..100.001 ms	59.505 ms
✗	Coil Curr. Stability		---	---

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	OCWA K	Plant	Lindsay WW
Order code	Jennings	Tag Name	-----
Device type	PROMAG 10 W DN350	K-Factor	1.0729 - 1.0729
Serial number	F809B216000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	12/03/2024	Verification time	13:10

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA active	0.0 l/s	300.01 l/s		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.114 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

115.0

SIEMENS MAGFLO® Verification Certificate

<u>Customer:</u>		<u>MAGFLO® Identification:</u>	
Name	OCWA Kawartha	TAG No./Name	0
Address		Sensor Code No.	7ME631
		Sensor Serial No.	671540H193
		Transmitter Code No.	7ME691
Phone		Transmitter Serial No.	N1E2208822
Email		Location	Lindsay ST N Leachate

<u>Results:</u>	Verification file name or No.		Leachate
	Transmitter		Passed
	Sensor	Insulation	Passed
		Magnetic Circuit	Passed

Velocity	Current Output			Frequency Output		
Theoretical	Theoretical	Actual	Deviation	Theoretical	Actual	Deviation
0.5m/s	4.800mA	4.801mA	0.14%	0.500kHz	0.498kHz	-0.37%
1.0m/s	5.600mA	5.605mA	0.29%	1.000kHz	1.001kHz	0.07%
3.0m/s	8.800mA	8.804mA	0.08%	3.000kHz	3.001kHz	0.05%

Current Output 4-20mA Frequency Output 0-10kHz

<u>Transmitter Settings:</u>			<u>Sensor Details:</u>	
Basic	Qmax.	6.20000 l/s	Size	DN 100 4 IN
	Flow Direction	Positive		
	Low flow Cut-off	1.50%	Cal. Factor	7.6739769
	Empty Pipe	OFF		
Output	Current Output	ON (4-20mA)	Correction Factor	1.0
	Time Constant	5.0 Sec.		
	Relay Output	Error Level	Excitation Freq.	7.5Hz
	Digital Output	Pulse		
	Frequency Range	N/A		
	Time Constant	N/A		
	Volume/pulse	0.99999953 US G/p		
	Pulse width	0.066 sec.		
	Pulse polarity	Positiv		
Totalizer 1 value before test		98189.9140625 m³	<u>Vericator Details (083F5061)</u>	
Totalizer 1 value after test		98189.9375 m³	Serial No.	001113N039
Totalizer 2 value before test		8334.03613281 m³	Device No.	91738
Totalizer 2 value after test		8334.0390625 m³	Software Version	1.40
Operating time in days		2947	PC-Software Version	5.01
			Cal. date	2024.10.24
			ReCal. date	2025.10.24

Comments

These tests verify that the flowmeter is functioning within 2% deviation of the original test parameters.
Verification is traceable to National and International Standards.

Date and signature

2024.12.03

M Manley



VeriMaster - Flow Meter Verification Report

Customer Information		Meter Information	
Customer	OCWA K	Meter Owner	LindsaySt N
Verification Download	Tue, Dec 03, 2024	Meter Type	WaterMaster
		Sensor Size	DN300
		Pipe Status	Fluid Present
		Sensor Type	Fullbore
		Sensor Serial No	3K620000175045
		Transmitter Serial No	3K620000175045
		Tag	ABB Warminster
		Location	?

Overall Status: Pass

The flowmeter has passed its internal continuous verification and automatic self calibration. It is working within + / -1% of its original factory calibration

Summary of Results		Verification History	
Coil Group	Passed	OIML Accuracy Alarms	0
Electrode Group	Passed	Totaliser Information	
Sensor Group	Passed		
Transmitter Signal	Passed		
Transmitter Driver	Passed	Forward	9834425.78 m3
Output Group	Passed	Reverse	248436.73 m3
Configuration	Passed	Net	9585989.05 m3
Sensor Information		Sensor Data	
Q3	694.44 l/s	Coil Current	179.9 mA
Calibration Accuracy	OIML Class 2	Coil Inductance	279.6 mH
Sensor Calibration Factors	150.5%; 0.00 mm/s; 11	Coil Inductance Shift	-0.0%
Date of Manufacture	2014 Sept 17	Coil / Loop Resistance	36.4 ohm
Run Hours	3540days 14hrs 15mins	Transmitter Data	
Transmitter Information		Tx Gain - Adjustment	0.1%
		VeriMaster Information	
		Version	01.00.03
		Limit Version	01.00.01
Current Output		Pulse Output	
4mA Value	Pass : 4.000 mA ; 0.00%	Output 1: 1200.0Hz	Not tested
12mA Value	Pass : 11.992 mA ; 0.07%	Output 1: 600.0Hz	Not tested
20mA Value	Pass : 20.000 mA ; 0.00%	Output 2: 1200.0Hz	Not tested
		Output 2: 600.0Hz	Not tested

