

2025 Annual Performance Report

Lou Romano Water Reclamation Plant

Amended Environmental Compliance Approval No. 1853-B43PVC



Submitted to the Ministry of Environment, Conservation and Parks March 31, 2026

Table of Contents

1.	Introduction	1
2.	Influent Monitoring Data.....	2
2.1	Influent Monitoring Program and Characteristics	2
2.2	Imported Sewage Monitoring Program and Characteristics	4
2.3	Influent Flow.....	5
3.	Final Effluent Monitoring Data.....	8
3.1	Final Effluent Monitoring Program	9
3.2	Final Effluent Design Objectives and Compliance Limits.....	10
3.3	Final Effluent Characteristics	12
3.3.1	Final Effluent Characteristics – Regular, Leachate and Industrial Wastewater Related Data	12
3.3.2	Final Effluent Characteristics – Toxicity Data	17
3.3.3	Final Effluent Characteristics – Loading Data.....	18
3.4	Final Effluent Flow	20
4.	Monitoring Schedule and Deviations	22
5.	Operating Issues and Corrective Actions.....	24
6.	Repairs and Maintenance	25
6.1	Mechanical Repairs and Maintenance.....	26
6.2	Electrical Repairs and Maintenance	28
7.	Effluent Quality Assurance and Control	30
8.	Calibration and Maintenance Procedures.....	31
9.	Design Objectives	31
10.	Sludge.....	32
10.1	Sludge Production and Management.....	32
10.2	Sludge Monitoring Program	34
11.	Complaints and Responses	35
12.	Bypasses, Overflows, Spills and Abnormal Discharge Events	35
12.1	Bypasses	36
12.2	Overflows	39
12.3	Spills and Abnormal Discharge Events.....	42

13. Notice of Modifications to Sewage Works.....43

14. Efforts Made to Conform with Procedures F-5-1 and F-5-5.....43

15. Changes to Schedules and Proposed Works 44

Tables

Table 1.1: Design Capacity.....	1
Table 2.1: Influent Monitoring Program	2
Table 2.2: 2025 Influent Monitoring Data.....	3
Table 2.3: Historical Influent Monitoring Data	3
Table 2.4: Imported Sewage Monitoring Program	4
Table 2.5: 2025 Imported Sewage Monitoring Data	4
Table 2.6: Historical Imported Sewage Monitoring Data	5
Table 2.7: 2025 Average Daily Influent Flow	6
Table 2.8: Historical Average Daily Influent Flow	7
Table 3.1: Final Effluent Monitoring Program – Regular Parameters	9
Table 3.2: Final Effluent Monitoring Program – Leachate Related Parameters.....	10
Table 3.3: Final Effluent Monitoring Program – Industrial Wastewater Related Parameters.....	10
Table 3.4: Final Effluent Design Objectives - Concentrations	11
Table 3.5: Final Effluent Compliance Limits - Concentrations	11
Table 3.6: Final Effluent Compliance Limits - Loading	12
Table 3.7: 2025 Final Effluent - Regular Parameters	13
Table 3.8: Historical Final Effluent - Regular Parameters.....	14
Table 3.9: 2025 Final Effluent – Leachate Related Parameters	14
Table 3.10: Historical Final Effluent – Leachate Related Parameters	14
Table 3.11: 2025 Final Effluent – Industrial Wastewater Related Parameters	15
Table 3.12: Historical Final Effluent – Industrial Wastewater Related Parameters.....	15
Table 3.13: 2025 Removal Rates	16
Table 3.14: Historical Removal Rates	16
Table 3.15: 2025 Final Effluent – Toxicity.....	18
Table 3.16: Historical Final Effluent – Toxicity Data	18
Table 3.17: 2025 Final Effluent – Loading Data	19
Table 3.18: Historical Final Effluent – Loading Data.....	19
Table 3.20: 2025 Monthly Effluent Flow and Overflows	20
Table 3.21: Historical Effluent Flows and Overflows	21
Table 4.1: Monitoring Schedule Deviations Summary	23

Table 10.1: Sludge Summary	33
Table 10.2: Sludge Monitoring Program	34
Table 10.3: 2025 Sludge Monitoring Data	34
Table 12.1: Bypass Summary.....	37
Table 12.2: 2025 Bypass Monitoring Data.....	38
Table 12.3: 2025 Overflow Summary	40
Table 12.4: Historical Overflow Summary	41
Table 12.5: 2025 Primary Overflow Monitoring Data	42

Figures

Figure 2-1: 2025 Monthly Influent Flows.....7

Figure 2-2: Historical Annual Influent Flows 8

Figure 3-1: 2025 Monthly Effluent Flows and Overflows 21

Figure 3-2: Historical Effluent Flows and Overflows 22

Appendices

- A Current Year and Next Year Monitoring Schedules
- B Calibration Certificates

Executive Summary

The Lou Romano Water Reclamation Plant (LRWRP; Plant) is one of two sewage treatment facilities operated by The Corporation of the City of Windsor (City; Owner). The LRWRP is located at 4155 Ojibway Parkway in Windsor, Ontario, has a rated capacity of 218,000 cubic metres per day (m³/d) (218 megalitres per day [ML/d]) and receives wastewater from the Riverfront Interceptor Sewer, Western-Grand Marais Sanitary Trunk, the Town of LaSalle and the Town of Tecumseh. The Plant operates under Amended Environmental Compliance Approval (ECA) Number 1853-B43PVC dated September 28, 2018. This report is a summary of Plant operations and performance from January 1, 2025, through December 31, 2025, and is being submitted to the Ministry of the Environment, Conservation and Parks (MECP) to fulfil Section 11.4 of the ECA.

The following is a summary of Plant operations and performance for the current reporting year:

- The LRWRP met the Design Objective for influent flow in 2025, with an annual average daily influent flow of 112 ML/d (52% of the rated capacity of 218 ML/d).
- A scheduled monitoring program was carried out at the LRWRP in 2025 in accordance with Section 9 of the ECA for the sample points, frequencies, sample types and analyses listed in Schedule D of the ECA, with minor deviations.
- The final effluent met the Design Objectives for carbonaceous biochemical oxygen demand (CBOD₅), total suspended solids (TSS), total phosphorus (TP), *E. coli*, unionized ammonia (UA) and pH, with the following exceptions:
 - The monthly average TSS concentration exceeded the Design Objective of 10.0 mg/L in January (11.10 mg/L), February (12.44 mg/L), March (14.11 mg/L), April (11.00 mg/L), May (10.60 mg/L) June (13.22 mg/L) and November (11.00 mg/L).
 - The monthly average CBOD₅ concentration exceeded the Design Objective of 10.00 mg/L in June (11.8 mg/L) and November (10.1 mg/L).
 - The monthly geometric mean density of *E.coli* exceeded the Design Objective of 100 CFU/100mL in April (159 CFU/100mL), June (595 CFU/100mL) and July (110 CFU/100mL).
 - The monthly average UA concentration exceeded the Design Objective of 0.08 mg/L in December (0.0854 mg/L).
- The final effluent was observed to be free from floating and settleable solids, and was not observed to contain films, sheens, foams or be discoloured during all sampling events in 2025.

- The final effluent met the Compliance Limits in 2025 for CBOD5, TSS, TP, *E. coli*, UN and pH, with the following exceptions:
 - The monthly geometric mean density of *E. coli* exceeded the Compliance Limit of 200 CFU/100mL in June (595 CFU/100mL).
- The final effluent had a mean mortality for Rainbow Trout and *Daphnia magna* which was below the Compliance Limit of 50% and was not acutely lethal in 2025.
- In 2025, the monthly average daily effluent loading met the Compliance Limits for CBOD5, TSS and TP.
- The Plant was operated and maintained such that the final effluent was disinfected continuously year-round in 2025.
- The Plant continued to operate effectively in 2025, with operational issues managed through timely corrective action and process adjustments. Preventative maintenance and required repairs were also completed at the Plant to support the reliable and continuous operation of the facility. Progress continued on capital projects, contributing to the long-term performance of the facility.
- Effluent quality assurance and quality control measures were implemented at the LRWRP in 2025 including but not limited to the use of accredited laboratories for ECA required samples, use of trained staff for sample collection, operational sample analysis, plant operation and maintenance, implementing equipment calibration, integrating equipment redundancy and utilizing a computerized maintenance management system.
- Routine calibration and maintenance on flow meter devices were performed at the LRWRP in 2025.
- A total of 208,766,089 L of raw sludge was dewatered in the current reporting year, the resulting biosolids were transported offsite to the Windsor Biosolids Processing Facility (WBPF) to create commercial fertilizer. No biosolids were landfilled in the current reporting year. There are no anticipated changes in biosolids production in the next reporting year, and the volumes are anticipated to be similar to the current reporting year.
- There were no complaints received in 2025 related to the LRWRP.
- In 2025, there were nine UV bypasses, 13 primary overflows, no raw overflows, and no spills or abnormal discharge events outside of the bypasses and overflows mentioned. The UV bypasses and primary overflow volumes represented less than 1% of the total flow.
- There were no modifications to the LRWRP that required a Notice of Modification to Sewage Works form to be submitted in 2025.
- The City continues to implement actions under the 2020 Sewer and Coastal Flooding Protection Master Plan, which over time are anticipated to reduce wet weather flows to the sanitary and combined sewage systems, reduce the

associated peak rate and volume of wet weather flow conveyed to the LRWRP, reduce bypasses and overflows at the LRWRP and reduce combined sewer overflows in other areas of the sewage system.

Definitions

“Annual Average Daily Influent Flow” means the cumulative total sewage flow of influent to the sewage treatment plant during a calendar year divided by the number of days during which sewage was flowing to the sewage treatment plant that year.

“BOD5” means five-day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demands.

“CBOD5” means five-day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample.

“*E. coli*” refers to the thermally tolerant forms of *Escherichia* that can survive at 44.5 degrees Celsius.

“Imported Sewage” means sewage hauled to the sewage treatment plant by licenced waste management system operators of the types and quantities approved for co-treatment in the sewage treatment plant, including hauled sewage and leachate within the meaning of R.R.O. 1990, Regulation 347: General – Waste Management, as amended.

“Monthly Average Effluent Concentration” is the mean of all single sample results of the concentration of a contaminant in the final effluent sampled or measured during a calendar month, calculated and reported as per the methodology specified in Schedule F of the ECA.

“Monthly Average Daily Effluent Flow” means the cumulative total final effluent discharged during a calendar month divided by the number of days during which final effluent was discharged that month.

“Monthly Average Daily Effluent Loading” means the value obtained by multiplying the monthly average effluent concentration of a contaminant by the monthly average daily effluent flow over the same calendar month.

“Monthly Geometric Mean Density” is the mean of all single sample results of *E. coli* measurement in the samples taken during a calendar month, calculated and reported as per the methodology specified in Schedule F of the ECA.

“Peak Daily Flow Rate” (also referred to as maximum daily flow or maximum day flow) means the largest volume of flow to be received during a one-day period for which the sewage treatment process unit or equipment is designed to handle.

“Rated Capacity” means the annual average daily influent flow for which the sewage treatment plant is designed to handle.

“Sewage Treatment Plant” means all the facilities related to sewage treatment within the sewage treatment plant site excluding the final effluent disposal facilities.

“Single Sample Result” means the test result of a parameter in the effluent discharged on any day, as measured by a probe, analyzer or in a composite or grab sample, as required.

“TAN” means total ammonia nitrogen.

“TKN” means total kjeldahl nitrogen.

“TP” means total phosphorus.

“TSS” means total suspended solids.

“UA” means unionized ammonia.

1. Introduction

The Lou Romano Water Reclamation Plant (LRWRP; Plant) is one of two sewage treatment facilities operated by The Corporation of the City of Windsor (City; Owner) under the responsibility of the Pollution Control Branch. The LRWRP is located at 4155 Ojibway Parkway in Windsor, Ontario on an 18.6-hectare site. The department also has access to an additional 12.1 hectares of property across the street.

The LRWRP receives wastewater from the Riverfront Interceptor Sewer which services the original core section of the City and the Western-Grand Marais Sanitary Trunk which services South Windsor. The LRWRP also provides treatment services for the Town of LaSalle and the Town of Tecumseh.

The Plant was originally constructed in 1971 and operated as a chemically enhanced primary treatment plant. The Plant underwent significant upgrades in 2007 and currently operates as a secondary treatment plant with the addition of biological aerated filtration (BAF) treatment. The major process units at the Plant consist of the inlet headworks, preliminary treatment consisting of screening and grit removal, primary treatment consisting of clarifiers, secondary treatment consisting of biological aeration filters, and final disinfection with ultraviolet (UV) lamps. The LRWRP discharges the treated effluent via an outfall into the Detroit River, located approximately 0.6 km west of the Plant. Sludge generated during the treatment process is dewatered in centrifuges and the resulting biosolids are converted to commercial fertilizer at the Windsor Biosolids Processing Facility (WBPF) operated by Synagro Windsor Operating LP (Synagro).

The Plant has a rated maximum capacity of 273,000 cubic metres per day (m³/d) or 273 megalitre per day (ML/d) for primary treatment and 218,000 m³/d or 218 ML/d for secondary treatment. The design capacities are twice the rated capacities, as indicated in **Table 1.1**.

Table 1.1: Design Capacity

Capacity	Rate
Rated Capacity	218,000 m ³ /d (218 ML/d)
Primary Design Capacity	545,000 m ³ /d (545 ML/d)
Secondary Design Capacity	436,000 m ³ /d (436 ML/d)

The Ministry of the Environment, Conservation and Parks (MECP) have classified the LRWRP as a Class IV wastewater treatment facility under *Ontario Regulation 129/04: Licensing of Sewage Works Operations*. The Plant operates under Amended Environmental Compliance Approval (ECA) Number 1853-B43PVC dated September 28,

2018. This report is a summary of Plant operations and performance from January 1, 2025, through December 31, 2025, and is being submitted to the MECP to fulfil Section 11.4 of the ECA.

2. Influent Monitoring Data

This section presents a summary and interpretation of influent monitoring data, and a review of the historical trends of the sewage characteristics and flow rates per Section 11.4(a) of the ECA.

2.1 Influent Monitoring Program and Characteristics

Influent samples consisted of a 24-hour composite sample collected using an automatic sampler at the influent sampling point which was deployed and retrieved by trained City employees. Sample analysis was completed by SGS (Lakefield) Canada Inc. Sample analysis and frequency followed the monitoring program in Schedule D of the ECA and is summarized in **Table 2.1**. Deviations to the monitoring program are discussed in **Section 4**.

Table 2.1: Influent Monitoring Program

Parameter	Sample Type	Minimum Frequency
Biochemical Oxygen Demand (BOD5)	24-hour composite	Weekly
Total Suspended Solids	24-hour composite	Weekly
Total Phosphorus	24-hour composite	Weekly
Total Kjeldahl Nitrogen	24-hour composite	Weekly

A summary of the influent monitoring data for the current reporting year is presented in **Table 2.2**, and a summary of the historical influent monitoring data is presented in **Table 2.3**.

Over the last six years there has been a slight increasing trend in influent concentrations of biological oxygen demand (BOD5), total suspended solids (TSS), and total kjeldahl nitrogen (TKN). The maximum pH was measured at 8.5 in 2025 which was slightly elevated compared to the maximums in the five years prior which ranged from 7.4 to 8.02.

