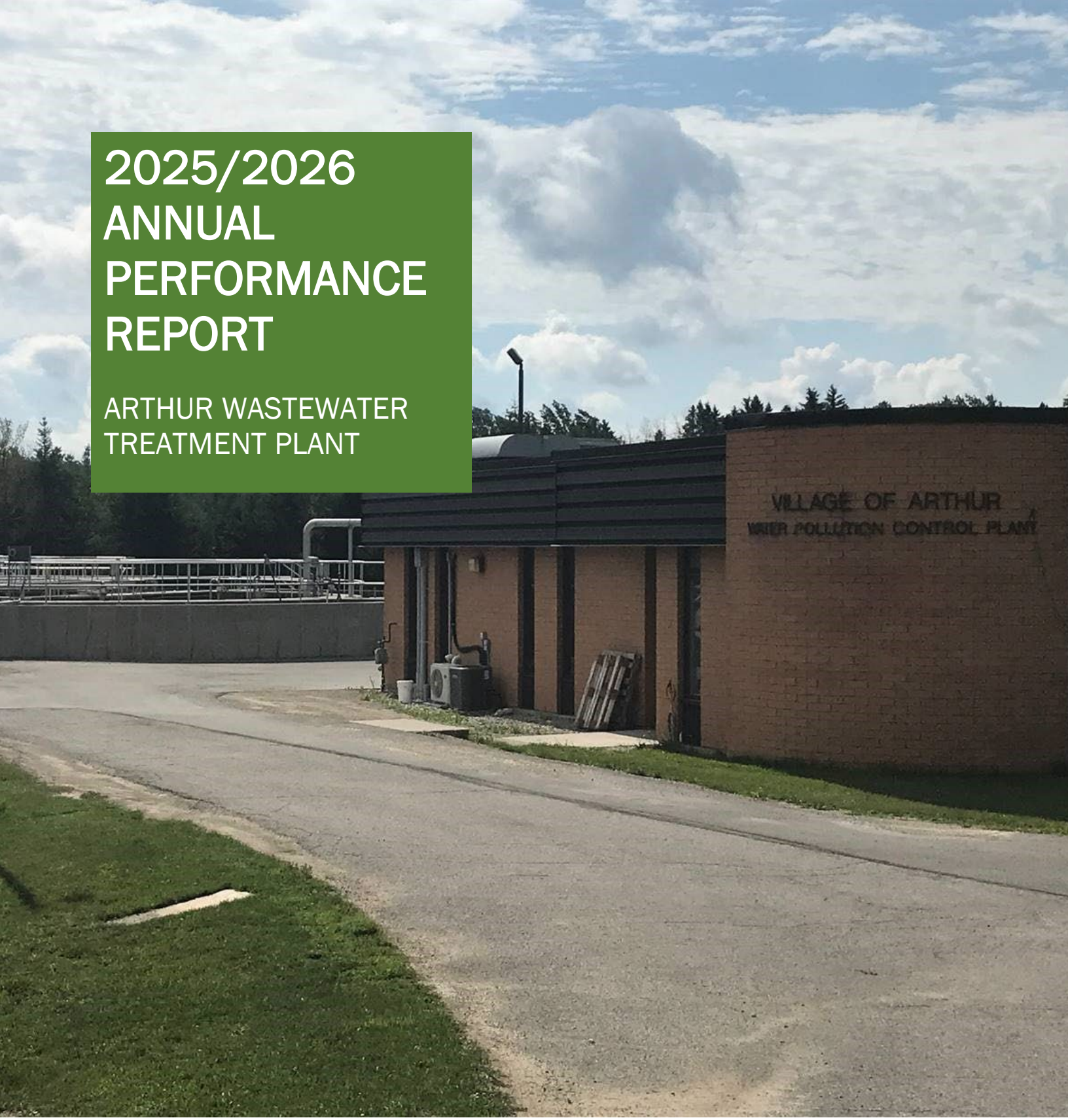
2025/2026 ANNUAL PERFORMANCE REPORT

ARTHUR WASTEWATER TREATMENT PLANT



For the period of
October 1st, 2025 to May 31st, 2026

Prepared for the Township of Wellington North by the Ontario Clean Water Agency

ONTARIO CLEAN WATER AGENCY
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The enclosed 2025/2026 Annual Performance Report for the Arthur Wastewater Treatment Plant (WWTP) summarizes the performance and related activities in accordance with its Amended Environmental Compliance Approval (ECA) Number 7654-BEMKVD (issued September 10, 2019) as per Section 14(4) elements a through o during the reporting period of October 1, 2025 to May 31, 2026.