Installation Comments / Equipment used:	Configuration Settings
FIT-102	Mains Frequency 60 Hz
	Qmax 400.00 l/s
	Pulses/Unit 10.000000
	Pulses Limit Frequency 1200.0 Hz
	Sensor User Span/Zero 100.0%; 0.00 mm/s
	User Flow Cutoff/Hysteresis 1.00%; 20%
	Meter Mode Normal operation

Date Tue, Dec 03, 2024

Operator Signature

Print

ABB Instrumentation World Flow Technology

ABB Limited
Oldends Lane, Stonehouse
Gloucestershire, GL10 3TA UK
Tel: +44(0) 1453 826661
Fax: +44(0) 1453 821121
instrumentation@gb.abb.com

ABB Automation Inc.
125 East County Line Road
Warminster, PA 18974 USA
Tel: +1 215 674 6000
Fax: +1 215 674 6394
instrumentation@gb.abb.com

ABB Australia Pty Ltd.
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Moorebank, NSW 2170
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ABB Automation GmbH
Dransfelder Str.2
37079 Gottingen, GERMANY
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MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

Wednesday, March 6, 2024

VEHICLE SCALE TEST REPORT (QF-11.3)

Customer:
18- City of Kawartha Lakes
Lindsay Inbound Site

Address: **51 Wilson Road**
City: **Lindsay**
Postal Code: **K9V 4R3**

Province: **Ontario**
Phone: **705-324-9411**

Make of Scale:	Model No:	Serial No:	Scale Capacity:	Graduation Size:
Active	CMD-1080-1-100-FD2	033024	70,000kg	10 kg

Make of Indicator:	Model No:	Serial No:	Pounds	Kilograms
Rice Lake Weighing Systems Inc.	820	006095		X

SECTION TESTING (Test 1)

A shift test in which the test load is applied over individual sections of the scale.

1 st LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
<i>AS FOUND</i>	20070	20060	20070	20070	20060
2 nd LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
<i>AS LEFT</i>	20070	20060	20070	20070	20060

Scale house/Indicator (Reference to Platform)

LOAD TESTING (Test 2)

Normal basic performances in which observations are made as increments of test load are successively added to the load receiving elements of the scale.

TEST LOAD (KG)	AS FOUND SCALE INDICATION	AS LEFT SCALE INDICATION
0 Load 0	0	0
2000	1990	2000
4000	3990	4000
6000	5990	6000
8000	7980	8000
MAX 10000	9980	10000
8000	7980	8000
6000	5990	6000
4000	3990	4000
2000	1990	2000
0 Load 0	0	0

MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

STRAIN-LOAD (Test 3)

Indicated weight of empty vehicle	Known standards	Total weight indicated
10,070 kg	Plus 10,000 kg	20,070 kg

DESCRIPTION OF REPAIR AND ADJUSTMENTS

Calibrated zero and span at 10,000 kg known standards

WEIGHT IDENTIFICATION NUMBERS: M1-20
Measurement Canada Certificate #: 1418981

Calibration Date: December 6, 2023
Next Calibration Date: June 6, 2024

INSPECTION AND TESTS PERFORMED BY: Brent Cole & Dana Smith



Scale is accurate and approved for
use by:



MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

Wednesday, March 6, 2024

VEHICLE SCALE TEST REPORT (QF-11.3)

Customer:
18- City of Kawartha Lakes
Lindsay Outbound Site

Address: **51 Wilson Road**
City: **Lindsay**
Postal Code: **K9V 4R3**

Province: **Ontario**
Phone: **705-324-9411**

Make of Scale:	Model No:	Serial No:	Scale Capacity:	Graduation Size:
Active	CMD-1080-1-100-FD2	033025	70,000kg	10 kg

Make of Indicator:	Model No:	Serial No:	Pounds	Kilograms
Rice Lake Weighing Systems Inc.	680 Synergy Plus	1963200145		X

SECTION TESTING (Test 1)

A shift test in which the test load is applied over individual sections of the scale.