Table 2.2: 2025 Influent Monitoring Data

Month	BOD5 (mg/L)			TSS (mg/L)			TP (mg/L)			TKN (mg/L)			pH (pH units)	
	Monthly Avg	Monthly Min	Monthly Max	Monthly Avg	Monthly Min	Monthly Max	Monthly Avg	Monthly Min	Monthly Max	Monthly Avg	Monthly Min	Monthly Max	Monthly Min	Monthly Max
January 2025	232	100	317	232	167	257	4.43	3.57	5.34	29.7	26.3	33.7	7.0	7.6
February 2025	178	90	218	198	98	247	3.37	1.71	4.66	28.4	12.4	36.6	7.1	7.6
March 2025	157	54	228	196	82	267	2.34	1.02	3.28	22.9	7.8	30.0	7.0	8.5
April 2025	168	84	248	240	92	375	3.60	2.40	4.27	24.2	17.7	30.6	7.1	7.7
May 2025	226	147	290	261	114	408	2.79	1.20	4.30	23.7	14.0	33.0	6.9	7.6
June 2025	232	138	401	268	179	395	4.48	3.68	5.09	26.0	23.8	28.8	6.8	7.4
July 2025	213	162	296	201	169	264	3.93	3.07	5.07	24.8	21.9	27.5	7.0	7.3
August 2025	211	138	286	372	279	523	4.00	3.22	4.69	27.5	16.3	42.0	6.9	7.5
September 2025	217	185	247	274	200	364	4.23	2.98	5.00	34.3	30.1	39.0	7.2	7.7
October 2025	196	152	241	251	120	329	4.18	3.23	5.40	32.7	30.4	35.9	6.8	7.9
November 2025	245	202	295	324	245	413	4.99	3.97	5.90	36.2	26.8	40.3	7.0	7.6
December 2025	180	86	247	258	161	326	4.24	1.36	6.20	28.4	8.5	36.2	6.7	7.7

Notes:
(1) BOD5 = Biochemical Oxygen Demand; TSS = Total Suspended Solids; TP = Total Phosphorus; TKN = Total Kjeldahl Nitrogen; Monthly Avg = Monthly Average Influent Concentration; Min = Minimum Single Result; Max = Maximum Single Result

Table 2.3: Historical Influent Monitoring Data

Year	BOD5 (mg/L)			TSS (mg/L)			TP (mg/L)			TKN (mg/L)			pH (pH units)	
	Annual Avg	Annual Min	Annual Max	Annual Avg	Annual Min	Annual Max	Annual Avg	Annual Min	Annual Max	Annual Avg	Annual Min	Annual Max	Annual Min	Annual Max
2020	118	14	362	169	32	584	3.4	0.3	7.3	18.2	3.7	28.2	6.7	8.0
2021	124	4	423	209	62	1130	4.0	1.0	9.8	21.0	6.5	47.5	6.6	7.5
2022	189	42	384	249	104	396	4.4	1.9	9.0	26.5	10.0	45.8	7.0	7.7
2023	186	58	385	248	96	469	4.2	0.5	8.6	21.9	8.5	38.0	6.5	7.5
2024	197	53	346	248	123	426	3.8	1.1	6.3	24.5	6.7	37.7	6.4	6.0
2025	204	54	401	255	82	523	3.9	1.0	6.2	28.2	7.8	42.0	6.7	8.5

Notes:
(1) BOD5 = Biochemical Oxygen Demand; TSS = Total Suspended Solids; TP = Total Phosphorus; TKN = Total Kjeldahl Nitrogen; Annual Avg = Annual Average Influent Concentration; Min = Minimum Single Result; Max = Maximum Single Result

2.2 Imported Sewage Monitoring Program and Characteristics

Imported sewage is transported to the LRWRP and discharged from hauling trucks into the imported sewage receiving station which discharges to the main inlet for co-treatment at the Plant. Imported sewage samples consisted of grab samples collected from representative hauling trucks by trained City employees. Sample analysis was completed by SGS (Lakefield) Canada Inc. Sample analysis and frequency followed the monitoring program in Schedule D of the ECA and is summarized in **Table 2.4**. Deviations to the monitoring program are discussed in **Section 4**. No processed organic waste was transported to LRWRP in 2025.

Table 2.4: Imported Sewage Monitoring Program

Parameter	Sample Type	Minimum Frequency
Biochemical Oxygen Demand (BOD5)	Grab	Monthly
Total Suspended Solids	Grab	Monthly
Total Phosphorus	Grab	Monthly
Total Kjeldahl Nitrogen	Grab	Monthly

A summary of the imported sewage monitoring data for the current reporting year is presented in **Table 2.5**.

Table 2.5: 2025 Imported Sewage Monitoring Data

Date	Single Sample Result			
	BOD5 (mg/L)	TSS (mg/L)	TP (mg/L)	TKN (mg/L)
7-Jan-25	194	85	16.2	1280
10-Feb-25	209	65	13.7	1560
10-Mar-25	86	97	11.2	1040
7-Apr-25	86	89	13.0	1370
12-May-25	217	54	9.7	1090
9-Jun-25	127	61	8.4	951
9-Jul-25	185	76	11.9	854
11-Aug-25	85	61	15.3	931
8-Sep-25	283	59	13.2	541
6-Oct-25	192	48	12.6	1300
3-Nov-25	197	81	15.4	1210
8-Dec-25	212	78	10.0	1330

Notes:

- (1) BOD5 = Biochemical Oxygen Demand; TSS = Total Suspended Solids; TP = Total Phosphorus; TKN = Total Kjeldahl Nitrogen

A summary of the historical influent monitoring data over the last five years is presented in **Table 2.6**.

Table 2.6: Historical Imported Sewage Monitoring Data

Year	Annual Average			
	BOD5 (mg/L)	TSS (mg/L)	TP (mg/L)	TKN (mg/L)
2020	1234	215	6.5	707
2021	814	133	6.3	735
2022	1436	188	41.0	2881
2023	941	155	9.2	643
2024	355	82	12.8	993
2025	173	71	12.6	1121

Notes:

- (1) BOD5 = Biochemical Oxygen Demand; TSS = Total Suspended Solids; TP = Total Phosphorus; TKN = Total Kjeldahl Nitrogen

In 2025, approximately 120,121,907 L of imported sewage was received at the Plant. Imported sewage volume is included in the influent flow volume presented in **Section 2.3**. In 2025, the annual average imported sewage concentrations were of similar magnitude to the annual average concentrations measured since 2020.

2.3 Influent Flow

The rated capacity for the LRWRP is 218,000 m³/d or 218 ML/d. Per Section 9.5(a) of the ECA and as recommended by the MECP in the inspection report received February 14, 2022, the influent flow volume was determined by adopting the flow measurements of the final effluent flow volume. This is because the influent volume and flow are considered to be the same as the final effluent volume and flow at the LRWRP, as the streams are considered not significantly different in volume and flow. Final effluent flow was measured continuously as described in **Section 3.4**.

Per Section 6.1(c) of the ECA, the Owner shall design and undertake everything practical to operate the Plant in accordance with the Design Objectives so that the annual average daily influent flow is within the rated capacity. If the annual average daily influent flow reaches 80% of the rated capacity (174,400 m³/d / 174.4 ML/d) the Owner also needs to provide an assessment and recommend pro-active actions.

A summary of the monthly average daily influent flow data for the current reporting year is presented in **Table 2.7** and on **Figure 2-1**, and the historical annual average daily influent flow data is presented in **Table 2.8** and on **Figure 2-2**.

It is noted that the imported sewage volume is captured in the average daily influent measurements presented in the below tables. However, the values presented in the tables below exclude recirculated process water, raw overflows and primary overflows as recommended by the MECP in the inspection report received February 14, 2022.

Table 2.7: 2025 Monthly Average Daily Influent Flow

Month	Monthly Average Daily Influent Flow (ML/d)	% of Rated Capacity (218 ML/d)	Monthly Peak Daily Influent Flow (ML/d)	Monthly Total Influent Flow (ML)
January 2025	112	51	216	3,461
February 2025	119	55	229	3,345
March 2025	134	61	365	4,141
April 2025	137	63	440	4,104
May 2025	123	56	244	3,809
June 2025	122	56	317	3,670
July 2025	119	54	208	3,682
August 2025	100	46	195	3,108
September 2025	97	45	177	2,924
October 2025	87	40	142	2,701
November 2025	92	42	161	2,749
December 2025	107	49	255	3,323

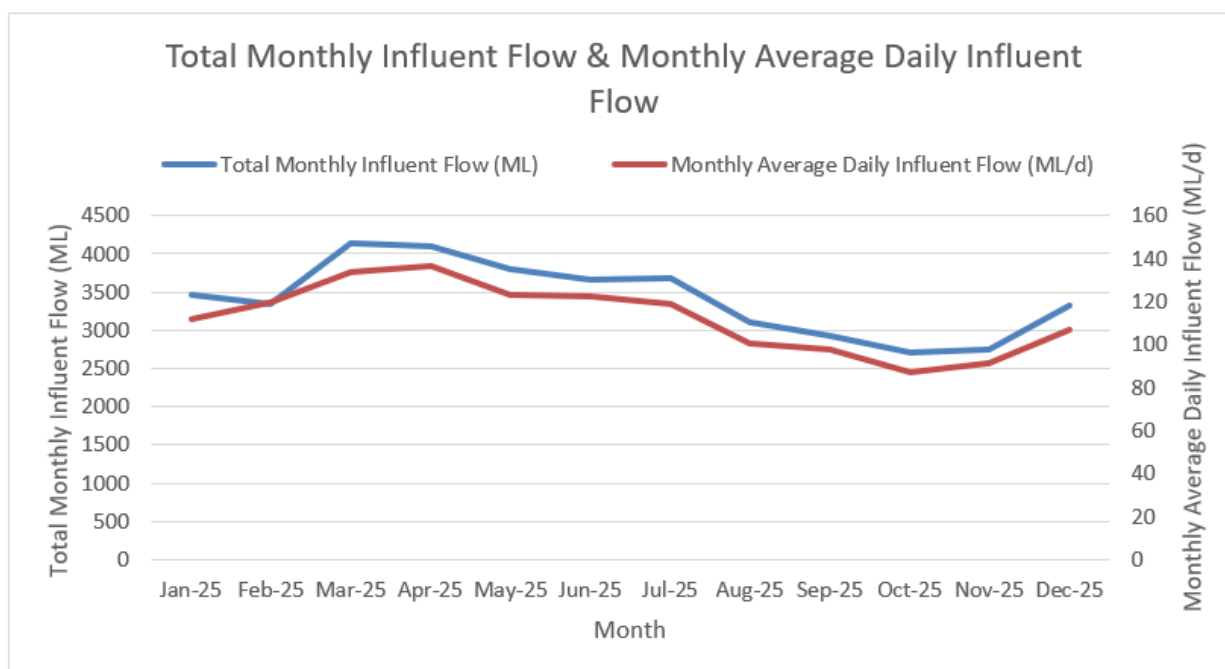


Figure 2-1: 2025 Monthly Influent Flows

Table 2.8: Historical Annual Average Daily Influent Flow

Year	Annual Average Daily Influent Flow (ML/d)	% of Rated Capacity (218 ML/d)	Annual Peak Daily Influent Flow (ML/d)	Annual Total Influent Flow (ML)
2020	152	70	525	55,558
2021	141	64	343	51,399
2022	121	55	144	43,973
2023	135	62	477	49,113
2024	129	59	407	47,338
2025	112	52	440	41,017

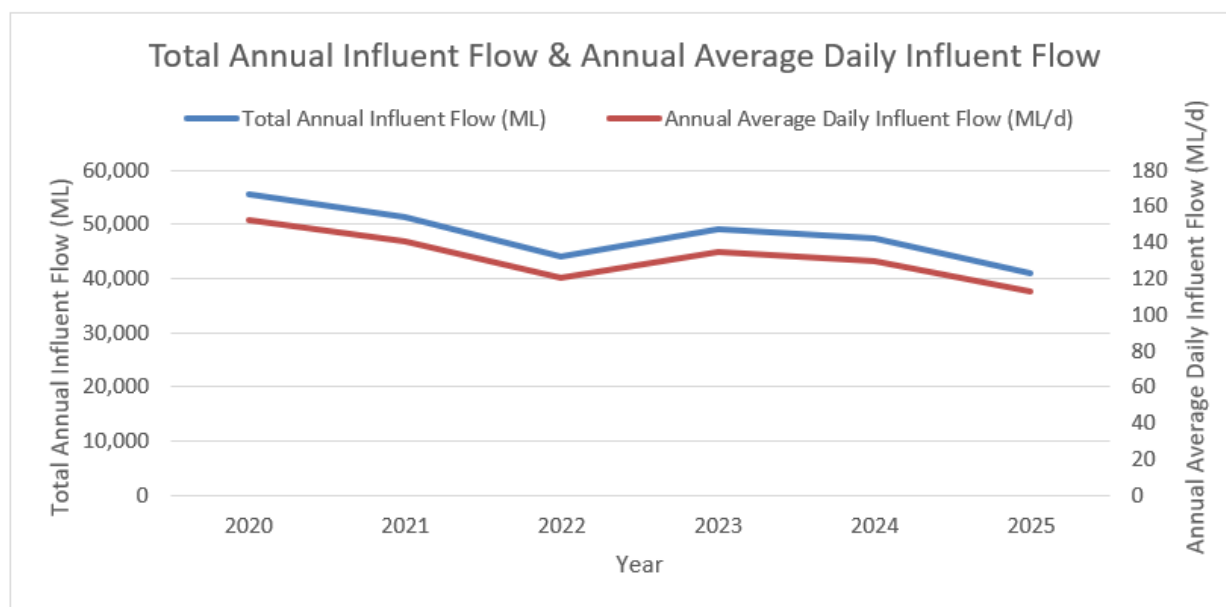


Figure 2-2: Historical Annual Influent Flows

The LRWRP met the Design Objective for influent flow in 2025, with an annual average daily influent flow of 112 ML/d (52% of the rated capacity of 218 ML/d). The annual average daily influent flow remained below the 80% rated capacity threshold (174.4 ML/d) established in the ECA, as such no further assessment or actions are required.

The highest annual peak influent flow of 440 ML/d occurred on April 3, 2025. This high flow event was due to heavy precipitation on April 2, 2025, reported as 40.3 mm at Environment Canada's Windsor A Station.

Overall, the total annual influent flow and annual average daily influent flow has seen a slight decreasing trend over the last several years.

3. Final Effluent Monitoring Data

This section presents a summary of and interpretation of final effluent monitoring data, comparison of sewage characteristics, flow rates and loading to the Design Objectives and Compliance Limits, and an overview of the success and adequacy of the Plant per Section 11.4(b) of the ECA.

3.1 Final Effluent Monitoring Program

Final effluent samples consisted of a 24-hour composite sample collected using an automatic sampler at the effluent sampling point or a grab sample of the final effluent by trained City employees. The field pH and field temperature measurements were measured using an in-line probe, and the unionized ammonia concentration was calculated. Sample analysis was completed by SGS (Lakefield) Canada Inc. except for *E. Coli* and lethality, which were completed by Caduceon Environmental Laboratories and Nautilus Environmental, respectfully. Sample analysis and frequency followed the monitoring program in Schedule D of the ECA and are summarized in **Table 3.1**, **Table 3.2** and **Table 3.3**. Final effluent samples were also tested for leachate related parameters and industrial wastewater related parameters. Deviations to the monitoring program are discussed in **Section 4**.

Table 3.1: Final Effluent Monitoring Program – Regular Parameters

Parameter	Sample Type	Minimum Frequency
Carbonaceous Biochemical Oxygen Demand (CBOD5)	24-hour composite	Weekly
Total Suspended Solids	24-hour composite	Weekly
Total Phosphorus	24-hour composite	Weekly
Total Ammonia Nitrogen	24-hour composite	Weekly
Total Kjeldahl Nitrogen	24-hour composite	Weekly
Nitrate as Nitrogen	24-hour composite	Weekly
Nitrite as Nitrogen	24-hour composite	Weekly
<i>E. coli</i>	Grab	Weekly
Acute Lethality to Rainbow Trout and <i>Daphnia magna</i>	Grab	Monthly
pH ¹	Grab/Probe/Analyzer	Weekly
Temperature ¹	Grab/Probe/Analyzer	Weekly
Unionized Ammonia ²	As Calculated	Weekly

Notes:

- (1) pH and temperature shall be determined in the field at the time of sampling for total ammonia nitrogen.
- (2) Unionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended.

Table 3.2: Final Effluent Monitoring Program – Leachate Related Parameters

Parameter	Sample Type	Minimum Frequency
Boron	Grab	Quarterly
Cobalt	Grab	Quarterly
Magnesium	Grab	Quarterly
Manganese	Grab	Quarterly
Potassium	Grab	Quarterly
Strontium	Grab	Quarterly
Bis (2-ethylhexyl) Phthalate	Grab	Quarterly

Table 3.3: Final Effluent Monitoring Program – Industrial Wastewater Related Parameters

Parameter	Sample Type	Minimum Frequency
Lindane	Composite	Quarterly
Chlordane	Composite	Quarterly
Aldrin/dieldrin	Composite	Quarterly
Cadmium	Composite	Quarterly
Mercury	Composite	Quarterly
Polychlorinated Biphenyls (PCBs)	Composite	Quarterly
Benzo(a)pyrene	Composite	Quarterly
Hexachlorobenzene	Composite	Quarterly

3.2 Final Effluent Design Objectives and Compliance Limits

Design Objectives for the final effluent discharged from the LRWRP are presented in Section 6 and Schedule B of the ECA and are summarized in **Table 3.4**. The final effluent must also be essentially free of floating and settleable solids and not contain oil or any other substance in amounts sufficient to create a visible film, sheen, foam or discoloration on the receiving water.

Table 3.4: Final Effluent Design Objectives - Concentrations

Parameter	Averaging Calculator	Design Objective
Carbonaceous Biochemical Oxygen Demand (CBOD5)	Monthly Average Effluent Concentration	10.0 mg/L
Total Suspended Solids	Monthly Average Effluent Concentration	10.0 mg/L
Total Phosphorus	Monthly Average Effluent Concentration	0.4 mg/L
<i>E. coli</i>	Monthly Geometric Mean Density	100 CFU/100mL
pH	Single Sample Results	between 6.5 – 9.0 inclusive
Unionized Ammonia	Monthly Average Effluent Concentration	0.08 mg/L

Compliance Limits for the final effluent concentrations and loading discharged from the LRWRP are presented in Section 7 and Schedule C of the ECA and summarized in **Table 3.5** and **Table 3.6**.

The Owner must also operate and maintain the Plant such that the final effluent is disinfected continuously year-round.