1. System Description

The Arthur Waste Water Treatment Plant (WWTP) is an extended aeration plant and is located at 160 Preston Street in Arthur, Ontario. The WWTP and its collection system are owned by the Township of Wellington North and the Operating Authority is the Ontario Clean Water Agency (OCWA). As per ECA 7654-BEMKVD, the plant's rated capacity is 1,860 m^3/d. The major process units consist of: inlet works, preliminary treatment consisting of screening and grit removal, influent flow measurement, secondary treatment systems consisting of biological treatment in aerations tanks, secondary sedimentation in one clarifier, and tertiary treatment consisting of a sand filtration system, phosphorus removal and UV disinfection. Sludge is managed through sludge digestion in a primary and secondary digester and stored in four sludge storage tanks prior to haulage. The WWTP discharges the treated effluent via its outfall into the Conestogo River.

The Arthur WWTP sewage collection system consists of a network of sewage collection pipework and maintenance access points, and two sewage Pumping Stations (PS's). Frederick Sewage Pumping Station is located at 176 Frederick Street West and is connected via a forcemain to the inlet works at the WWTP. Well Street Sewage Pumping Station is located on Well Street and is also connected via a forcemain to the inlet works at Arthur WWTP. On January 10, 2023, The Township of Wellington North was issued its first Municipal Sewage Collection System ECA #113-W601, Issue 1. Further information regarding the performance of the 2025 Township of Wellington North Municipal Sewage Collection System, inclusive of the Arthur Sewage Collection System, can be found in the Collection System Annual Report located on the Township Website:
https://www.wellington-north.com/sites/default/files/2026-03/Wellington%20North_Municipal%20Sewage%20Collection%20System_Annual%20Report_2025.pdf

An overview of the Arthur Wastewater Treatment System can be found in the following table:

Table 1: Arthur WWTP System Overview

Facility Name	Arthur Wastewater Treatment Plant
Facility Type	Extended Aeration, Sand Filtration, Chemical Phosphorus Removal, and UV Treatment
Plant Classification	Class III WWT/Class II WWC
Works Number	110000882
Rated Capacity	1,860 m^3/d
Discharge Point	Conestogo River
Environmental Compliance Approval	7654-BEMKVD (September 10, 2019)

2. Influent Monitoring

Where ECA 7654-BEMKVD, Section 13 (4)(a) requires:

"a summary and interpretation of all Influent, Processed Organic Waste monitoring data, and a review of the historical trend of the sewage characteristics and flow rates;"

2.1 Influent ECA Monitoring Program

The following tables outline the monitoring programs at the Arthur Wastewater Treatment Plant (WWTP) as required by the most current ECA for the reporting period. There are additional in-house samples taken and analyzed throughout the year in order to help with process performance monitoring, adjustment, and optimization. The parameters were analyzed by an accredited analytical laboratory (SGS (Lakefield) Canada Inc.).

Table 2: Influent Monitoring Program– Discharge of Inlet Sewer- *as per ECA 7656-BEMKVD, Schedule E*

Parameters	Sample Type	Frequency
Biochemical Oxygen Demand (BOD_5)	24-hour Composite	Monthly
Total Suspended Solids (TSS)	24-hour Composite	Monthly
Total Phosphorous (TP)	24-hour Composite	Monthly
Total Kjeldahl Nitrogen (TKN)	24-hour Composite	Monthly

2.2 Raw Sewage (Influent) Characteristics: Summary and Interpretation of Reporting Year

The following parameters in Table 3 are not reportable as they do not have limits or objectives but are monitored as required by the ECA and used to characterize the contents of incoming sewage flow.

A summary of the influent laboratory results can be found in the following table for samples taken and analyzed during the reporting period.