1 st LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
<i>AS FOUND</i>	20070	20070	20060	20060	20050
2 nd LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
<i>AS LEFT</i>	20070	20070	20060	20060	20050

Scale house/Indicator (Reference to Platform)

LOAD TESTING (Test 2)

Normal basic performances in which observations are made as increments of test load are successively added to the load receiving elements of the scale.

TEST LOAD (KG)	AS FOUND SCALE INDICATION	AS LEFT SCALE INDICATION
0 Load 0	0	0
2000	1990	2000
4000	3990	4000
6000	5980	6000
8000	7980	8000
MAX 10000	9970	10000
8000	7980	8000
6000	5980	6000
4000	3990	4000
2000	1990	2000
0 Load 0	0	0

MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

STRAIN-LOAD (Test 3)

Indicated weight of empty vehicle	Known standards	Total weight indicated
10,070 kg	Plus 10,000 kg	20,070 kg

DESCRIPTION OF REPAIR AND ADJUSTMENTS

Calibrated zero and span at 10,000 kg known standards

WEIGHT IDENTIFICATION NUMBERS: M1-20 [500kg]
Measurement Canada Certificate #: 1418981

Calibration Date: December 6, 2023
Next Calibration Date: June 6, 2024

INSPECTION AND TESTS PERFORMED BY: Brent Cole & Dana Smith



Scale is accurate and approved for
use by:



MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

VEHICLE SCALE TEST REPORT (QF-11.3)

Wednesday, December 4, 2024

Customer:

City of Kawartha Lakes
Inbound scale

Address: 51 Wilson rd.

City: Lindsay

Postal Code: K9V 4R3

Province: Ontario

Phone: 705-324-9411

Make of Scale: Active	Model No: CMD-1080-1- 100-FD2	Serial No: 033024	Scale Capacity: 70,000kg	Graduation Size: 10kg
Make of Indicator: Rice Lake	Model No: 820	Serial No: 006095	Pounds	Kilograms x

SECTION TESTING (Test 1)

A shift test in which the test load is applied over individual sections of the scale.

1st LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
AS FOUND	19970	19990	19070	19970	19970
2ND LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
AS LEFT	19990	19990	19990	19990	19990

Scale house/Indicator (Reference to Platform)

LOAD TESTING (Test 2)

Normal basic performances in which observations are made as increments of test load are successively added to the load receiving elements of the scale.

	TEST LOAD (KG)	AS FOUND SCALE INDICATION	AS LEFT SCALE INDICATION
0 Load	0	0	0
	2000	2010	2000
	4000	4010	4000
	6000	6020	6000
	8000	8020	8000
MAX	10000	10020	10000
	8000	8020	8000
	6000	6020	6000
	4000	4010	4000
	2000	2010	2000
0 Load	0	0	0

MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

STRAIN-LOAD (Test 3)

Indicated weight of empty vehicle	Known standards	Total weight indicated
9900 kg	Plus 10,000 kg	19900 kg

DESCRIPTION OF REPAIR AND ADJUSTMENTS

Adjust sections at 19,990 kg. Calibrated Zero and Span at 10,000kg

WEIGHT IDENTIFICATION NUMBERS: M1-20
Measurement Canada Certificate #: 1423482

Calibration Date: December 4, 2024.

Next Calibration Date: June 4, 2025

INSPECTION AND TESTS PERFORMED BY: Brent Cole/Dana Smith



Scale is accurate and approved for
use by:



MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

VEHICLE SCALE TEST REPORT (QF-11.3)

Wednesday, December 4, 2024

Customer:

City of Kawartha Lakes
Outbound Scale

Address: 51 Wilson Rd

City: Lindsay

Postal Code: K9V 4R3

Province: Ontario

Phone: 705-324-9411

Make of Scale: Active	Model No: CMD-1080-1- 100-FD2	Serial No: 033025	Scale Capacity: 70,000 kg	Graduation Size: 10 kg
Make of Indicator: Rice Lake	Model No: 680 Synergy Plus	Serial No: 1963200145	Pounds	Kilograms x

SECTION TESTING (Test 1)

A shift test in which the test load is applied over individual sections of the scale.