Table 3.5: Final Effluent Compliance Limits - Concentrations

Parameter	Averaging Calculator	Compliance Limit
Carbonaceous Biochemical Oxygen Demand (CBOD5)	Monthly Average Effluent Concentration	15.0 mg/L
Total Suspended Solids	Monthly Average Effluent Concentration	15.0 mg/L
Total Phosphorus	Monthly Average Effluent Concentration	0.5 mg/L
<i>E. coli</i>	Monthly Geometric Mean Density	200 CFU/100mL
pH	Single Sample Results	between 6.0 – 9.5 inclusive
Toxicity to Rainbow Trout and <i>Daphnia magna</i>	Single Sample result	Non-acutely lethal (no more than 50% mortality)
Unionized Ammonia	Monthly Average Effluent Concentration	0.1 mg/L

Table 3.6: Final Effluent Compliance Limits - Loading

Parameter	Averaging Calculator	Compliance Limit
Carbonaceous Biochemical Oxygen Demand (CBOD5)	Monthly Average Daily Effluent Loading	3,270 kg/d
Total Suspended Solids	Monthly Average Daily Effluent Loading	3,270 kg/d
Total Phosphorus	Monthly Average Daily Effluent Loading	109 kg/d

3.3 Final Effluent Characteristics

Final effluent characteristics are discussed in the following sections.

3.3.1 Final Effluent Characteristics – Regular, Leachate and Industrial Wastewater Related Data

A summary of the current reporting year final effluent monitoring data for regular, leachate related, and industrial wastewater related parameters are presented in **Table 3.7**, **Table 3.9**, and **Table 3.11**, respectfully. A summary of the historical final effluent monitoring data for regular, leachate related, and industrial wastewater related parameters are presented in **Table 3.8**, **Table 3.10** and **Table 3.12**, respectively. The referenced tables also include a comparison to applicable Design Objectives and Compliances Limits.

Table 3.7: 2025 Final Effluent - Regular Parameters

Month	Monthly Average Effluent Concentration						Monthly Geometric Mean Density
	CBOD5 (mg/L)	TSS (mg/L)	TP (mg/L)	TKN (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	<i>E. coli</i> (CFU/100mL)
Design Objective	10.0	10.0	0.4	-	-	-	100
Compliance Limit	15.0	15.0	0.5	-	-	-	200
January 2025	8.8	11.1	0.19	13.7	7.8	0.25	19
February 2025	8.8	12.4	0.28	15.6	5.8	0.10	57
March 2025	8.8	14.1	0.22	12.0	4.2	0.06	57
April 2025	6.9	11.0	0.14	12.5	6.8	0.19	159
May 2025	7.7	10.6	0.14	10.6	6.9	0.45	68
June 2025	11.8	13.2	0.25	13.3	4.6	0.46	595
July 2025	6.7	7.5	0.11	8.2	9.3	0.52	110
August 2025	5.2	7.0	0.14	8.9	9.7	0.57	16
September 2025	6.2	8.4	0.16	9.9	10.6	1.19	75
October 2025	6.4	6.4	0.19	10.1	10.4	0.66	40
November 2025	10.1	11.0	0.31	15.5	8.8	0.22	28
December 2025	9.0	9.2	0.21	17.2	5.6	0.08	48

Month	Monthly Average Effluent Concentration		Monthly Minimum	Monthly Maximum	Monthly Minimum	Monthly Maximum
	TAN (mg/L)	UA (mg/L)	pH (pH Units)		Temperature (° C)	
Design Objective	-	0.08	6.5	9.0	-	-
Compliance Limit	-	0.1	6.0	9.5	-	-
January 2025	12.4	0.0245	6.76	6.92	12.0	15.4
February 2025	14.3	0.0284	6.81	7.01	10.8	13.7
March 2025	11.3	0.0261	6.80	7.06	10.2	14.4
April 2025	12.3	0.0281	6.81	7.04	10.0	15.4
May 2025	9.9	0.0229	6.78	6.99	13.9	17.9
June 2025	11.9	0.0271	6.69	6.89	16.8	20.1
July 2025	7.5	0.0225	6.72	6.92	20.2	22.6
August 2025	7.8	0.0243	6.58	6.87	21.3	23.9
September 2025	9.1	0.0208	6.54	6.75	20.5	23.2
October 2025	8.9	0.0350	6.50	7.20	19.7	22.5
November 2025	13.5	0.0599	7.01	7.25	15.9	19.7
December 2025	16.0	0.0854	7.14	7.35	12.0	17.7

Notes:

- (1) CBOD5 = Carbonaceous Biochemical Oxygen Demand; TSS = Total Suspended Solids; TP = Total Phosphorus; TKN = Total Kjeldahl Nitrogen; TAN = Total Ammonia Nitrogen; UA = Unionized Ammonia
(2) Orange Shading = Exceeds Design Objective; Red Text = Exceeds Compliance Limit

Table 3.8: Historical Final Effluent - Regular Parameters

Year	Annual Average Concentration				Annual Geometric Mean Density	Annual Minimum	Annual Maximum
	CBOD5 (mg/L)	TSS (mg/L)	TP (mg/L)	UA (mg/L)	<i>E. coli</i> (CFU/100mL)	pH (pH Units)	
2020	6.0	10.1	0.33	0.02	57	6.73	8.02
2021	10.6	11.9	0.32	0.02	73	6.42	7.93
2022	7.5	9.0	0.20	0.02	148	6.34	7.80
2023	7.1	8.8	0.21	0.02	54	6.45	7.54
2024	6.8	9.5	0.25	0.02	71	6.44	7.55
2025	8.0	10.1	0.19	0.03	61	6.50	7.35

Notes:
(1) CBOD5 = Carbonaceous Biochemical Oxygen Demand; TSS = Total Suspended Solids; TP = Total Phosphorus; UA = Unionized Ammonia

Table 3.9: 2025 Final Effluent – Leachate Related Parameters

Date	Boron, Total (mg/L)	Cobalt, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Potassium, Total (mg/L)	Strontium, Total (mg/L)	Bis (2-ethylhexyl) Phthalate (µg/L)
27-Jan-25	0.121	0.000241	13.70	0.035	10.40	0.683	< 2
14-Apr-25	0.089	0.000261	20.40	0.042	9.64	1.140	< 2
21-Jul-25	0.114	0.000177	14.70	0.038	9.84	0.790	< 2
20-Oct-25	0.152	0.000262	13.30	0.045	19.10	0.623	< 2

Table 3.10: Historical Final Effluent – Leachate Related Parameters

Year	Annual Average Effluent Concentration						
	Boron, Total (mg/L)	Cobalt, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Potassium, Total (mg/L)	Strontium, Total (mg/L)	Bis (2-ethylhexyl) Phthalate (µg/L)
2020	0.212	0.00500	16.88	0.055	10.98	0.880	2.5
2021	0.162	0.00500	17.38	0.045	13.00	0.939	0.2
2022	0.183	0.001414	16.53	0.036	15.50	0.885	1.1
2023	0.189	0.000239	16.48	0.040	11.84	0.942	2.0
2024	0.147	0.002290	14.83	0.091	14.19	0.715	2.0
2025	0.119	0.000235	15.53	0.040	12.25	0.809	2.0

Notes:
(1) The full detection limit was used for non-detect results for purposes of calculating the average.

Table 3.11: 2025 Final Effluent – Industrial Wastewater Related Parameters

Date	Lindane (µg/L)	Chlordane (µg/L)	Aldrin (µg/L)	Dieldrin (µg/L)	Cadmium, Total (mg/L)	Mercury, Total (mg/L)	Polychlorinated Biphenyls (PCBs) (µg/L)	Benzo(a)pyrene (µg/L)	Hexachlorobenzene (µg/L)
28-Jan-25	< 0.01	<0.02	< 0.01	< 0.01	0.000028	< 0.00001	< 0.04	< 0.01	< 0.01
14-Apr-25	< 0.01	<0.02	< 0.01	< 0.01	0.000018	< 0.00001	< 0.04	< 0.01	< 0.01
21-Jul-25	< 0.01	<0.02	< 0.01	< 0.01	0.000006	< 0.00001	< 0.04	< 0.02	< 0.01
21-Oct-25	< 0.01	<0.02	< 0.01	< 0.01	0.000007	< 0.00001	< 0.04	0i.004	< 0.01

Table 3.12: Historical Final Effluent – Industrial Wastewater Related Parameters

Year	Annual Average Effluent Concentration								
	Lindane (µg/L)	Chlordane (µg/L)	Aldrin (µg/L)	Dieldrin (µg/L)	Cadmium, Total (mg/L)	Mercury, Total (mg/L)	Polychlorinated Biphenyls (PCBs) (µg/L)	Benzo(a)pyrene (µg/L)	Hexachlorobenzene (µg/L)
2020	0.01	0.04	0.01	0.02	0.001	0.0001	0.13	0.01	0.01
2021	0.01	0.04	0.01	0.02	0.001	0.0001	0.10	0.01	0.01
2022	0.01	0.03	0.01	0.01	0.000261	0.00004	0.06	0.01	0.75
2023	0.01	0.02	0.01	0.01	0.000044	0.00001	0.04	0.01	0.53
2024	0.01	0.02	0.01	0.01	0.000010	0.00001	0.04	0.01	1.00
2025	0.01	0.02	0.01	0.01	0.000015	0.00001	0.04	0.01	0.01

Notes:
(1) The full detection limit was used for non-detect results for purposes of calculating the average.

A summary of the current reporting year removal rates for select parameters is presented in **Table 3.13**.

Table 3.13: 2025 Removal Rates

Date	TSS (%)	TP (%)	TAN (%)
January 2025	96	93	49
February 2025	93	89	35
March 2025	92	90	25
April 2025	94	91	45
May 2025	96	93	50
June 2025	94	91	49
July 2025	98	95	62
August 2025	97	97	69
September 2025	97	95	68
October 2025	97	94	61
November 2025	95	92	45
December 2025	96	93	29

Notes:

(1) TSS = Total Suspended Solids; TP = Total Phosphorus; TAN = Total Ammonia Nitrogen

A summary of the historical removal rates for select parameters is presented in **Table 3.14**.

Table 3.14: Historical Removal Rates

Date	TSS (%)	TP (%)	TAN (%)
2020	95	93	78
2021	94	91	61
2022	96	94	47
2023	96	93	57
2024	96	92	65
2025	95	93	49

Notes:

(1) TSS = Total Suspended Solids; TP = Total Phosphorus; TAN = Total Ammonia Nitrogen

In the current reporting year, the final effluent was observed to be free from floating and settleable solids, and was not observed to contain films, sheens, foams or be discoloured during all sampling events in 2025.

The Plant was operated and maintained such that the final effluent was disinfected continuously year-round in 2025. As detailed in **Section 12**, primary overflows and UV bypasses in 2025 received disinfection with sodium hypochlorite in 2025.

In the current reporting year, the final effluent met the Design Objectives for carbonaceous biochemical oxygen demand (CBOD5), TSS, TP, *E. coli*, unionized ammonia (UA) and pH, with the following exceptions:

- The monthly average TSS concentration exceeded the Design Objective of 10.0 mg/L in January (11.10 mg/L), February (12.44 mg/L), March (14.11 mg/L), April (11.00 mg/L), May (10.60 mg/L), June (13.22 mg/L) and November (11.00 mg/L).
- The monthly average CBOD5 concentration exceeded the Design Objective of 10.00 mg/L in June (11.8 mg/L) and November (10.1 mg/L).
- The monthly geometric mean density of *E. coli* exceeded the Design Objective of 100 CFU/100mL in April (159 CFU/100mL), June (595 CFU/100mL) and July (110 CFU/100mL).
- The monthly average UA concentration exceeded the Design Objective of 0.08 mg/L in December (0.0854 mg/L).

In the current reporting year, the final effluent met the Compliance Limits for CBOD5, total suspended solids, total phosphorus, *E. coli*, unionized ammonia and pH, with the following exceptions:

- The monthly geometric means density of *E. coli* exceeded the Compliance Limit of 200 CFU/100mL in June (595 CFU/100mL).

Overall, effluent monitoring parameters in 2025 were measured at concentrations generally consistent with data measured since 2020. Removal rates continue to be high for total suspended solids, total phosphorus and total ammonia nitrogen.

3.3.2 Final Effluent Characteristics – Toxicity Data

As per Section 9.4 of the ECA, the minimum monitoring frequency with respect to acute lethality to Rainbow Trout and *Daphnia magna* shall, after eight consecutive quarters of monitoring results not indicating acute lethality, be reduced to annually. As the mean mortality of Rainbow Trout and *Daphnia magna* have been below the Compliance Limit (i.e., not acutely lethal) since 2020, toxicity testing was completed annually in 2025.

A summary of the toxicity testing is presented in **Table 3.15**.

Table 3.15: 2025 Final Effluent – Toxicity

Date	Daphnia magna Mean Mortality (%)	Rainbow Trout Mean Mortality (%)
Compliance Limit	Non-acutely Lethal (no more than 50% mortality)	Non-acutely Lethal (no more than 50% mortality)
June 17, 2025	0	0

Notes:

(1) **Red Text** = Exceeds Compliance Limit

A summary of the historical toxicity testing is presented in **Table 3.16**.

Table 3.16: Historical Final Effluent – Toxicity Data

Year	Maximum Annual Daphnia magna Mean Mortality (%)	Maximum Annual Rainbow Trout Mean Mortality (%)
2020	0	10.0
2021	0	0
2022	0	0
2023	0	0
2024	0	0
2025	0	0

In the current reporting year, mean mortality for Rainbow Trout and Daphnia magna was below the Compliance Limit of 50% and was not acutely lethal. As mentioned above, the mean mortality has met the Compliance Limit since 2020.

3.3.3 Final Effluent Characteristics – Loading Data

The monthly average daily effluent loading was calculated by multiplying the monthly average effluent concentration of each CBOD₅, TSS and TP, by the monthly average daily effluent flow over the same calendar month.

A summary of the monthly average daily effluent loading is presented in **Table 3.17**.

Table 3.17: 2025 Final Effluent – Loading Data

Month	Monthly Average Daily Effluent Loading		
	CBOD5 (kg/d)	TSS (kg/d)	TP (kg/d)
Compliance Limit	3270	3270	109
January 2025	982	1239	22
February 2025	1049	1487	34
March 2025	1173	1885	29
April 2025	944	1505	19
May 2025	946	1302	18
June 2025	1441	1618	31
July 2025	799	885	13
August 2025	524	702	14
September 2025	604	819	15
October 2025	558	558	16
November 2025	927	1008	28
December 2025	965	984	22

Notes:

- (1) CBOD5 = Carbonaceous Biochemical Oxygen Demand; TSS = Total Suspended Solids; TP = Total Phosphorus
- (2) **Red Text** = Exceeds Compliance Limit

A summary of the annual average daily effluent loading over the last four years is presented in **Table 3.18**.

Table 3.18: Historical Final Effluent – Loading Data

Year	Annual Average Daily Effluent Loading		
	CBOD5 (kg/d)	TSS (kg/d)	TP (kg/d)
2021	1464	1631	43
2022	893	1093	24
2023	955	1197	27
2024	875	1231	32
2025	909	1166	22

Notes:

- (1) CBOD5 = Carbonaceous Biochemical Oxygen Demand; TSS = Total Suspended Solids; TP = Total Phosphorus

In the current reporting year, CBOD5, TSS and TP monthly average daily effluent loading met the Compliance Limits. Overall, the average daily effluent loading was similar to the last four years.

3.4 Final Effluent Flow

The final treated effluent volume and flow at the LRWRP were calculated using the measurements recorded at the final effluent flow meter device, less the effluent recirculated back into the Plant for operational purposes. The final effluent flow meter device is located in an open channel positioned within the UV influent channel, downstream from the Biological Aeration Filtration Facility (BAF) (secondary treatment), and recorded continuously. The calculation was completed as some effluent was recirculated at the Plant Effluent Water Pumping Station which is located downstream of the effluent flow meter device. This value represents the volume of final treated effluent flow; the final total effluent flow is determined by adding the raw and primary overflow volumes which are not captured by the final effluent flow meter. However, as overflow volumes in 2025 represented less than 1% of the total effluent flow, it was deemed not to be significantly different. Raw and primary overflow volumes are discussed in **Section 12**, however are displayed in the tables and graphs below for comparison. It is noted that UV bypasses are captured by the final effluent flow meter.

A summary of the monthly effluent flow and overflows for the current reporting year is presented in **Table 3.19** and on **Figure 3-1**.