Table 3: Raw Sewage (Influent) Quality Analysis – Discharge of Inlet Sewer

Month & Year	BOD_5 (mg/L)	TSS (mg/L)	TP (mg/L)	TKN (mg/L)
October 2025	284.00	411.00	6.10	43.00
November 2025	252.00	238.00	4.83	28.70
December 2025	197.00	82.00	4.66	42.80
January 2026	179.00	112.00	2.65	22.20
February 2026	198.00	186.00	5.48	42.20
March 2026	406.00	590.00	13.60	63.00
April 2026	128.00	172.00	3.38	22.50
May 2026	242.00	197.00	3.61	27.30
Reporting Period Annual Average	**235.75**	**248.50**	**5.54**	**36.46**

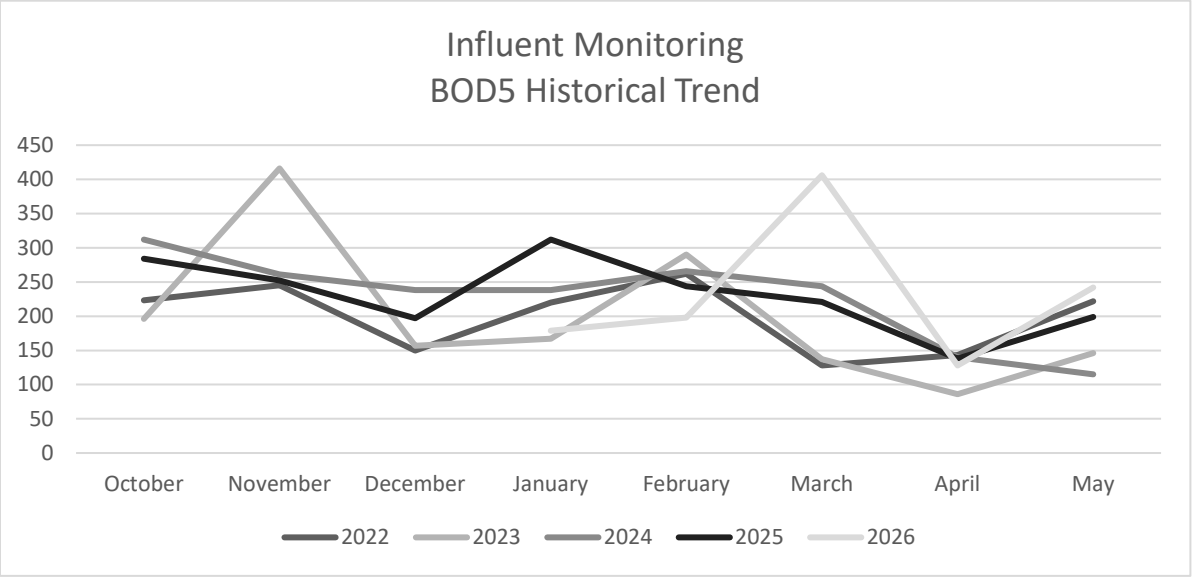
Inlet Sewer laboratory analysis throughout this reporting period averaged a Biochemical Oxygen Demand (BOD_5) concentration of 235.75 mg/L, a Total Suspended Solids (TSS) concentration of 248.50 mg/L, a Total Phosphorus (TP) concentration of 5.54 mg/L and a Total Kjeldahl Nitrogen concentration of 36.46 mg/L.

2.3 Raw Sewage (Influent) Characteristics: Review of Historical Trends

A review of historical trends of the influent sewage characteristics are shown below in the following graphs 1-4:

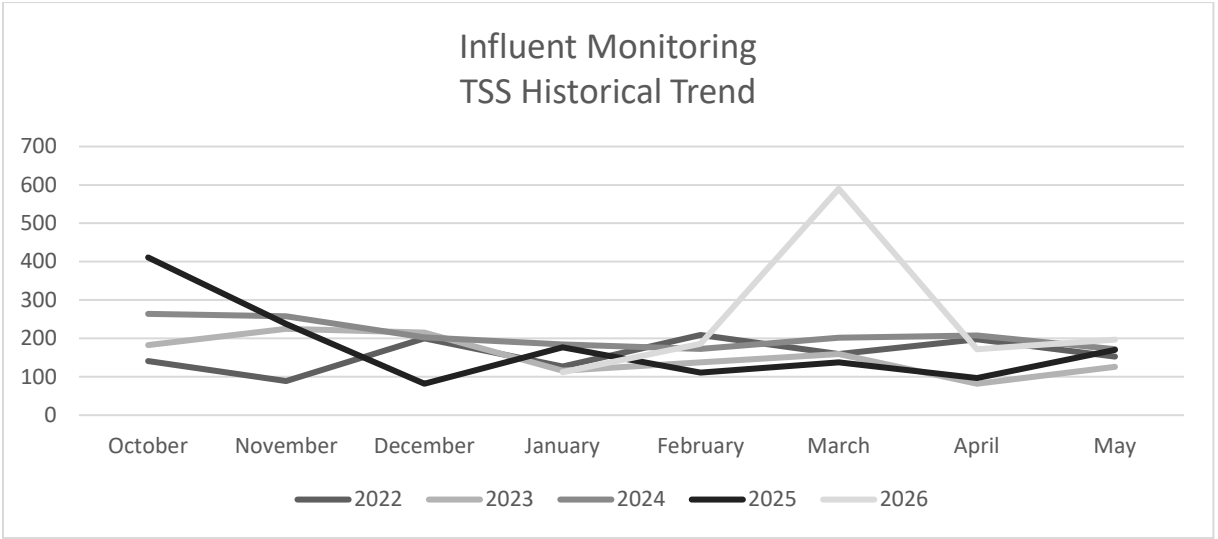
The below graph shows historical raw Biochemical Oxygen Demand (BOD_5) trending from 2022 to 2026. A review of the trends from the last 5 years for BOD_5 shows that the reporting period average BOD_5 concentration in the raw sewage has fluctuated year per year with a spike in March 2026.

Graph 1: BOD_5 Historical Trending Laboratory Results (Influent) – Discharge of Inlet Sewer



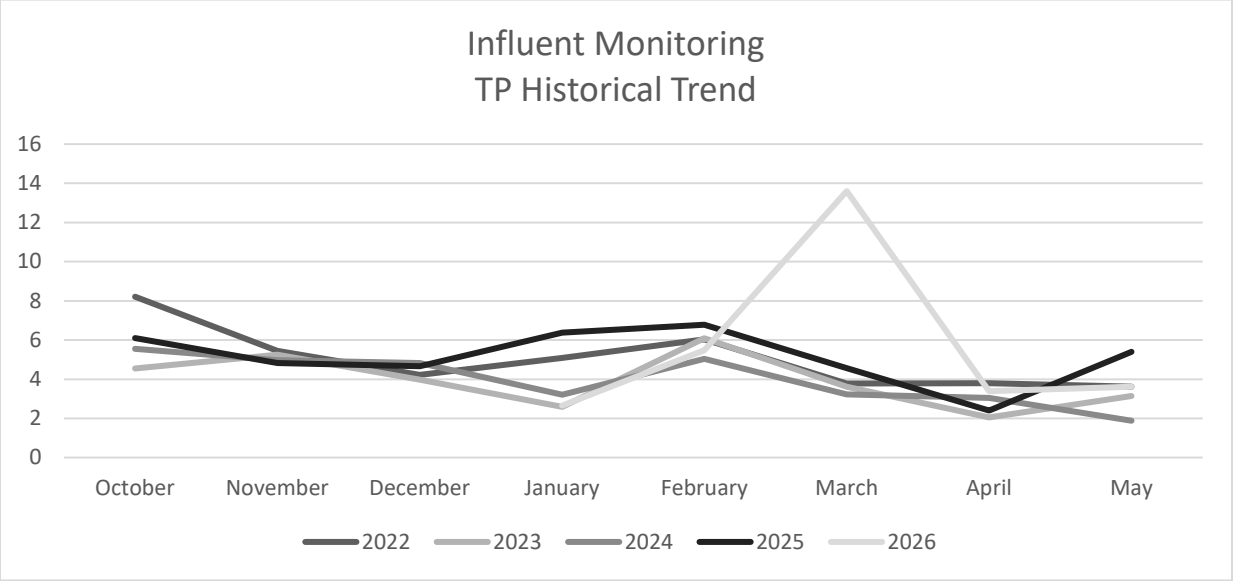
The below graph shows the historical raw Total Suspended Solids trending from 2022 to 2026. A review of the trends from the last 5 years for TSS has shown similar concentrations to previous reporting periods with a spike in March 2026.