1st LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
AS FOUND	19990	19990	19990	19990	19990
2ND LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
AS LEFT	19990	19990	19990	19990	19990

Scale house/Indicator (Reference to Platform)

LOAD TESTING (Test 2)

Normal basic performances in which observations are made as increments of test load are successively added to the load receiving elements of the scale.

	TEST LOAD (KG)	AS FOUND SCALE INDICATION	AS LEFT SCALE INDICATION
0 Load	0	0	0
	2000	2000	2000
	4000	4000	4000
	6000	6000	6000
	8000	8000	8000
MAX	10000	10000	10000
	8000	8000	8000
	6000	6000	6000
	4000	4000	4000
	2000	2000	2000
0 Load	0	0	0

MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

STRAIN-LOAD (Test 3)

Indicated weight of empty vehicle	Known standards	Total weight indicated.
9,990 kg	Plus 10,000 kg	19,990 kg

DESCRIPTION OF REPAIR AND ADJUSTMENTS

No adjustments required.

WEIGHT IDENTIFICATION NUMBERS: M1-20
Measurement Canada Certificate #: 1423482

Calibration Date: December 4, 2024

Next Calibration Date: June 4, 2025

INSPECTION AND TESTS PERFORMED BY: Brent Cole/Dana Smith



Scale is accurate and approved for
use by:





Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix V: Community Complaints

There were no formal documented complaints for the Lindsay WWTP in 2024.



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix VI:
Bypass, Overflows, Spill, Abnormal Events



David Bradley
District Manager
Peterborough District Office
Ministry of the Environment, Conservation and Parks
300 Water Street, 2nd Floor, South Tower
Peterborough, ON
K9J 3C7

May 8, 2024

Dear Mr. Bradley:

Re: Lindsay WWTP 2024 Q1 Bypass Event and Overflow Event Summary Report

Amended Environmental Compliance Approval #1696-BPLL4R sections 4(6) and 5(6) issued June 29, 2020 for the Lindsay WWTP requires a Bypass Event and Overflow Event summary report be submitted to the District Manager on a quarterly basis, no later than February 15, May 15, August 15, and November 15 each calendar year.

Amended Environmental Compliance Approval #1328-AN5PBL section 5(3) issued July 4, 2017 for the Rivera PS requires an Overflow Event summary report be submitted to the Water Supervisor on a quarterly basis, no later than February 14, May 15, August 14, and November 15 each calendar year.

There were no incidents of Bypass or Overflow Events at the Lindsay WWTP or Pumping Station during the first quarter of 2024 (January, February and March).

Please contact me if you have any questions or comments.

Best regards,

Julie Mather
Process & Compliance Technician
Ontario Clean Water Agency
Kawartha Hub
(705) 731-9125

CC: Brent Martin, OCWA - Operations Manager
Julie Mulligan, OCWA - SPC Manager (A)
Lynette Nicholson, OCWA – General Manager
Amber Hayter, Kawartha Lakes – Manager, Water & Wastewater
Michelle Flaherty, Kawartha Lakes – Contract Coordinator
Brittney Wielgos, MECP – Water Supervisor
Brad Jackson, MECP – Water Compliance Officer



David Bradley
District Manager
Peterborough District Office
Ministry of the Environment, Conservation and Parks
300 Water Street, 2nd Floor, South Tower
Peterborough, ON
K9J 3C7

August 7, 2024

Dear Mr. Bradley:

Re: Lindsay WWTP 2024 Q2 Bypass Event and Overflow Event Summary Report

Amended Environmental Compliance Approval #1696-BPLL4R sections 4(6) and 5(6) issued June 29, 2020 for the Lindsay WWTP requires a Bypass Event and Overflow Event summary report be submitted to the District Manager on a quarterly basis, no later than February 15, May 15, August 15, and November 15 each calendar year.