Table 3.19: 2025 Monthly Effluent Flow and Overflows

Month	Treated Monthly Effluent Flow (ML)	Total Monthly Effluent Flow (ML)	Monthly Raw Overflows (ML)	Monthly Primary Overflows (ML)	Monthly Precipitation (mm)
January 2025	3,461	3,470	0	9.149	24.7
February 2025	3,345	3,345	0	0	18.0
March 2025	4,141	4,145	0	3.919	47.4
April 2025	4,104	4,187	0	82.604	55.9
May 2025	3,809	3,836	0	26.970	65.6
June 2025	3,670	3,692	0	21.611	86.5
July 2025	3,682	3,686	0	4.098	88.9
August 2025	3,108	3,108	0	0	27.4
September 2025	2,924	2,954	0	29.410	38.4
October 2025	2,701	2,701	0	0	22.6
November 2025	2,749	2,749	0	0	34.2
December 2025	3,323	3,331	0	7.922	47.4

Notes:

(1) Precipitation data from Environment Canada's Windsor A Station

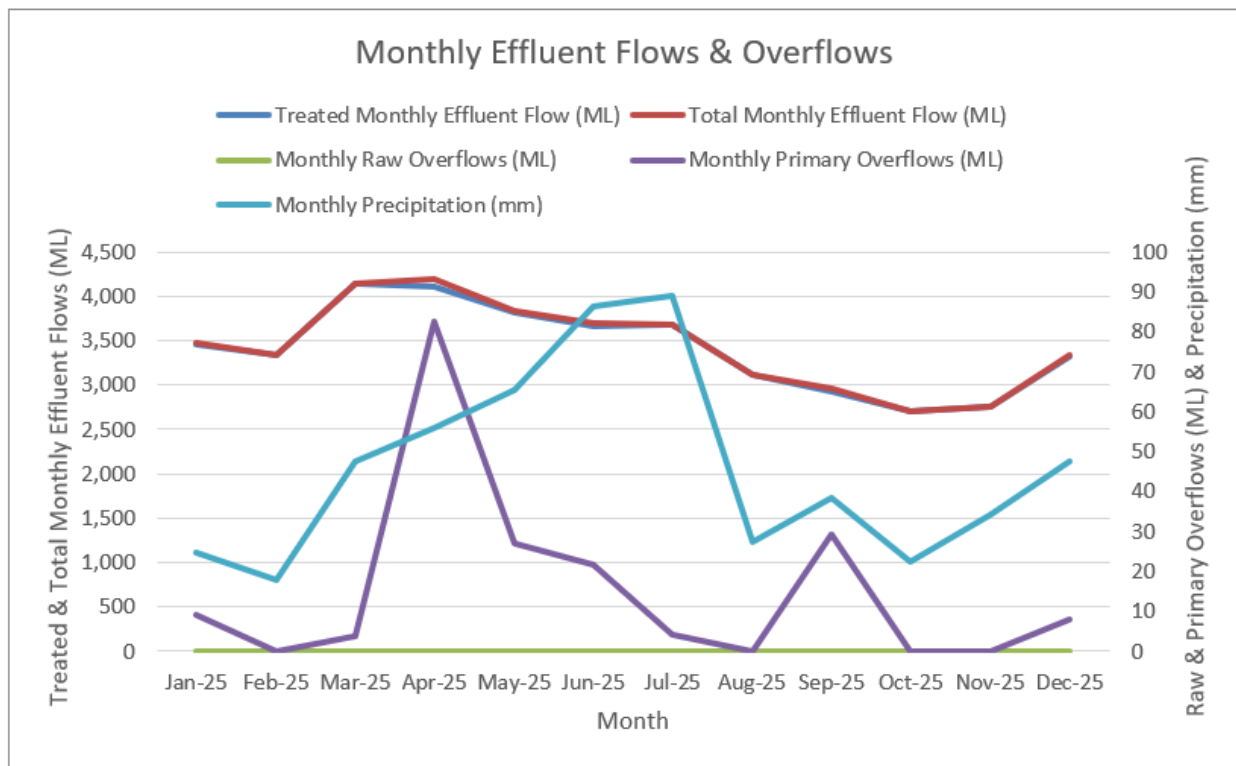


Figure 3-1: 2025 Monthly Effluent Flows and Overflows

A summary of the historical effluent flow and overflows is presented in **Table 3.20** and on **Figure 3-2**.

Table 3.20: Historical Effluent Flows and Overflows

Year	Treated Annual Effluent Flow (ML)	Total Annual Effluent Flow (ML)	Annual Raw Overflows (ML)	Annual Primary Overflows (ML)	Annual Precipitation (mm)
2020	55,558	63,551	68	954	814
2021	51,399	52,453	44	746	816
2022	43,973	44,214	0	241	596
2023	49,113	49,712	0	599	917
2024	47,338	47,877	3	536	857
2025	41,017	41,203	0	186	557

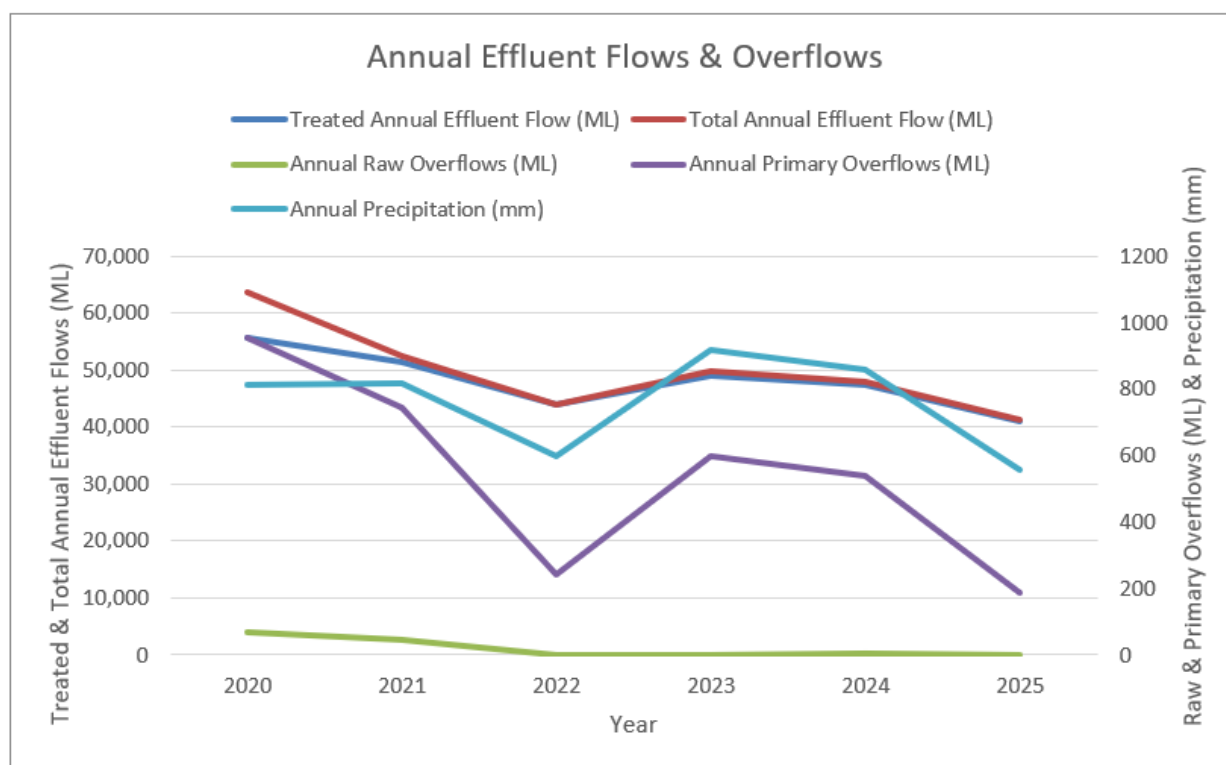


Figure 3-2: Historical Effluent Flows and Overflows

Overall, the total and treated effluent flows has seen a slight decreasing trend over the last several years. There also appears to be a correlation between the annual precipitation amount and the volume of primary overflows at the Plant since 2020.

4. Monitoring Schedule and Deviations

This section presents the current reporting year monitoring schedule and schedule deviations for the current reporting year, and the schedule for the next reporting year per Section 11.4(c) of the ECA.

In 2025, LRWRP carried out a scheduled monitoring program in accordance with Section 9 of the ECA for the sample points, frequencies, sample types and analyses listed in Schedule D of the ECA. The current reporting year monitoring schedule is presented in **Appendix A: Current Year and Next Year Monitoring Schedules**. It is noted that the schedule presented also includes additional sampling required by other agencies. Deviations from the current year monitoring schedule are summarized in **Table 4.1**. The observed deviations pertained only to the timing of collection, and all required samples were collected. The deviations are not expected to impact data reliability. Monitoring was

also completed during situations which were outside of normal operating conditions as detailed in **Section 12**.

Table 4.1: Monitoring Schedule Deviations Summary

Date	Deviation and Reason
January 2, 2025	LRWRP Effluent <i>E. coli</i> was scheduled to be collected on January 2, 2025, but was collected on December 30, 2024, to accommodate the laboratory's holiday schedule.
January 6, 2025	LRWRP Imported Sewage sample was scheduled to be collected on January 6, 2025, but was collected on January 7, 2025, as no leachate was hauled on the original date.
January 27, 2025	LRWRP Effluent Industrial Wastewater Related was scheduled to be collected on January 27th but was collected on January 28, 2025, due to insufficient sample volume on the original date.
March 4, 2025	LRWRP Influent and Effluent Weekly samples were scheduled for March 4, 2025, but were collected on March 5, 2025, due to insufficient sample volumes on the original date.
March 13, 2025	LRWRP 2nd Weekly Effluent sample was scheduled to be collected on March 13, 2025, but was collected on March 14, 2025, due to the use of incorrect sample bottles, which resulted in insufficient sample volume on the original date.
June 18, 2025	LRWRP Annual Influent and Effluent samples were scheduled to be collected on June 18, 2025, but were collected on June 26, 2025, due to insufficient sample volumes on the original date.
July 7, 2025	LRWRP Monthly Imported Sewage was scheduled to be collected on July 7, 2025, but was collected on July 9, 2025, as no leachate was hauled on the original date.
October 20, 2025	LRWRP Effluent Industrial Related (Quarterly) sample was scheduled to be collected on October 20, 2025, but was collected on October 21, 2025, due to a scheduling conflict.
November 3, 2025	LRWRP Monthly Sludge sample was scheduled to be collected on November 3, 2025, but was collected on November 4, 2025, as dewatering was not running on the original date.
December 23, 2025	LRWRP Weekly Influent and Effluent samples were scheduled to be collected on December 23, 2025, but were collected on December 21, 2025, to accommodate the laboratory and courier's holiday schedule.

The City also maintained a separate monitoring program for plant operations to monitor treatment efficiency where analyses were complete in-house by licenced operators in accordance with standardized methods.

The current monitoring schedule was revised and updated for the next reporting year. The revisions include a rotation of the day of the week/month for the scheduled monitoring program, except where the actual scheduled monitoring frequency was three or more times per week. The monitoring schedule for the next reporting year is presented in **Appendix A: Current Year and Next Year Monitoring Schedules**. It is noted that the schedule presented also includes additional sampling required by other agencies.

5. Operating Issues and Corrective Actions

This section presents a summary of operating issues encountered and corrective actions taken in the current reporting year per Section 11.4(d) of the ECA.

The Plant continued to operate effectively in 2025, with operational issues managed through timely corrective action and process adjustments. The following is a summary of operating issues identified, and corrective actions employed to maintain Plant performance in the current reporting year:

- Two planned periods of reduced Plant capacity occurred during the reporting period.
 - The first planned period of Plant capacity reduction was required for the resurfacing of concrete surfaces in both the effluent channel and backwash waste channels in BAF cells 13, 14, 15 and 16. Resurfacing of the BAF concrete channels was required to protect the long-term integrity of the structures. During the resurfacing project, the Plant's secondary treatment capacity was reduced from 436 ML/d to 310 ML/d. The Plant's primary treatment capacity remained unchanged at 545 ML/d. The BAF cell resurfacing project began on June 16, 2025, and was completed on September 12, 2025.
 - The second planned period of Plant capacity reduction was required to replace six large gate valves in the Main Pumphouse. These valves included one raw sewage pump suction and two discharge isolation valves as well as three bypass valves for the three raw sewage pumps on Side 1 of the influent well. The bypass valves are used for pump and raw sewage well flushing. To facilitate this work, fifty percent of the raw sewage well capacity and fifty percent of the raw sewage pumps were rendered out of service. During this period of Plant capacity reduction, the maximum rate of flow through the plant was reduced from approximately 700 ML/d to 350 ML/d. Should the need have risen, a plan was in place to be able to restore

plant operations back to full pumping capacity in a relatively short period of time. The Main Pumphouse valve replacement project began July 21, 2025, and was completed on September 3, 2025. Plant effluent quality was not impacted during the reduced capacity.

- On November 25th, 2025, an electrical transformer that supplies power to bank 2A in the UV disinfection system failed. As a result, effluent flows above a rate of 280 ML/d received only partial UV disinfection. However, full disinfection was still maintained with the use of liquid sodium hypochlorite. All durations and volumes of flow that exceeded the flow rate of 280 ML/d were reported as UV bypasses to the MECP Spills Action Center. The failed electrical transformer was replaced on January 9, 2026. A spare transformer was ordered to address a similar issue should it occur again in the future. Three of the UV bypasses in December 2025 were attributed to the transformer failure as noted in **Section 12**.
- Various plant equipment is cycled in and out of service over the course of the year based on influent flow rates and Plant loading. Alum and anionic polymer dosing rates are adjusted as necessary throughout the year to promote optimal solids settling and phosphorous removal. Alternate polymers were bench tested and trialed, and a substitute cationic polymer was selected for use. This alternate cationic polymer has proven useful in reducing centrate solids returned to the headworks for resettling as well as an increase in overall biosolids dryness.
- BAF cell refurbishing continued through 2025. Efforts continue on the second refurbishment of BAF cell 16. To date, cells 1, 3, 6, 7, 8, 10, 11, 12, 14 and 16 have been refurbished. BAF cell filtration durations varied seasonally. Filtration durations refer to the time between backwash cycles. During winter months, cell filtration durations are increased to allow for the growth of additional microorganisms. This is done to compensate for the reduction in microbiological activity attributed to colder water temperatures. During the summer months, cell filtration durations are reduced as the microorganisms become more active. In 2025 BAF filtration durations ranged from 16 hours to 18 hours throughout the course of the year. Defoamer application rates were adjusted as needed to combat foaming issues in the BAF cells.

6. Repairs and Maintenance

This section presents a summary of normal and emergency repairs and maintenance activities carried out on major structures, equipment, apparatuses and mechanisms at the Plant per Section 11.4(e) of the ECA.

Routine preventative maintenance is performed on equipment at the Plant. The Antero Equipment Maintenance (by AllMax Software Inc.) is used to maintain an inventory of Plant equipment and allows for the development and tracking of work orders and provides a record of maintenance and repairs that have been carried out.