Graph 2: TSS Historical Trending Laboratory Results (Influent) – Discharge of Inlet Sewer



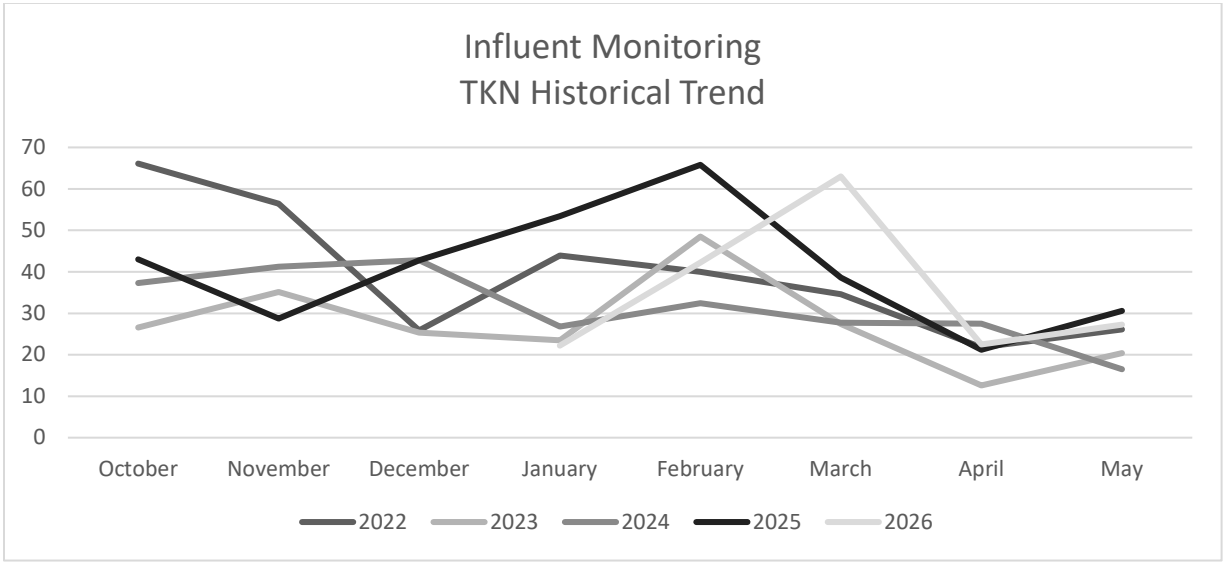
The below graph shows the historical raw Total Phosphorus trending from 2022 to 2026. A review of the trends from the last 5 years for TP has shown similar concentrations to previous reporting periods with a spike in March 2026.

Graph 3: TP Historical Trending Laboratory Results (Influent) – Discharge of Inlet Sewer



The below graph shows the historical raw Total Kjeldahl Nitrogen trending from 2022 to 2026. A review of the trends from the last 5 years for TP has shown similar concentrations to previous reporting periods.

Graph 4: TKN Historical Trending Laboratory Results (Influent) – Discharge of Inlet Sewer



2.4 Influent Flows

A summary of Influent Flows during the reporting period is included in the following table:

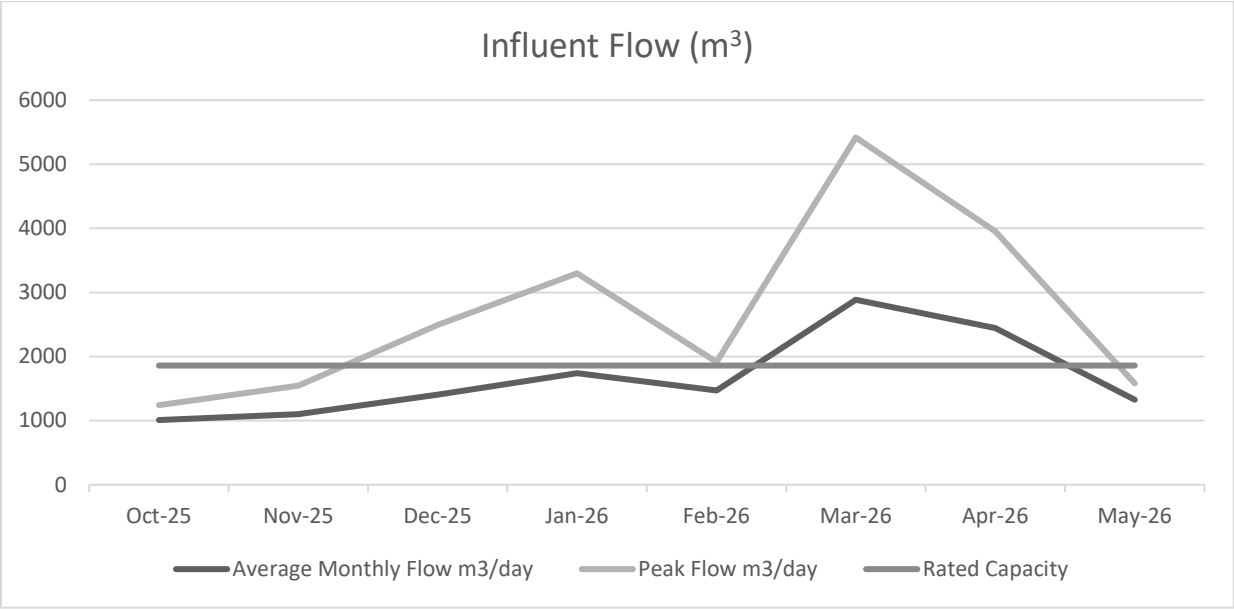
Table 4: Influent Flows[4A]