Amended Environmental Compliance Approval #1328-AN5PBL section 5(3) issued July 4, 2017 for the Rivera PS requires an Overflow Event summary report be submitted to the Water Supervisor on a quarterly basis, no later than February 14, May 15, August 14, and November 15 each calendar year.

There were no incidents of Bypass or Overflow Events at the Lindsay WWTP or Pumping Station during the second quarter of 2024 (April, May, and June).

Please contact me if you have any questions or comments.

Best regards,

Julie Mather
Process & Compliance Technician
Ontario Clean Water Agency
Kawartha Hub
(705) 731-9125

CC: Brent Martin, OCWA - Operations Manager
Julie Mulligan, OCWA - SPC Manager (A)
Lynette Nicholson, OCWA – General Manager
Amber Hayter, Kawartha Lakes – Manager, Water & Wastewater
Michelle Flaherty, Kawartha Lakes – Contract Coordinator
Brittney Wielgos, MECP – Water Supervisor
Brad Jackson, MECP – Water Compliance Officer



David Bradley
District Manager
Peterborough District Office
Ministry of the Environment, Conservation and Parks
300 Water Street, 2nd Floor, South Tower
Peterborough, ON
K9J 3C7

October 25, 2024

Dear Mr. Bradley:

Re: Lindsay WWTP 2024 Q3 Bypass Event and Overflow Event Summary Report

Amended Environmental Compliance Approval #1696-BPLL4R sections 4(6) and 5(6) issued June 29, 2020 for the Lindsay WWTP requires a Bypass Event and Overflow Event summary report be submitted to the District Manager on a quarterly basis, no later than February 15, May 15, August 15, and November 15 each calendar year.

Amended Environmental Compliance Approval #1328-AN5PBL section 5(3) issued July 4, 2017 for the Rivera PS requires an Overflow Event summary report be submitted to the Water Supervisor on a quarterly basis, no later than February 14, May 15, August 14, and November 15 each calendar year.

There were no incidents of Bypass or Overflow Events at the Lindsay WWTP or Pumping Station during the third quarter of 2024 (July, August, and September).

Please contact me if you have any questions or comments.

Best regards,

Katie Campbell
Process & Compliance Technician
Ontario Clean Water Agency
Kawartha Hub
(705) 934-0026

CC: Brent Martin, OCWA - Operations Manager
Allison McCann, OCWA - SPC Manager
Lynette Nicholson, OCWA – General Manager
Karen Lorente, OCWA - Regional Hub Manager
Amber Hayter, Kawartha Lakes – Manager, Water & Wastewater
Michelle Flaherty, Kawartha Lakes – Contract Coordinator
Brad Jackson, MECP – Water Supervisor
Brad Jackson, MECP – Water Compliance Officer



David Bradley
District Manager
Peterborough District Office
Ministry of the Environment, Conservation and Parks
300 Water Street, 2nd Floor, South Tower
Peterborough, ON
K9J 3C7

January 2, 2025

Dear Mr. Bradley:

Re: Lindsay WWTP 2024 Q4 Bypass Event and Overflow Event Summary Report

Amended Environmental Compliance Approval #1696-BPLL4R sections 4(6) and 5(6) issued June 29, 2020 for the Lindsay WWTP requires a Bypass Event and Overflow Event summary report be submitted to the District Manager on a quarterly basis, no later than February 15, May 15, August 15, and November 15 each calendar year.

Amended Environmental Compliance Approval #1328-AN5PBL section 5(3) issued July 4, 2017 for the Rivera PS requires an Overflow Event summary report be submitted to the Water Supervisor on a quarterly basis, no later than February 14, May 15, August 14, and November 15 each calendar year.

There were no incidents of Bypass or Overflow Events at the Lindsay WWTP or Pumping Station during the fourth quarter of 2024 (October, November, and December).

Please contact me if you have any questions or comments.