6.1 Mechanical Repairs and Maintenance

The following mechanical repair and maintenance activities were completed in the current reporting year at the Plant:

- Administration Building
 - Installed new railings at alum unloading station
 - Unloading station septic effluent water shut-off valve replaced
 - Dryer gas line disconnected/reconnected for dryer replaced
 - Lab wash/dry station installed
 - Backflow preventor repaired
- Main Pumphouse
 - CBS #1 & 2 repaired (Followers replaced)
 - CBS #1 breather tank installed
 - Raw Sewage Pump #1 & #2 refurbished
 - Drywell sump pump replaced
 - Alum feed line to raw sewage pump #2 repaired
 - Incline conveyor belt roller replaced
 - Drain line replaced on raw sewage pump #2
- Grit Removal Facility
 - Grit Pump #5 repaired
 - Grit pump #5 check valve replaced
 - Grit pump flush line installed
 - Boiler maintained and repaired
- Chemical Building
 - Chemical pump repaired
 - Alum tank level indicator repaired
 - Polymer mixer repaired
- Primary Settling Tanks
 - PSTs 1 to 4 scum tray heater replaced
 - Repairs to rake arm PSTs 1 and 5
- Sludge Pumphouses
 - Valves PSP01_DC1 and PSP02_DC1 replaced in SPH #1
 - SPH #2 & #3 new effluent line installed

- Biological Aerated Filtration Facility (BAF)
 - Backwash waste pump #1 refurbished
 - Backwash waste pump #2 check valve repaired
 - Fine curve screen #3 gear drive replaced
 - Backwash blower #6 refurbished
 - BAF band screen wash water pump repaired
 - Blower #3 motor removed/installed
 - Backflow preventor repaired
- Primary Effluent Pumping Station (PEPS)
 - Defoamer transfer pump repaired
 - HVAC repaired
- UV Disinfection Facility
 - Exhaust Fan #2 motor replaced
- Dewatering Facility
 - SFP #1, 2 & 3 rebuilt
 - Refurbishment of live bottom #1
 - Polymer system valve/mixer unloader repaired
 - Horizontal/Incline screw conveyor #1, 2 & 3 hanger bearing repaired
 - Incline screw conveyor #2 & 4 pillow block bearing replaced
 - Centrifuge braking resistor cage installed
 - Bio-Filter strainer cover replaced on side #2
 - Pump #1 mechanical seal replaced
 - Pump #1 motor replaced
 - Live bottom unloader wheels and track replaced
 - Horizontal conveyor #1 gear drive seal replaced
 - Sludge feed pump #1 transition piece suction/discharge replaced

6.2 Electrical Repairs and Maintenance

The following electrical repair and maintenance activities were completed in the current reporting year at the Plant:

- Administration Building
 - Replaced EP3 motor
 - Replaced emergency light
 - Disconnected chief operating desk
 - Replaced thermostat for Mechanical Shop area
- Laboratory
 - Replaced vacuum switch
 - Repaired hot plate
 - Installed receptacle for flushing pump
- Main Pumphouse
 - Reconnected RSB_C valves
 - Repaired CBS1 control circuit
 - Reconnected RSP1 motor
 - Disconnected/reconnected polymer batching systems
 - Disconnected/reconnected RS2 motor
 - Repaired RSDC_C1 limit switch
 - Replaced RSD_C1 disconnect
 - Repaired RSDC_C5 limit switch
 - Repaired RSP3 control circuit
 - Repaired door access control
 - Replaced generator
 - Replaced 1 low coolant switch
 - Replaced RSP6 starter
 - Replaced MB1, GB1, GB2 with new/remanufactured units
- Grit Removal Facility
 - Replaced North grit UPS
 - Repaired FBS1 control circuit
 - Repaired WEF3
 - Replaced pH probe
 - Replaced air cooler motor
 - Replaced GRP_03 VFD
 - Replaced GCC01_FM1 isolator board
 - Replaced GRP_05 VFD fan

- Primary Settling Tank
 - Replaced SPH2 UPS
 - Replaced PRI9_C02
 - Replaced PSP01_C02 valve
 - Repaired PSP00_C12 indicator
 - Repaired PSP03_DC2 indicator
 - Repaired PSP11_SC3 indicator
 - Repaired PSP02_DC3 indicator
 - Repaired PSP00_C17 indicator
 - Replaced PSP01_DC2 valve
 - Replaced PSP00_C13 indicator
- Biological Aerated Filtration Facility
 - Replaced cell 15 DC1 actuator
 - PEPS3 motor sent out for rebuild
 - Repaired cell 4 WC1 indicator
 - Repaired hallway unit heater
 - Replaced BL005 bearing controller
 - Replaced MCC UPS
 - Replaced BL003 starter
 - Replaced SWP01 motor
 - Replaced cell 16 IC4 solenoid
 - Replaced TVSS module
 - Repaired capacitor bank
 - Replaced cell 14 DC1 actuator
 - Replaced cell 15 DC1 PLC card
 - Replaced cell 2 PLC power supply
- UV Disinfection Facility
 - Repaired UV racks and ballasts
 - Replaced UVB_C04 actuator
 - Replaced hydraulic valve connectors
- Dewatering Facility
 - Installed camera for conveyor level
 - Repaired PP3A control circuit
 - Replaced centrifuge 1 main motor fan
 - Replaced centrifuge 3 VFD
 - Installed 50HP unloader 3 motor

- Installed centrifuge breaking resistor
- Replaced FEW_C2 solenoid
- Replaced Biorem motor
- Replaced truck bay OIT

7. Effluent Quality Assurance and Control

This section presents a summary of effluent quality assurance or control measures undertaken per Section 11.4(f) of the ECA.

The following effluent quality assurance and control measures were undertaken during the reporting period:

- Samples were collected by trained City employees following the established schedule and standard operating procedures;
- ECA required sample analyses were completed by SGS (Lakefield) Canada Inc., Caduceon Environmental Laboratories and Nautilus Environmental which are accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for the analyses completed and meet the requirements of ISO/IEC 17025;
- Operational sample analyses were completed in-house to monitor treatment efficiency by licenced operators in accordance with standardized methods;
- Sample analytical results were monitored by the operators, and informed adjustments required in the treatment process;
- Flow measurement devices, auto samplers, in-house laboratory equipment, and various other plant equipment were calibrated in accordance with standard operating procedures and manufacturer recommendations;
- Equipment redundancy has been strategically integrated into the Plant to support equipment cycling, accommodate scheduled downtime, and facilitate preventative maintenance and repairs;
- A computerized maintenance management system was used to schedule and log preventative maintenance and repairs; and
- LRWRP was operated and maintained by licenced wastewater treatment operators.

8. Calibration and Maintenance Procedures

This section presents a summary of calibration and maintenance carried out on influent, imported sewage and final effluent monitoring equipment per Section 11.4(g) of the ECA.

The flow meter devices utilized at the LRWRP underwent annual inspection, verification and calibration in October 2025. This included the effluent flow meter, Plant Effluent Water Pumping Station flow meter, and the Modified Parshall Flumes flow meters. Flow meter devices were calibrated to an accuracy within plus or minus 15 percent (+/-15%) of the actual flow rate. Calibration certificates are included in **Appendix B: Calibration Certificates**.

Routine inspections and calibrations following standard operating procedures and manufacturer recommendations were also performed on effluent monitoring equipment, auto samplers and in-house laboratory equipment.

9. Design Objectives

This section discusses Plant performance as it relates to the Design Objectives per Section 11.4(h) of the ECA.

Best efforts were made to achieve the Design Objectives in the current reporting year. As discussed in **Section 3.3**, the Design Objectives were achieved for more than 50% of the time in the current reporting year for CBOD₅, TP, *E. coli*, UA and pH. The Design Objective was met 42% of the time for the monthly average TSS concentration, meaning that the monthly average TSS concentrations met the Design Objective for five months of the year and were in excess of the Design Objective for seven months of the year. The monthly average TSS concentrations met the Compliance Limits throughout the current reporting year and the removal rates for TSS continued to be very high at 95%. There were no obvious trends in effluent deterioration throughout the reporting year.

Removing solids from wastewater during the winter months has historically been challenging for the LRWRP. Beneficial micro-organisms used in wastewater treatment are less active during colder temperatures. As a result of the lessened microbial activity, consumption of organic solids is reduced in the winter months. An extended period of high influent pH in the month of June significantly reduced the beneficial micro-organism population in the secondary treatment system. The reduction in the beneficial micro-organism population resulted in decreased consumption rates of organic solids in the waste stream causing TSS levels to exceed the Design Objective. Efforts to reduce TSS in the LRWRP effluent continue. To reduce solids sent to the secondary treatment

system, the overflow weirs in all nine primary clarifiers were re-leveled. BAF cell refurbishment will continue in 2026.

In the current reporting year, the final effluent was observed to be free from floating and settleable solids, and was not observed to contain films, sheens, foams or be discoloured during all sampling events.

As discussed in **Section 2.3**, the annual average daily influent flow was below the 80% rated capacity threshold established in the ECA, as such no further assessment or actions are required.

10. Sludge

This section presents a summary of the volume of sludge generated this reporting year, where the sludge was disposed of, and anticipated sludge volumes in the next reporting year per Section 11.4(i) of the ECA.

10.1 Sludge Production and Management

The LRWRP generates raw sludge during primary treatment, which is dewatered in centrifuges to create wet cake, also called biosolids. A total of 208,766,089 L of raw sludge (average 5.12% solids) was dewatered in the current reporting year. Dewatering generated 28,249 tonnes of wet sludge cake (average 28.64% solids). A summary of sludge generated is presented in **Table 10.1**.

The biosolids were transported offsite to the Windsor Biosolids Processing Facility (WBPF) which is owned by the City and operated by Synagro Windsor Operating LP (Synagro). The biosolids were heat dried and pelletized at the WBPF with the finished pellets used as commercial fertilizer. Synagro reports on this facility under a separate cover for Amended Environmental Compliance Approval Number A010112 dated February 10, 2016. No biosolids were landfilled in the current reporting year.

There are no anticipated changes in biosolid production in the next reporting year. The quantities of raw sludge and biosolids are expected to be similar to the current reporting year.

Table 10.1: 2025 Sludge Summary

Month	Monthly Total Raw Sludge Pumped (L)	Monthly Average Raw Sludge Solids (%)	Monthly Total Wet Cake/ Biosolids (Tonnes)	Monthly Total Landfilled (Tonnes)	Monthly Total Processed (Tonnes)	Monthly Average Cake Solids (%)
January 2025	16,571,764	5.82	2,658	0	2658	27.32
February 2025	14,326,940	4.83	1,956	0	1,956	28.51
March 2025	14,458,250	5.76	2,219	0	2,219	29.20
April 2025	13,421,901	6.70	2,328	0	2,328	31.02
May 2025	18,424,745	6.18	3,042	0	3,042	29.41
June 2025	16,182,011	5.55	2,221	0	2,221	30.45
July 2025	20,753,695	4.86	2,563	0	2,563	28.96
August 2025	20,507,687	3.87	2,207	0	2,207	27.52
September 2025	21,652,750	3.79	2,354	0	2,354	26.50
October 2025	18,547,356	4.17	2,008	0	2,008	28.59
November 2025	15,994,863	4.66	2,001	0	2,001	27.84
December 2025	17,924,128	5.26	2,693	0	2,693	28.34
Annual Total / Average	208,766,089 (total)	5.12 (average)	28,249 (total)	0 (total)	28,249 (total)	28.64 (average)

10.2 Sludge Monitoring Program

Sludge samples consisted of grab samples collected from the sludge holding tank by trained City employees. Sample analysis was completed by SGS (Lakefield) Canada Inc. Sample analysis and frequency followed the monitoring program in Schedule D of the ECA and is summarized in **Table 10.2**. Deviations to the monitoring program are discussed in **Section 4**.

Table 10.2: Sludge Monitoring Program

Parameter	Sample Type	Minimum Frequency
Total Solids	Grab	Quarterly
Total Phosphorus	Grab	Quarterly
Total Ammonia Nitrogen	Grab	Quarterly
Nitrate as Nitrogen	Grab	Quarterly
Metals Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Potassium, Selenium, Zinc)	Grab	Quarterly

A summary of the sludge monitoring data for the current reporting year is presented in **Table 10.3**

Table 10.3: 2025 Sludge Monitoring Data

Parameter	10-Mar-25	9-Jun-25	8-Sep-25	8-Dec-25
Total Solids (%)	7.01	5.08	3.43	2.62
Total Phosphorus (mg/kg)	16000	18000	18000	18000
Ammonia as N ¹ (mg/kg)	1380	1330	2720	2910
Nitrate (mg/kg)	<3	<3	<3	<3
Arsenic (mg/kg)	4	3	4	<4
Cadmium (mg/kg)	0.65	0.48	0.4	0.4
Chromium (mg/kg)	35	19	33	16
Cobalt (mg/kg)	9	3	2	3
Copper (mg/kg)	200	180	200	150
Lead (mg/kg)	16	13	11	10
Mercury (mg/kg)	0.36	0.3	0.18	0.27
Molybdenum (mg/kg)	5	7	7	6
Nickel (mg/kg)	30	21	38	35
Potassium (mg/kg)	1600	2000	1800	2500
Selenium (mg/kg)	3	3	<3	<4
Zinc (mg/kg)	360	320	520	310

Notes:

- (1) Ammonia as N in sludge is not an accredited laboratory analysis. Reporting of results approved by Sean Morrison, District Manager Sarnia/Windsor Region, MECP in email dated February 4, 2020.

11. Complaints and Responses

This section presents a summary of complaints received and any steps taken to address the complaints per Section 11.4(j) of the ECA.

The City of Windsor's 311 call centre logs public complaints, including any follow up action taken.

There were no complaints received in 2025 related to the LRWRP.

12. Bypasses, Overflows, Spills and Abnormal Discharge Events

This section presents a summary of bypasses, overflows, spills and abnormal discharge events per Section 11.4(k) of the ECA.

12.1 Bypasses

A bypass is a diversion of sewage around one or more treatment processes, excluding preliminary treatment, with the diverted sewage being returned to the treatment train upstream of the final effluent sampling point and discharged to the Detroit River through the approved outlet.

In a UV bypass, influent goes through preliminary, primary and secondary treatment, bypasses UV disinfection, and is disinfected with liquid sodium hypochlorite prior to discharging through the final effluent sampling point and into the Detroit River through the approved outfall.

In accordance with Section 4 of the ECA, the MECP's Spills Action Centre (SAC) and the local Medical Officer of Health were notified at the beginning and end of each bypass, additional sampling was completed unless the event occurred on a scheduled monitoring day, and the bypasses were reported upon monthly.

A summary of the bypasses for the current reporting period is presented in **Table 12.1**.

In 2025, the LRWRP had nine UV bypasses resulting in a total of 44 ML of effluent which bypassed UV disinfection and received liquid sodium hypochlorite. These bypasses were caused by heavy precipitation, power failure and/or equipment failure. The total bypassed volume represented less than 1% of the total annual effluent flow.

As described in **Section 5**, three of the UV bypass events that occurred in December 2025, noted as being caused by equipment failure, were a result of a failed distribution transformer that supplied power to lamp bank 2A in UV channel 2. In instances where flow exceeded the capacity of UV channels 1 and 3, flow was directed through UV channel 2. Lamp bank 2B in channel 2 has brand new lamps and provided disinfection as designed, however, as mentioned lamp bank 2A was not functional. Whenever flow through channel 2 was detected, sodium hypochlorite was dosed to ensure adequate disinfection levels were maintained. Mr. Mark Smith of the MECP was notified of this issue on November 25, 2025. The failed electrical transformer was replaced on January 9, 2026.

Table 12.1: 2025 Bypass Summary

SAC #	Event Type	Date Occurred	Volume Discharged (ML)	Duration (Hours)	Reason
1-HFWS5T	UV bypass	Feb 14, 2025	0.185	0.050	Equipment failure
1-OWKMRD	UV bypass	July 12, 2025	0.045	0.017	Power failure
1-P9VWBL	UV bypass	Aug 3, 2025	0.963	0.100	Equipment failure
1-PQ7JKY	UV bypass	Oct 31, 2025	0.028	0.020	Power failure
1-PR4DI6	UV bypass	Nov 6, 2025	0.177	0.083	Equipment failure
1-PWKB0C	UV bypass	Dec 10, 2025	7.280	4.000	Heavy precipitation
1-PXHRLR5	UV bypass	Dec 17, 2025	0.202	0.083	Equipment failure
1-PYKI07	UV bypass	Dec 26, 2025	6.070	3.167	Equipment failure
1-PYN5OH	UV bypass	Dec 28, 2025	28.900	15.533	Equipment failure

In accordance with Section 4.5 of the ECA, daily samples were collected of the final effluent during bypass events, unless samples were already collected as part of the normal collection schedule. A summary of bypass monitoring data is presented in **Table 12.2**.

Table 12.2: 2025 Bypass Monitoring Data

Date	CBOD5 (mg/L)	TSS (mg/L)	TP (mg/L)	TAN (mg/L)	TKN (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
14-Feb-25	9	9	0.24	17.7	18.2	6.59	<0.03
12-Jul-25	7	11	0.12	2.3	3.1	4.73	0.21
3-Aug-25	6	5	0.07	3.9	5.0	10.1	1.79
31-Oct-25	<4	5	0.25	14.4	15.2	11.9	0.31
6-Nov-25	7	119	0.31	12.3	17.8	10.9	0.19
10-Dec-25	14	22	0.39	14.9	15.9	3.16	<0.3
17-Dec-25	<10	8	0.2	20.2	20.7	6.22	0.1
26-Dec-25	9	13	0.2	14.2	15.1	4.31	0.04
28-Dec-25	13	16	0.2	7.9	8.3	3.24	0.04

Notes:

- (1) CBOD5 = Carbonaceous Biochemical Oxygen Demand; TSS = Total Suspended Solids; TP = Total Phosphorus; TKN = Total Kjeldahl Nitrogen, TAN = Total Ammonia Nitrogen

12.2 Overflows

In a primary overflow, influent goes through preliminary and primary treatment, bypasses secondary treatment and UV disinfection, and is disinfected with sodium hypochlorite. The primary overflow does not discharge through the final effluent sampling point; however, it does discharge via the approved outfall into the Detroit River. Primary overflow occurs when the primary effluent level exceeds the weir prior to the primary effluent pump station.

In a raw overflow, influent goes through preliminary treatment, bypasses primary and secondary treatment and UV disinfection, and is disinfected with sodium hypochlorite. The raw overflow does not discharge through the final effluent sampling point; however, it does discharge via the approved outfall into the Detroit River. Raw overflow occurs when the preliminary effluent exceeds the weir prior to the Parshall flumes.

In accordance with Section 5 of the ECA, the MECP's Spills Action Centre (SAC) and the local Medical Officer of Health are notified at the beginning and end of each overflow, additional sampling of the overflow was completed, and the overflows were reported upon monthly.

A summary of the overflows for the current reporting period are presented in **Table 12.3**, and a summary of historical overflows are presented in **Table 12.4**.

In 2025, LRWRP had 13 primary overflows. The primary overflows in 2025 were caused by heavy precipitation and power outages. In total, 186 ML of primary effluent bypassed secondary treatment and UV disinfection, which is less than 1% of the total annual effluent flow. The number of primary overflow events was similar to the previous five years; however, the total volume of the primary overflow events was less compared to the previous five years.

In 2025, LRWRP had no raw overflows. Since 2022, there has only been one raw overflow at the Plant.