Best regards,

Katie Campbell
Process & Compliance Technician
Ontario Clean Water Agency
Kawartha Hub
(705) 934-0026

CC: Brent Martin, OCWA - Operations Manager
Allison McCann, OCWA - SPC Manager
Lynette Nicholson, OCWA – General Manager
Karen Lorente, OCWA - Regional Hub Manager
Amber Hayter, Kawartha Lakes – Manager, Water & Wastewater
Michelle Flaherty, Kawartha Lakes – Contract Coordinator
Brad Jackson, MECP – Water Supervisor
Brad Jackson, MECP – Water Compliance Officer



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix VII: Performance Assessment Report

1313 LINDSAY WASTEWATER TREATMENT FACILITY 110000383

	1 / 2024	2 / 2024	3 / 2024	4 / 2024	5 / 2024	6 / 2024	7 / 2024	8 / 2024	9 / 2024	10 / 2024	11 / 2024	12 / 2024	<--Total-->	<--Avg-->	<--Max-->	<-Criteria-->
Flows																
Raw Flow: Total - Raw m ³ /d	535,938.00	464,612.00	459,493.00	567,527.00	498,815.00	454,218.00	488,865.00	419,423.00	366,015.00	311,471.00	280,548.00	377,137.00	5,224,062.00			0.00
Raw Flow: Avg - Raw m ³ /d	17,288.32	16,021.10	14,822.35	18,917.57	16,090.81	15,140.60	15,769.84	13,529.77	12,200.50	10,047.45	9,351.60	12,165.71		14,273.39		
Raw Flow: Max - Raw m ³ /d	20,887.00	20,608.00	22,554.00	26,954.00	23,731.00	23,404.00	20,931.00	18,958.00	16,482.00	12,769.00	11,591.00	19,672.00			26,954.00	0.00
Raw Flow: Count - Raw m ³ /d	31.00	29.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	366.00			0.00
Eff. Flow: Total - Eff m ³ /d	524,332.00	453,335.00	441,153.00	552,091.00	479,640.00	435,391.00	471,834.00	389,104.00	356,050.00	297,510.00	265,840.00	359,606.00	5,025,886.00			0.00
Eff. Flow: Avg - Eff m ³ /d	16,913.94	15,632.24	14,230.74	18,403.03	15,472.26	14,513.03	15,220.45	12,551.74	11,868.33	9,597.10	8,861.33	11,600.19		13,731.93		
Eff. Flow: Max - Eff m ³ /d	20,674.00	20,140.00	22,105.00	26,519.00	23,236.00	23,003.00	20,547.00	18,520.00	16,244.00	12,249.00	11,145.00	19,098.00			26,519.00	0.00
Eff Flow: Count - Eff m ³ /d	31.00	29.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	366.00			0.00
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw mg/L	< 62.00	155.00	141.75	120.25	116.60	121.50	141.25	149.60	120.25	128.20	209.00	147.20		< 134.38	< 209.00	0.00
Raw: # of samples of BOD5 - Raw mg/L	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	53.00			0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw mg/L	97.25	196.80	188.75	206.00	183.20	207.00	224.25	230.00	234.25	223.20	299.75	215.00		208.79	299.75	0.00
Raw: # of samples of TSS - Raw mg/L	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	53.00			0.00
Total Phosphorus: TP																
Raw: Avg TP - Raw mg/L	1.15	2.06	2.69	2.06	1.95	2.23	2.47	2.30	2.69	2.87	3.62	2.81		2.41	3.62	0.00
Raw: # of samples of TP - Raw mg/L	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	53.00			0.00
Nitrogen Series																
Raw: Avg TKN - Raw mg/L	15.85	17.84	20.33	17.35	16.76	15.95	17.08	20.04	20.08	23.48	24.60	17.72		18.92	24.60	0.00
Raw: # of samples of TKN - Raw mg/L	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	53.00			0.00
Eff: Avg NO3-N - Eff mg/L	10.34	9.19	8.98	9.97	8.18	7.56	7.35	7.53	9.55	8.29	8.13	8.64		8.64	10.34	0.00
Eff: # of samples of NO3-N - Eff mg/L	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	53.00			0.00
Eff: Avg NO2-N - Eff mg/L	< 0.20	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03		< 0.04	< 0.20	0.00
Eff: # of samples of NO2-N - Eff mg/L	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	53.00			0.00
Disinfection																
Eff: GMD E. Coli - Eff cfu/100mL	5.15	2.70	2.00	2.63	2.00	2.00	2.00	2.49	2.00	1.74	1.68	2.00				175.00
Eff: # of samples of E. Coli - Eff cfu/100mL	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	53.00			0.00