Table 12.3: 2025 Overflow Summary

Month	Raw Overflow			Primary Overflow			Precipitation (mm)
	Volume (ML)	# of Events	Duration (Hours)	Volume (ML)	# of Events	Duration (Hours)	
January	0	0	0	9.149	1	2.3	24.7
February	0	0	0	0	0	0	18.0
March	0	0	0	3.919	1	6.1	47.4
April	0	0	0	82.604	1	26.6	55.9
May	0	0	0	26.970	1	5.1	65.6
June	0	0	0	21.611	2	18.2	86.5
July	0	0	0	4.098	2	8.5	88.9
August	0	0	0	0	0	0	27.4
September	0	0	0	29.410	3	11.0	38.4
October	0	0	0	0	0	0	22.6
November	0	0	0	0	0	0	34.2
December	0	0	0	7.922	2	5.7	47.4

Notes:

- (1) Precipitation data from Environment Canada's Windsor A Station.

Table 12.4: Historical Overflow Summary

Year	Raw Overflow			Primary Overflow			Precipitation (mm)
	Volume (ML)	# of Events	Duration (Hours)	Volume (ML)	# of Events	Duration (Hours)	
2020	68.00	7	62	954.02	25	236	814.1
2021	43.72	6	43	746.08	16	188	816.1
2022	0	0	0	240.71	11	66	596.2
2023	0	0	0	599.13	14	136	917.1
2024	3.19	1	9	536.15	15	125	857.3
2025	0	0	0	185.68	13	83.5	557.0

In accordance with Section 5.5 of the ECA, samples were collected of the overflow effluent near the beginning of the overflow event, and every eight hours for the duration of the overflow event. A summary of primary overflow monitoring data is presented in **Table 12.5**.

Table 12.5: 2025 Primary Overflow Monitoring Data

Date	Time	BOD5 (mg/L)	TSS (mg/L)	TP (mg/L)	TKN (mg/L)
31-Jan-25	18:02	73	93	1.42	13.9
5-Mar-25	16:53	83	71	0.95	10.4
2-Apr-25	12:15	102	121	0.72	19.1
2-Apr-25	19:00	25	62	0.58	7.3
3-Apr-25	3:00	18	33	0.42	5.2
3-Apr-25	11:00	13	6	0.57	3.8
3-Apr-25	19:00	42	21	0.38	6.2
4-May-25	20:57	159	176	0.81	11.7
5-Jun-25	1:20	63	118	1.21	14.1
5-Jun-25	8:00	61	79	0.69	6.4
18-Jun-25	15:00	<10	163	1.51	19.7
18-Jun-25	23:00	92	343	0.53	9.1
12-Jul-25	15:15	31	52	0.42	10.8
31-Jul-25	7:51	83	92	0.74	10.5
4-Sep-25	6:47	70	131	4.38	13.3
18-Sep-25	21:00	104	87	1.90	28.8
24-Sep-25	8:40	160	430	6.7	33.0
10-Dec-25	16:40	102	108	1.42	16.4
28-Dec-25	13:30	26	36	0.79	14.0

Notes:

- (1) BOD5 = Biochemical Oxygen Demand; TSS = Total Suspended Solids; TP = Total Phosphorus; TKN = Total Kjeldahl Nitrogen

12.3 Spills and Abnormal Discharge Events

A spill is defined as a pollutant discharged into the natural environment, from or out of a structure, vehicle or other container, and that is abnormal in quality or quantity per the Environmental Protection Act, R.S.O, 1990, c. E.19. An abnormal discharge is defined as a discharge of a pollutant designated by the regulations at a location designated by the regulations in a quantity or with a quality abnormal at the location per the Environmental Protection Act, R.S.O, 1990, c. E.19.

In 2025, LRWRP had no spills or abnormal discharge events outside of those bypasses and overflows discussed above.

13. Notice of Modifications to Sewage Works

This section presents a summary of Notice of Modification to Sewage Works completed under Section 10.1(d), including a report on the status of implementation of all modifications per Section 11.4(l) in the ECA.

There were no modifications to the LRWRP that required a Notice of Modification to Sewage Works form to be submitted in 2025.

14. Efforts Made to Conform with Procedures F-5-1 and F-5-5

This section presents a summary of efforts made to achieve conformance with Procedures F-5-1: Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works (Procedure F-5-1) and F-5-5: Determination of Treatment Requirements for Municipal and Private Combined (Procedure F-5-5) per Section 11.4(m) of the ECA.

As discussed in **Section 1**, the LRWRP includes secondary treatment consisting of biological aeration filtration. The final effluent Design Objectives and Compliance Limits listed in the ECA are more stringent compared to the concentrations listed in Table 1 of Procedure F-5-1. A comparison of the final effluent discharge to the Design Objectives and Compliance Limits is presented in **Section 3**. Bypasses and overflows at the LRWRP for the current reporting year are discussed in **Section 12**.

The City completed the 2020 Sewer and Coastal Flooding Protection Master Plan (Sewer Master Plan), which took a system-wide approach to identify existing flood-prone areas for surface, basement and coastal flooding, and recommended solutions to address and reduce the risk of flooding during extreme rainfalls. The Sewer Master Plan included short and long-term actions proposed to be implemented over the next 50 plus years at a cost of approximately \$5,000,000,000. Implementation of these recommendations are anticipated to reduce wet weather flows to the sanitary and combined sewage systems, reduce the associated peak rate and volume of wet weather flow conveyed to the LRWRP, reduce bypasses and overflows at the LRWRP and reduce combined sewer overflows in other areas of the sewage system.

Sewer separation works continue during construction improvement projects which will continue to reduce combined sewer overflows (CSOs). A new retention treatment basin is currently under design, located near the LRWRP, which will also reduce overflows and CSOs.

15. Changes to Schedules and Proposed Works

This section presents changes or updates to the schedule for the completion of construction and commissioning of major processes and equipment groups in the proposed works per Section 11.4(n) in the ECA.

There are no proposed works listed in the ECA, as such there were no changes or updates this reporting year. Repair and maintenance activities are discussed in **Section 6**. The following capital improvement projects were initiated or completed in the current reporting year:

- Administration Building
 - Plant Perimeter Security Upgrades – Completed
 - Mechanical Workshop Fire Safety Upgrade – In Progress
 - Server Room Fire Safety & Security Upgrade – In Progress
 - Lab Renovations – Completed
 - Window, Door Repair and Replacement – In Progress
 - Office and Control Room Flooring - Completed
 - Plant Control Room Desk – In Progress
- Main Plant Substation
 - Power Switch Gear Replacement – In Progress
- Main Pumphouse
 - Replacement of Raw Sewage Pump VFDs – In Progress
 - Replacement of Isolation Valves – In Progress
 - Refurbishment of MPH Raw Sewage Pump no. 2 - Completed
 - Refurbishment of MPH Raw Sewage Pump no. 1 – In Progress
 - MPH Roof Repair – In Progress
 - Installation of Platform for Actuators and Check Valves – In Progress
- Chemical Building
 - New Sodium Hypochlorite Disinfection System – In Progress
 - Chemical Building Flooring – Completed
- Service Building (Electrical)
 - Drainage System and Washroom Facility Upgrades - Completed
- Biological Aerated Filtration Facility (BAF)
 - BAF Cells 1 to 4 Concrete Repairs – Completed
 - Refurbishment of BAF Cells 4, 5, 9 and 12 – In Progress
 - Refurbishment of BAF Cell 16 – In Progress

- Primary Settling Tanks
 - Weirs Leveling – Completed
- Primary Effluent Pumping Station (PEP)
 - PEP #2 lower bearing replacement
- Dewatering Facility
 - Centrifuge No. 1 Brake Resistor Installation - Completed
 - Upsizing sludge hopper unloader motor and controls – In Progress
 - Centrifuge No. 3 VFD Replacement – In Progress
 - Centrifuge #1 Foundation Rehabilitation (Grouting and Stabilization) – Completed
 - Replacement of Dewatering Centrifuge level make up air unit – Completed
 - Conveyor Room Floor Steel Repairs – In Progress
 - Sludge Holding Tank Rehabilitation – Completed
- Ultraviolet Disinfection Facility (UV)
 - UV Module Replacement – Purchased/In Progress
- Services
 - Central Drainage System Replacement – In Progress

Appendix A: Current Year and Next Year Monitoring Schedules

2025 LRWRP/LRPCP MECP ECA & ECCC WSER Testing Schedule

Jan-25	Feb-25	Mar-25
Wednesday, 1 January 2025	Saturday, 1 February 2025	Saturday, 1 March 2025
Thursday, 2 January 2025	Sunday, 2 February 2025	Sunday, 2 March 2025
Friday, 3 January 2025	Monday, 3 February 2025	Monday, 3 March 2025
Saturday, 4 January 2025	Tuesday, 4 February 2025	Tuesday, 4 March 2025
Sunday, 5 January 2025	Wednesday, 5 February 2025	Wednesday, 5 March 2025
Monday, 6 January 2025	Thursday, 6 February 2025	Thursday, 6 March 2025
Tuesday, 7 January 2025	Friday, 7 February 2025	Friday, 7 March 2025
Wednesday, 8 January 2025	Saturday, 8 February 2025	Saturday, 8 March 2025
Thursday, 9 January 2025	Sunday, 9 February 2025	Sunday, 9 March 2025
Friday, 10 January 2025	Monday, 10 February 2025	Monday, 10 March 2025
Saturday, 11 January 2025	Tuesday, 11 February 2025	Tuesday, 11 March 2025
Sunday, 12 January 2025	Wednesday, 12 February 2025	Wednesday, 12 March 2025
Monday, 13 January 2025	Thursday, 13 February 2025	Thursday, 13 March 2025
Tuesday, 14 January 2025	Friday, 14 February 2025	Friday, 14 March 2025
Wednesday, 15 January 2025	Saturday, 15 February 2025	Saturday, 15 March 2025
Thursday, 16 January 2025	Sunday, 16 February 2025	Sunday, 16 March 2025
Friday, 17 January 2025	Monday, 17 February 2025	Monday, 17 March 2025
Saturday, 18 January 2025	Tuesday, 18 February 2025	Tuesday, 18 March 2025
Sunday, 19 January 2025	Wednesday, 19 February 2025	Wednesday, 19 March 2025
Monday, 20 January 2025	Thursday, 20 February 2025	Thursday, 20 March 2025
Tuesday, 21 January 2025	Friday, 21 February 2025	Friday, 21 March 2025
Wednesday, 22 January 2025	Saturday, 22 February 2025	Saturday, 22 March 2025
Thursday, 23 January 2025	Sunday, 23 February 2025	Sunday, 23 March 2025
Friday, 24 January 2025	Monday, 24 February 2025	Monday, 24 March 2025
Saturday, 25 January 2025	Tuesday, 25 February 2025	Tuesday, 25 March 2025
Sunday, 26 January 2025	Wednesday, 26 February 2025	Wednesday, 26 March 2025
Monday, 27 January 2025	Thursday, 27 February 2025	Thursday, 27 March 2025
Tuesday, 28 January 2025	Friday, 28 February 2025	Friday, 28 March 2025
Wednesday, 29 January 2025	Saturday, 1 March 2025	Saturday, 29 March 2025
Thursday, 30 January 2025		Sunday, 30 March 2025
Friday, 31 January 2025		Monday, 31 March 2025

1 - Holiday

2A - Composite - Monthly - LRWRP & LRPCP Influent/Effluent

2B - Composite - Monthly - LRWRP & LRPCP Sludge

3 - Composite - Weekly - LRWRP & LRPCP Influent/Effluent

4 - Composite - 2nd Weekly - LRWRP Effluent (CBOD & TSS)

5 - Grab - Weekly - LRWRP & LRPCP Effluent - E. Coli **

6 - Grab - Annual - LRWRP/LRPCP Effluent Toxicity

7 - Grab - Monthly - LRWRP Imported Sewage

8 - Composite - Quarterly - LRWRP Effluent Industrial Wastewater Related

9 - Grab - Quarterly - LRWRP Effluent Leachate Related

10 - Grab - Annual - LRWRP/LRPCP Sludge & Influent/Effluent (Trace Organics)

** LRWRP - WSER Acute Lethality RT testing is quarterly unless of test failure (>50% mortality), then testing reverts to monthly as per WSER (federal regulation)

** LRWRP - ECA Acute Lethality RT & DM testing is annually unless of test failure (>50% mortality), then testing reverts to quarterly as per MECP ECA (provincial regulation), see LRWRP ECA Condition 9(4) & Schedule D for details)

**LRPCP - Effluent E. Coli must be monitored during the disinfection period from May 1 through October 31

Note: In the event of a holiday or a missed sample, the scheduled sampling date shall be moved to the next available date

LRWRP - Plant operations outside of Normal Operating Conditions - occurs when primary or secondary daily flow exceeds the available capacity for the day

Effluent Composite - CBOD TSS TP NH3 TKN NO2 NO3

LRWRP - Raw Sewage or Primary Overflow
BOD TSS TP TKN

LRPCP - Primary Overflow
BOD TSS TP E. Coli

2025 LRWRP/LRPCP MECP ECA & ECCC WSER Testing Schedule

Apr-25		May-25		Jun-25	
Tuesday, 1 April 2025	3	Thursday, 1 May 2025	4 5	Sunday, 1 June 2025	
Wednesday, 2 April 2025		Friday, 2 May 2025		Monday, 2 June 2025	
Thursday, 3 April 2025	4 5	Saturday, 3 May 2025		Tuesday, 3 June 2025	3
Friday, 4 April 2025		Sunday, 4 May 2025		Wednesday, 4 June 2025	
Saturday, 5 April 2025		Monday, 5 May 2025		Thursday, 5 June 2025	4 5
Sunday, 6 April 2025		Tuesday, 6 May 2025	3	Friday, 6 June 2025	
Monday, 7 April 2025	2A 2B 7	Wednesday, 7 May 2025		Saturday, 7 June 2025	
Tuesday, 8 April 2025	3	Thursday, 8 May 2025	4 5	Sunday, 8 June 2025	
Wednesday, 9 April 2025		Friday, 9 May 2025		Monday, 9 June 2025	2A 2B 7
Thursday, 10 April 2025	4 5	Saturday, 10 May 2025		Tuesday, 10 June 2025	3
Friday, 11 April 2025		Sunday, 11 May 2025		Wednesday, 11 June 2025	
Saturday, 12 April 2025		Monday, 12 May 2025	2A 2B 7	Thursday, 12 June 2025	4 5
Sunday, 13 April 2025		Tuesday, 13 May 2025	3	Friday, 13 June 2025	
Monday, 14 April 2025	8 9	Wednesday, 14 May 2025		Saturday, 14 June 2025	
Tuesday, 15 April 2025	3	Thursday, 15 May 2025	4 5	Sunday, 15 June 2025	
Wednesday, 16 April 2025		Friday, 16 May 2025		Monday, 16 June 2025	
Thursday, 17 April 2025	4 5	Saturday, 17 May 2025		Tuesday, 17 June 2025	3 6
Friday, 18 April 2025	1	Sunday, 18 May 2025		Wednesday, 18 June 2025	10
Saturday, 19 April 2025		Monday, 19 May 2025	1	Thursday, 19 June 2025	4 5
Sunday, 20 April 2025		Tuesday, 20 May 2025	3	Friday, 20 June 2025	
Monday, 21 April 2025	1	Wednesday, 21 May 2025		Saturday, 21 June 2025	
Tuesday, 22 April 2025	3	Thursday, 22 May 2025	4 5	Sunday, 22 June 2025	
Wednesday, 23 April 2025		Friday, 23 May 2025		Monday, 23 June 2025	
Thursday, 24 April 2025	4 5	Saturday, 24 May 2025		Tuesday, 24 June 2025	3
Friday, 25 April 2025		Sunday, 25 May 2025		Wednesday, 25 June 2025	
Saturday, 26 April 2025		Monday, 26 May 2025		Thursday, 26 June 2025	4 5
Sunday, 27 April 2025		Tuesday, 27 May 2025	3	Friday, 27 June 2025	
Monday, 28 April 2025		Wednesday, 28 May 2025		Saturday, 28 June 2025	
Tuesday, 29 April 2025	3	Thursday, 29 May 2025	4 5	Sunday, 29 June 2025	
Wednesday, 30 April 2025		Friday, 30 May 2025		Monday, 30 June 2025	
		Saturday, 31 May 2025			

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2A - Composite - Monthly - LRWRP & LRPCP Influent/Effluent

2B - Composite - Monthly - LRWRP & LRPCP Sludge

3 - Composite - Weekly - LRWRP & LRPCP Influent/Effluent

4 - Composite - 2nd Weekly - LRWRP Effluent (CBOD & TSS)

5 - Grab - Weekly - LRWRP & LRPCP Effluent - E. Coli **

6 - Grab - Annual - LRWRP/LRPCP Effluent Toxicity

7 - Grab - Monthly - LRWRP Imported Sewage

8 - Composite - Quarterly - LRWRP Effluent Industrial Wastewater Related

9 - Grab - Quarterly - LRWRP Effluent Leachate Related

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LRWRP - Plant operations outside of Normal Operating Conditions - occurs when primary or secondary daily flow exceeds the available capacity for the day

Effluent Composite - CBOD TSS TP NH3 TKN NO2 NO3

LRWRP - Raw Sewage or Primary Overflow

BOD TSS TP TKN

LRPCP - Primary Overflow

BOD TSS TP E. Coli



2025 LRWRP/LRPCP MECP ECA & ECCC WSER Testing Schedule

Jul-25			Aug-25			Sep-25		
Tuesday, 1 July 2025	1	3	Friday, 1 August 2025			Monday, 1 September 2025	1	
Wednesday, 2 July 2025			Saturday, 2 August 2025			Tuesday, 2 September 2025	3	
Thursday, 3 July 2025	4	5	Sunday, 3 August 2025			Wednesday, 3 September 2025		
Friday, 4 July 2025			Monday, 4 August 2025	1		Thursday, 4 September 2025	4	5
Saturday, 5 July 2025			Tuesday, 5 August 2025	3		Friday, 5 September 2025		
Sunday, 6 July 2025			Wednesday, 6 August 2025			Saturday, 6 September 2025		
Monday, 7 July 2025	2A	2B 7	Thursday, 7 August 2025	4	5	Sunday, 7 September 2025		
Tuesday, 8 July 2025	3		Friday, 8 August 2025			Monday, 8 September 2025	2A	2B 7
Wednesday, 9 July 2025			Saturday, 9 August 2025			Tuesday, 9 September 2025	3	
Thursday, 10 July 2025	4	5	Sunday, 10 August 2025			Wednesday, 10 September 2025		
Friday, 11 July 2025			Monday, 11 August 2025	2A	2B 7	Thursday, 11 September 2025	4	5
Saturday, 12 July 2025			Tuesday, 12 August 2025	3		Friday, 12 September 2025		
Sunday, 13 July 2025			Wednesday, 13 August 2025			Saturday, 13 September 2025		
Monday, 14 July 2025			Thursday, 14 August 2025	4	5	Sunday, 14 September 2025		
Tuesday, 15 July 2025	3		Friday, 15 August 2025			Monday, 15 September 2025		
Wednesday, 16 July 2025			Saturday, 16 August 2025			Tuesday, 16 September 2025	3	
Thursday, 17 July 2025	4	5	Sunday, 17 August 2025			Wednesday, 17 September 2025		
Friday, 18 July 2025			Monday, 18 August 2025			Thursday, 18 September 2025	4	5
Saturday, 19 July 2025			Tuesday, 19 August 2025	3		Friday, 19 September 2025		
Sunday, 20 July 2025			Wednesday, 20 August 2025			Saturday, 20 September 2025		
Monday, 21 July 2025	8	9	Thursday, 21 August 2025	4	5	Sunday, 21 September 2025		
Tuesday, 22 July 2025	3		Friday, 22 August 2025			Monday, 22 September 2025		
Wednesday, 23 July 2025			Saturday, 23 August 2025			Tuesday, 23 September 2025	3	
Thursday, 24 July 2025	4	5	Sunday, 24 August 2025			Wednesday, 24 September 2025		
Friday, 25 July 2025			Monday, 25 August 2025			Thursday, 25 September 2025	4	5
Saturday, 26 July 2025			Tuesday, 26 August 2025	3		Friday, 26 September 2025		
Sunday, 27 July 2025			Wednesday, 27 August 2025			Saturday, 27 September 2025		
Monday, 28 July 2025			Thursday, 28 August 2025	4	5	Sunday, 28 September 2025		
Tuesday, 29 July 2025	3		Friday, 29 August 2025			Monday, 29 September 2025		
Wednesday, 30 July 2025			Saturday, 30 August 2025			Tuesday, 30 September 2025	1	3
Thursday, 31 July 2025	4	5	Sunday, 31 August 2025					

1 - Holiday

2A - Composite - Monthly - LRWRP & LRPCP Influent/Effluent

2B - Composite - Monthly - LRWRP & LRPCP Sludge

3 - Composite - Weekly - LRWRP & LRPCP Influent/Effluent

4 - Composite - 2nd Weekly - LRWRP Effluent (CBOD & TSS)

5 - Grab - Weekly - LRWRP & LRPCP Effluent - E. Coli **

6 - Grab - Annual - LRWRP/LRPCP Effluent Toxicity

7 - Grab - Monthly - LRWRP Imported Sewage

8 - Composite - Quarterly - LRWRP Effluent Industrial Wastewater Related

9 - Grab - Quarterly - LRWRP Effluent Leachate Related

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Note: In the event of a holiday or a missed sample, the scheduled sampling date shall be moved to the next available date

LRWRP - Plant operations outside of Normal Operating Conditions - occurs when primary or secondary daily flow exceeds the available capacity for the day

Effluent Composite - CBOD TSS TP NH3 TKN NO2 NO3

LRWRP - Raw Sewage or Primary Overflow

BOD TSS TP TKN

LRPCP - Primary Overflow

BOD TSS TP E. Coli

2025 LRWRP/LRPCP MECP ECA & ECCC WSER Testing Schedule

ONTARIO, CANADA

Oct-25			Nov-25			Dec-25		
Wednesday, 1 October 2025			Saturday, 1 November 2025			Monday, 1 December 2025		
Thursday, 2 October 2025	4	5	Sunday, 2 November 2025			Tuesday, 2 December 2025		
Friday, 3 October 2025			Monday, 3 November 2025			2A	2B	7
Saturday, 4 October 2025			Tuesday, 4 November 2025			3		
Sunday, 5 October 2025			Wednesday, 5 November 2025			Wednesday, 3 December 2025		
Monday, 6 October 2025	2A	2B	7	Thursday, 6 November 2025			4	5
Tuesday, 7 October 2025			Friday, 7 November 2025			Thursday, 4 December 2025		
Wednesday, 8 October 2025			Saturday, 8 November 2025			Friday, 5 December 2025		
Thursday, 9 October 2025	4	5	Sunday, 9 November 2025			Saturday, 6 December 2025		
Friday, 10 October 2025			Monday, 10 November 2025			Sunday, 7 December 2025		
Saturday, 11 October 2025			Tuesday, 11 November 2025			1	3	
Sunday, 12 October 2025			Wednesday, 12 November 2025			Monday, 8 December 2025		
Monday, 13 October 2025	1			Thursday, 13 November 2025			4	5
Tuesday, 14 October 2025			Friday, 14 November 2025			Tuesday, 9 December 2025		
Wednesday, 15 October 2025			Saturday, 15 November 2025			Wednesday, 10 December 2025		
Thursday, 16 October 2025	4	5	Sunday, 16 November 2025			Thursday, 11 December 2025		
Friday, 17 October 2025			Monday, 17 November 2025			Friday, 12 December 2025		
Saturday, 18 October 2025			Tuesday, 18 November 2025			3		
Sunday, 19 October 2025			Wednesday, 19 November 2025			Saturday, 13 December 2025		
Monday, 20 October 2025	8	9	Thursday, 20 November 2025			4	5	
Tuesday, 21 October 2025			Friday, 21 November 2025			Sunday, 14 December 2025		
Wednesday, 22 October 2025			Saturday, 22 November 2025			Monday, 15 December 2025		
Thursday, 23 October 2025	4	5	Sunday, 23 November 2025			Tuesday, 16 December 2025		
Friday, 24 October 2025			Monday, 24 November 2025			Wednesday, 17 December 2025		
Saturday, 25 October 2025			Tuesday, 25 November 2025			3		
Sunday, 26 October 2025			Wednesday, 26 November 2025			Thursday, 18 December 2025		
Monday, 27 October 2025			Thursday, 27 November 2025			4	5	
Tuesday, 28 October 2025			Friday, 28 November 2025			Friday, 19 December 2025		
Wednesday, 29 October 2025			Saturday, 29 November 2025			Saturday, 20 December 2025		
Thursday, 30 October 2025	4	5	Sunday, 30 November 2025			Sunday, 21 December 2025		
Friday, 31 October 2025						Monday, 22 December 2025		
						Tuesday, 23 December 2025		
						Wednesday, 24 December 2025		
						Thursday, 25 December 2025		
						Friday, 26 December 2025		
						Saturday, 27 December 2025		
						Sunday, 28 December 2025		
						Monday, 29 December 2025		
						Tuesday, 30 December 2025		
						Wednesday, 31 December 2025		

1 - Holiday

2A - Composite - Monthly - LRWRP & LRPCP Influent/Effluent

2B - Composite - Monthly - LRWRP & LRPCP Sludge

3 - Composite - Weekly - LRWRP & LRPCP Influent/Effluent

4 - Composite - 2nd Weekly - LRWRP Effluent (CBOD & TSS)

5 - Grab - Weekly - LRWRP & LRPCP Effluent - E. Coli **

6 - Grab - Annual - LRWRP/LRPCP Effluent Toxicity

7 - Grab - Monthly - LRWRP Imported Sewage

8 - Composite - Quarterly - LRWRP Effluent Industrial Wastewater Related

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LRWRP - Plant operations outside of Normal Operating Conditions - occurs when primary or secondary daily flow exceeds the available capacity for the day

Effluent Composite - CBOD TSS TP NH3 TKN NO2 NO3

LRWRP - Raw Sewage or Primary Overflow

BOD TSS TP TKN

LRPCP - Primary Overflow

BOD TSS TP E. Coli

2026 LRWRP/LRPCP MECP ECA & ECCC WSER Testing Schedule

Jan-26	Feb-26	Mar-26
Thursday, 1 January 2026 1	Sunday, 1 February 2026	Sunday, 1 March 2026
Friday, 2 January 2026	Monday, 2 February 2026 3 5	Monday, 2 March 2026 3 5
Saturday, 3 January 2026	Tuesday, 3 February 2026 2A 7	Tuesday, 3 March 2026 2A 7
Sunday, 4 January 2026	Wednesday, 4 February 2026 4 2B	Wednesday, 4 March 2026 4 2B
Monday, 5 January 2026 3 5	Thursday, 5 February 2026	Thursday, 5 March 2026
Tuesday, 6 January 2026 2A 7	Friday, 6 February 2026	Friday, 6 March 2026
Wednesday, 7 January 2026 4 2B	Saturday, 7 February 2026	Saturday, 7 March 2026
Thursday, 8 January 2026	Sunday, 8 February 2026	Sunday, 8 March 2026
Friday, 9 January 2026	Monday, 9 February 2026 3 5	Monday, 9 March 2026 3 5
Saturday, 10 January 2026	Tuesday, 10 February 2026 8 9	Tuesday, 10 March 2026
Sunday, 11 January 2026	Wednesday, 11 February 2026 4	Wednesday, 11 March 2026 4
Monday, 12 January 2026 3 5	Thursday, 12 February 2026	Thursday, 12 March 2026
Tuesday, 13 January 2026	Friday, 13 February 2026	Friday, 13 March 2026
Wednesday, 14 January 2026 4	Saturday, 14 February 2026	Saturday, 14 March 2026
Thursday, 15 January 2026	Sunday, 15 February 2026	Sunday, 15 March 2026
Friday, 16 January 2026	Monday, 16 February 2026 3	Monday, 16 March 2026 3 5
Saturday, 17 January 2026	Tuesday, 17 February 2026 5	Tuesday, 17 March 2026
Sunday, 18 January 2026	Wednesday, 18 February 2026 4	Wednesday, 18 March 2026 4
Monday, 19 January 2026 3 5	Thursday, 19 February 2026	Thursday, 19 March 2026
Tuesday, 20 January 2026	Friday, 20 February 2026	Friday, 20 March 2026
Wednesday, 21 January 2026 4	Saturday, 21 February 2026	Saturday, 21 March 2026
Thursday, 22 January 2026	Sunday, 22 February 2026	Sunday, 22 March 2026
Friday, 23 January 2026	Monday, 23 February 2026 3 5	Monday, 23 March 2026 3 5
Saturday, 24 January 2026	Tuesday, 24 February 2026	Tuesday, 24 March 2026
Sunday, 25 January 2026	Wednesday, 25 February 2026 4	Wednesday, 25 March 2026 4
Monday, 26 January 2026 3 5	Thursday, 26 February 2026	Thursday, 26 March 2026
Tuesday, 27 January 2026	Friday, 27 February 2026	Friday, 27 March 2026
Wednesday, 28 January 2026 4	Saturday, 28 February 2026	Saturday, 28 March 2026
Thursday, 29 January 2026		Sunday, 29 March 2026
Friday, 30 January 2026		Monday, 30 March 2026 3 5
Saturday, 31 January 2026		Tuesday, 31 March 2026

1 - Holiday

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2B - Composite - Monthly - LRWRP & LRPCP Sludge

3 - Composite - Weekly - LRWRP & LRPCP Influent/Effluent

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BOD TSS TP TKN

LRPCP - Primary Overflow
BOD TSS TP E. Coli

2026 LRWRP/LRPCP MECP ECA & ECCC WSER Testing Schedule

Apr-26		May-26		Jun-26	
Wednesday, 1 April 2026	4	Friday, 1 May 2026		Monday, 1 June 2026	3 5
Thursday, 2 April 2026		Saturday, 2 May 2026		Tuesday, 2 June 2026	2A 7
Friday, 3 April 2026	1	Sunday, 3 May 2026		Wednesday, 3 June 2026	4 2B
Saturday, 4 April 2026		Monday, 4 May 2026	3 5	Thursday, 4 June 2026	
Sunday, 5 April 2026		Tuesday, 5 May 2026	2A 7	Friday, 5 June 2026	
Monday, 6 April 2026	3	Wednesday, 6 May 2026	4 2B	Saturday, 6 June 2026	
Tuesday, 7 April 2026	5 2A 7	Thursday, 7 May 2026		Sunday, 7 June 2026	
Wednesday, 8 April 2026	4 2B	Friday, 8 May 2026		Monday, 8 June 2026	3 5
Thursday, 9 April 2026		Saturday, 9 May 2026		Tuesday, 9 June 2026	
Friday, 10 April 2026		Sunday, 10 May 2026		Wednesday, 10 June 2026	4
Saturday, 11 April 2026		Monday, 11 May 2026	3 5	Thursday, 11 June 2026	
Sunday, 12 April 2026		Tuesday, 12 May 2026	8 9	Friday, 12 June 2026	
Monday, 13 April 2026	3 5	Wednesday, 13 May 2026	4	Saturday, 13 June 2026	
Tuesday, 14 April 2026	6	Thursday, 14 May 2026		Sunday, 14 June 2026	
Wednesday, 15 April 2026	4	Friday, 15 May 2026		Monday, 15 June 2026	3 5
Thursday, 16 April 2026		Saturday, 16 May 2026		Tuesday, 16 June 2026	
Friday, 17 April 2026		Sunday, 17 May 2026		Wednesday, 17 June 2026	4
Saturday, 18 April 2026		Monday, 18 May 2026	3	Thursday, 18 June 2026	
Sunday, 19 April 2026		Tuesday, 19 May 2026	5	Friday, 19 June 2026	
Monday, 20 April 2026	3 5	Wednesday, 20 May 2026	4	Saturday, 20 June 2026	
Tuesday, 21 April 2026		Thursday, 21 May 2026		Sunday, 21 June 2026	
Wednesday, 22 April 2026	4	Friday, 22 May 2026		Monday, 22 June 2026	3 5
Thursday, 23 April 2026		Saturday, 23 May 2026		Tuesday, 23 June 2026	
Friday, 24 April 2026		Sunday, 24 May 2026		Wednesday, 24 June 2026	4
Saturday, 25 April 2026		Monday, 25 May 2026	3 5	Thursday, 25 June 2026	
Sunday, 26 April 2026		Tuesday, 26 May 2026		Friday, 26 June 2026	
Monday, 27 April 2026	3 5	Wednesday, 27 May 2026	4	Saturday, 27 June 2026	
Tuesday, 28 April 2026		Thursday, 28 May 2026		Sunday, 28 June 2026	
Wednesday, 29 April 2026	4	Friday, 29 May 2026		Monday, 29 June 2026	3 5
		Saturday, 30 May 2026		Tuesday, 30 June 2026	
		Sunday, 31 May 2026			

1 - Holiday

2 - Composite - Monthly - LRWRP & LRPCP Influent/Effluent

2 - Composite - Monthly - LRWRP & LRPCP Sludge

3 - Composite - Weekly - LRWRP & LRPCP Influent/Effluent

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LRWRP - Raw Sewage or Primary Overflow
BOD TSS TP TKN

LRPCP - Primary Overflow
BOD TSS TP E. Coli



2026 LRWRP/LRPCP MECP ECA & ECCC WSER Testing Schedule

Jul-26		Aug-26		Sep-26	
Wednesday, 1 July 2026	4	Saturday, 1 August 2026		Tuesday, 1 September 2026	2A 7
Thursday, 2 July 2026		Sunday, 2 August 2026		Wednesday, 2 September 2026	4 2B
Friday, 3 July 2026		Monday, 3 August 2026	3	Thursday, 3 September 2026	
Saturday, 4 July 2026		Tuesday, 4 August 2026	5 2A 7	Friday, 4 September 2026	
Sunday, 5 July 2026		Wednesday, 5 August 2026	4 2B	Saturday, 5 September 2026	
Monday, 6 July 2026	3 5	Thursday, 6 August 2026		Sunday, 6 September 2026	
Tuesday, 7 July 2026	2A 7	Friday, 7 August 2026		Monday, 7 September 2026	3
Wednesday, 8 July 2026	4 2B	Saturday, 8 August 2026		Tuesday, 8 September 2026	5
Thursday, 9 July 2026		Sunday, 9 August 2026		Wednesday, 9 September 2026	4
Friday, 10 July 2026		Monday, 10 August 2026	3 5	Thursday, 10 September 2026	
Saturday, 11 July 2026		Tuesday, 11 August 2026	8 9	Friday, 11 September 2026	
Sunday, 12 July 2026		Wednesday, 12 August 2026	4	Saturday, 12 September 2026	
Monday, 13 July 2026	3 5	Thursday, 13 August 2026		Sunday, 13 September 2026	
Tuesday, 14 July 2026	10	Friday, 14 August 2026		Monday, 14 September 2026	3 5
Wednesday, 15 July 2026	4	Saturday, 15 August 2026		Tuesday, 15 September 2026	
Thursday, 16 July 2026		Sunday, 16 August 2026		Wednesday, 16 September 2026	4
Friday, 17 July 2026		Monday, 17 August 2026	3 5	Thursday, 17 September 2026	
Saturday, 18 July 2026		Tuesday, 18 August 2026		Friday, 18 September 2026	
Sunday, 19 July 2026		Wednesday, 19 August 2026	4	Saturday, 19 September 2026	
Monday, 20 July 2026	3 5	Thursday, 20 August 2026		Sunday, 20 September 2026	
Tuesday, 21 July 2026		Friday, 21 August 2026		Monday, 21 September 2026	3 5
Wednesday, 22 July 2026	4	Saturday, 22 August 2026		Tuesday, 22 September 2026	
Thursday, 23 July 2026		Sunday, 23 August 2026		Wednesday, 23 September 2026	4
Friday, 24 July 2026		Monday, 24 August 2026	3 5	Thursday, 24 September 2026	
Saturday, 25 July 2026		Tuesday, 25 August 2026		Friday, 25 September 2026	
Sunday, 26 July 2026		Wednesday, 26 August 2026	4	Saturday, 26 September 2026	
Monday, 27 July 2026	3 5	Thursday, 27 August 2026		Sunday, 27 September 2026	
Tuesday, 28 July 2026		Friday, 28 August 2026		Monday, 28 September 2026	3 5
Wednesday, 29 July 2026	4	Saturday, 29 August 2026		Tuesday, 29 September 2026	
Thursday, 30 July 2026		Sunday, 30 August 2026		Wednesday, 30 September 2026	4
Friday, 31 July 2026		Monday, 31 August 2026	3 5		

1 - Holiday

2 - Composite - Monthly - LRWRP & LRPCP Influent/Effluent

2 - Composite - Monthly - LRWRP & LRPCP Sludge

3 - Composite - Weekly - LRWRP & LRPCP Influent/Effluent

4 - Composite - 2nd Weekly - LRWRP Effluent (CBOD & TSS)

5 - Grab - Weekly - LRWRP & LRPCP Effluent - E. Coli **

6 - Grab - Annual - LRWRP/LRPCP Effluent Toxicity

7 - Grab - Monthly - LRWRP Imported Sewage

8 - Composite - Quarterly - LRWRP Effluent Industrial Wastewater Related

9 - Grab - Quarterly - LRWRP Effluent Leachate Related

10 - Grab - Annual - LRWRP/LRPCP Sludge & Influent/Effluent (Trace Organics)

** LRWRP - WSER Acute Lethality RT testing is quarterly unless of test failure (>50% mortality), then testing reverts to monthly as per WSER (federal regulation)

** LRWRP - ECA Acute Lethality RT & DM testing is annually unless of test failure (>50% mortality), then testing reverts to quarterly as per MECP ECA (provincial regulation), see LRWRP ECA Condition 9(4) & Schedule D for details)

**LRPCP - Effluent E. Coli must be monitored during the disinfection period from May 1 through October 31

Note: In the event of a holiday or a missed sample, the scheduled sampling date shall be moved to the next available date

LRWRP - Plant operations outside of Normal Operating Conditions - occurs when primary or secondary daily flow exceeds the available capacity for the day

Effluent Composite - CBOD TSS TP NH3 TKN NO2 NO3

LRWRP - Raw Sewage or Primary Overflow

BOD TSS TP TKN

LRPCP - Primary Overflow

BOD TSS TP E. Coli

2026 LRWRP/LRPCP MECP ECA & ECCC WSER Testing Schedule

Oct-26		Nov-26		Dec-26	
Thursday, 1 October 2026		Sunday, 1 November 2026		Tuesday, 1 December 2026	2A 7
Friday, 2 October 2026		Monday, 2 November 2026	3 5	Wednesday, 2 December 2026	4 2B
Saturday, 3 October 2026		Tuesday, 3 November 2026	2A 7	Thursday, 3 December 2026	
Sunday, 4 October 2026		Wednesday, 4 November 2026	4 2B	Friday, 4 December 2026	
Monday, 5 October 2026	3 5	Thursday, 5 November 2026		Saturday, 5 December 2026	
Tuesday, 6 October 2026	2A 7	Friday, 6 November 2026		Sunday, 6 December 2026	
Wednesday, 7 October 2026	4 2B	Saturday, 7 November 2026		Monday, 7 December 2026	3 5
Thursday, 8 October 2026		Sunday, 8 November 2026		Tuesday, 8 December 2026	
Friday, 9 October 2026		Monday, 9 November 2026	3 5	Wednesday, 9 December 2026	4
Saturday, 10 October 2026		Tuesday, 10 November 2026		Thursday, 10 December 2026	
Sunday, 11 October 2026		Wednesday, 11 November 2026	4	Friday, 11 December 2026	
Monday, 12 October 2026	3	Thursday, 12 November 2026		Saturday, 12 December 2026	
Tuesday, 13 October 2026	5	Friday, 13 November 2026		Sunday, 13 December 2026	
Wednesday, 14 October 2026	4	Saturday, 14 November 2026		Monday, 14 December 2026	3 5
Thursday, 15 October 2026		Sunday, 15 November 2026		Tuesday, 15 December 2026	
Friday, 16 October 2026		Monday, 16 November 2026	3 5	Wednesday, 16 December 2026	4
Saturday, 17 October 2026		Tuesday, 17 November 2026	8 9	Thursday, 17 December 2026	
Sunday, 18 October 2026		Wednesday, 18 November 2026	4	Friday, 18 December 2026	
Monday, 19 October 2026	3 5	Thursday, 19 November 2026		Saturday, 19 December 2026	
Tuesday, 20 October 2026		Friday, 20 November 2026		Sunday, 20 December 2026	
Wednesday, 21 October 2026	4	Saturday, 21 November 2026		Monday, 21 December 2026	3 5
Thursday, 22 October 2026		Sunday, 22 November 2026		Tuesday, 22 December 2026	
Friday, 23 October 2026		Monday, 23 November 2026	3 5	Wednesday, 23 December 2026	4
Saturday, 24 October 2026		Tuesday, 24 November 2026		Thursday, 24 December 2026	
Sunday, 25 October 2026		Wednesday, 25 November 2026	4	Friday, 25 December 2026	1
Monday, 26 October 2026	3 5	Thursday, 26 November 2026		Saturday, 26 December 2026	
Tuesday, 27 October 2026		Friday, 27 November 2026		Sunday, 27 December 2026	
Wednesday, 28 October 2026	4	Saturday, 28 November 2026		Monday, 28 December 2026	3
Thursday, 29 October 2026		Sunday, 29 November 2026		Tuesday, 29 December 2026	5
Friday, 30 October 2026		Monday, 30 November 2026	3 5	Wednesday, 30 December 2026	4
Saturday, 31 October 2026				Thursday, 31 December 2026	

1 - Holiday

2 - Composite - Monthly - LRWRP & LRPCP Influent/Effluent

2 - Composite - Monthly - LRWRP & LRPCP Sludge

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5 - Grab - Weekly - LRWRP & LRPCP Effluent - E. Coli **

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8 - Composite - Quarterly - LRWRP Effluent Industrial Wastewater Related

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LRWRP - Raw Sewage or Primary Overflow

BOD TSS TP TKN

LRPCP - Primary Overflow

BOD TSS TP E. Coli

Appendix B: Calibration Certificates

	CALIBRATION REPORT	Report No.: 251001 WW_ADMN_EW_FM1
		Date: 01-Oct-25

SITE: Lou Romano WWTP
PROCESS AREA: Biosolids Flow
INSTR. TAG: WW_ADMN_EW_FM1
MANUFACTURER: Krohne
MODEL: IFC 300
SERIAL No.: C09 1407
INSTR. RANGE: 0-100 l/s

SERVICE DATE: October 1, 2025

TECHNICIAN: Mike Humphries

JOB REFERENCE: 251001

Input (Test)			Output (Signal)		Output (Process)	
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	
Min:	0.00		Min:	4.00	0.00	
Max:	1.72		Max:	20.00	140.00	
DN (mm):	300					
GK=1 GKL=2	1					
GK:	3.7836					
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	8.66	8.67	0.12%	8.67	0.12%
1.00	B	13.32	13.33	0.08%	13.33	0.08%
2.00	C	22.63				
5.00	D	50.58				
10.00	E	97.16				

Calibration Equipment			
Type:	DMM	Flow Simulator	
Manufacturer:	Fluke	Krohne	
Model:	Model 87	GS8 B	
Serial No.:	94140067	U1127700020705	
Last Cal. Date:	March 15, 2024	March 26, 2024	

Comments: Totalizer: AF: 16485494 m³, AL: 16485507 m³
 Coil 132.5

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY: Mike Humphries

Flowmeter Verification Certificate Transmitter

City of Windsor

Customer

Backwash

Order code

PROMAG 50 W DN600

Device type

81080719000

Serial number

V2.00.00

Software Version Transmitter

10/01/2025

Verification date

WWTP

Plant

WW_BAFF_BWP_FM1

Tag Name

1.2871 - 1.2871

K-Factor

-2

Zero point

V1.04.00

Software Version I/O-Module

14:56

Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.55 %
Current Output 1	Passed	0.05 mA
Test Sensor	Passed	

FieldCheck Details

550149

Production number

1.07.10

Software Version

03/2025

Last Calibration Date

Simubox Details

Production number

1.00.01

Software Version

03/2025

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. ¹⁾

The calibration of the Fieldcheck test system is fully traceable to national standards.

¹⁾ Prerequisite is an additional proof of electrode integrity with a high voltage test.

FieldCheck - Result Tab Transmitter

Customer	City of Windsor	Plant	WWTP
Order code	Backwash	Tag Name	WW_BAFF_BWP_FM1
Device type	PROMAG 50 W DN600	K-Factor	1.2871 - 1.2871
Serial number	81080719000	Zero point	-2
Software Version Transmitter	V2.00.00	Software Version I/O-Module	V1.04.00
Verification date	10/01/2025	Verification time	14:56

Verification Flow end value (100 %): 4071.504 m3/h

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	203.576 m3/h (5%)	1.50 %	-0.62 %
✓		407.151 m3/h (10.0%)	1.00 %	-0.54 %
✓		2035.753 m3/h (50.0%)	0.60 %	-0.04 %
✓		4071.505 m3/h (100%)	0.55 %	-0.02 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.001 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.014 mA
✓		12.000 mA (50.0%)	0.05 mA	-0.001 mA
✓		20.000 mA (100%)	0.05 mA	-0.009 mA
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	46.400 ms	0.000..81.000 ms	52.667 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..300.001 mV	13.121 mV

Legend of symbols

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

FieldCheck: Parameters Transmitter

Customer	City of Windsor	Plant	WWTP
Order code	Backwash	Tag Name	WW_BAFF_BWP_FM1
Device type	PROMAG 50 W DN600	K-Factor	1.2871 - 1.2871
Serial number	81080719000	Zero point	-2
Software Version Transmitter	V2.00.00	Software Version I/O-Module	V1.04.00
Verification date	10/01/2025	Verification time	14:56

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA active	0.0 m3/h	4000.01 m3/h		

Actual System Ident.

127.0

	CALIBRATION REPORT	TAG NO.: WW_PSTS_FM14 REPORT NO.: 251001 DATE: 01-Oct-25
SITE: PROCESS AREA: INSTR. TAG: MANUFACTURER: MODEL: SERIAL No.: INSTR. RANGE:	Lou Romano WWTP Parshall Flume WW_PSTS_FM14 Siemens Sitrans MR200 HMI, XRS-5C 0 - 272 MI/d	DATE: October 1, 2025 TECHNICIAN: Mike Humphries REPORT NO.: 251001

PRIMARY DEVICE: Modified Parshall Flume	Confidence: 12 Echo Strength: 87 dB Noise Average: 1 dB Empty: 122.00 cm Span: 89.91 cm Transducer: XRS-5C
MAX FLOW: 272 MI/d	
MAX HEAD: 89.91 cm	
CONSTANT: 322.58	
EXPONENT: 1.587	
Output: mA Flow	
Zero: 4 0.00	
Max: 20 272.0	

OCM Flow Table								
Head Applied (cm)	Head Displayed (cm)	Error (%)	Calculated Flow (MI/d)	Flow Displayed (MI/d)	Error (%)	Calculated mA Output	Measured mA Output	Error (%)
0.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	0.00
20.00	19.98	-0.10	25.1	25.0	-0.53	5.48	5.46	-0.28
40.00	40.08	0.20	75.4	75.6	0.26	8.43	8.45	0.21
60.00	59.90	-0.17	143.4	142.0	-0.99	12.44	12.36	-0.61
80.00	79.93	-0.09	226.4	226.0	-0.18	17.32	17.30	-0.10
		0.00	0.0		0.00	4.00		#DIV/0!

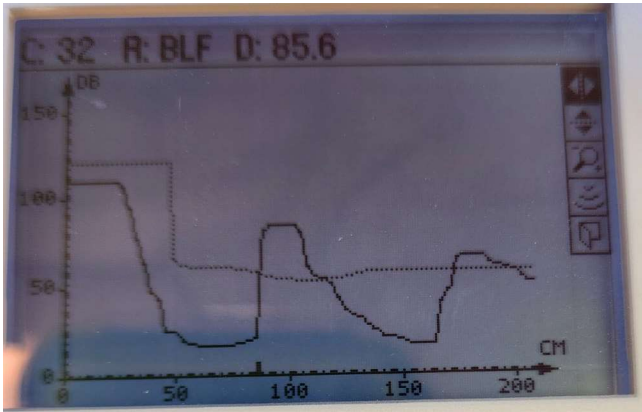
Totalizer As Found	NA	m³	Comments Unable to stop flow at time of service.
Totalizer As Left	NA	m³	
Zero As Found	122.00000	cm	
Zero As Left (including offset)	122.00000	cm	
Change in Zero	0.00000	cm	

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY: Mike Humphries

		CALIBRATION REPORT		TAG NO.: WW_PSTS_FM59 REPORT NO.: 251001 DATE: 01-Oct-25	
SITE: Lou Romano WWTP PROCESS AREA: Parshall Flume INSTR. TAG: WW_PSTS_FM59 MANUFACTURER: Siemens MODEL: Sitrans MR200 HMI, XRS-5C SERIAL No.: INSTR. RANGE: 0 - 443 MI/d		DATE: October 1, 2025 TECHNICIAN: Mike Humphries REPORT NO.: 251001			

PRIMARY DEVICE: Modified Parshall Flume				Confidence: 32 Echo Strength: 85 dB Noise Average: 3 dB Empty: 123.50 cm Span: 94.20 cm Transducer: XRS-5C
MAX FLOW:	443	MI/d		
MAX HEAD:	94.20	cm		
CONSTANT:	484.5			
EXPONENT:	1.500			
Output:	mA	Flow		
Zero:	4	0.00		
Max:	20	443.0		

OCM Flow Table								
Head Applied (cm)	Head Displayed (cm)	Error (%)	Calculated Flow (MI/d)	Flow Displayed (MI/d)	Error (%)	Calculated mA Output	Measured mA Output	Error (%)
0.00	0.00	0.00	0.00	0.00	0.00	4.00	3.99	-0.25
20.00	19.94	-0.30	43.3	43.1	-0.55	5.57	5.55	-0.27
40.00	40.05	0.12	122.6	122.7	0.11	8.43	8.44	0.16
60.00	59.93	-0.12	225.2	224.7	-0.21	12.13	12.10	-0.27
80.00	80.07	0.09	346.7	347.0	0.09	16.52	16.54	0.11

Totalizer As Found	NA	m³	Comments Unable to stop flow at time of service.
Totalizer As Left	NA	m³	
Zero As Found	123.50000	cm	
Zero As Left (including offset)	123.50000	cm	
Change in Zero	0.00000	cm	