Month	Average Daily Flow (m^3/day)	Peak Flow (m^3/day)	Total Flow (m^3)
October 2025	1,009.82	1,242.30	31,304.30
November 2025	1,100.27	1,544.70	33,008.20
December 2025	1,404.97	2,495.30	43,554.00
January 2026	1,738.43	3,300.40	53,891.30
February 2026	1,472.46	1,917.40	41,229.00
March 2026	2,886.16	5,417.80	89,471.10
April 2026	2,444.35	3,951.10	73,330.40
May 2026	1,324.81	1,578.80	41,069.20
Reporting Period Average	**1,172.46**	-	-
Reporting Period Max	-	**5,417.80**	-
Reporting Period Total	-	-	**406,857.50**

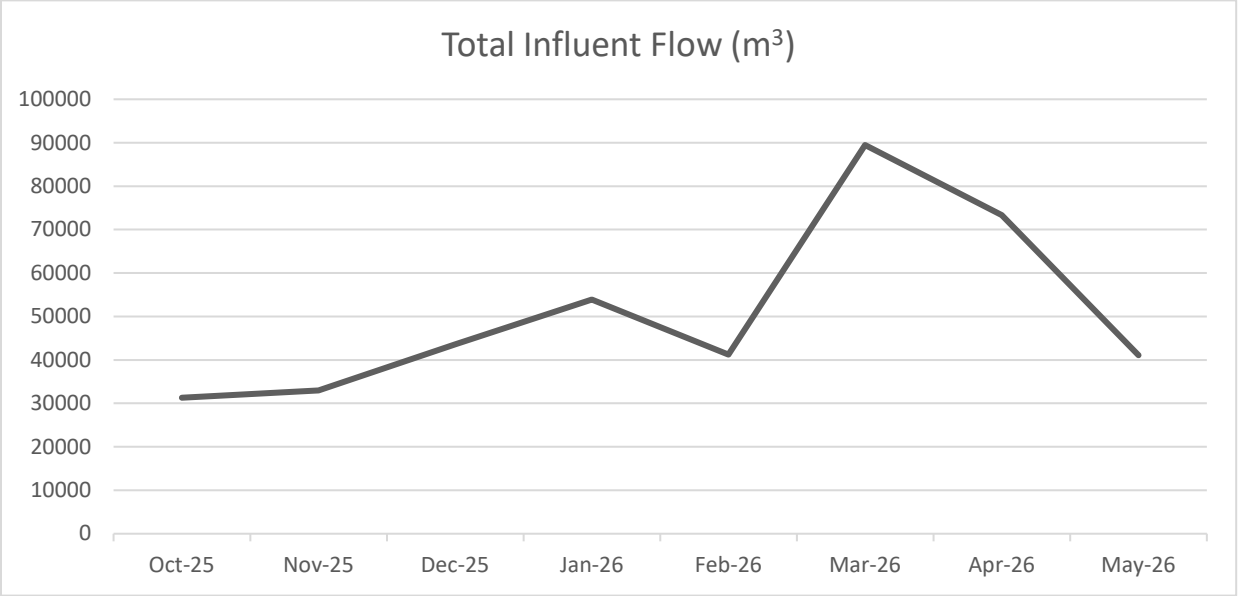
[4A]Influent flow is calculated based on River Discharge Flow along with Lagoon Flow as there is no Raw Flow Meter

The average monthly flow for the reporting period was 1,172.46 m^3, which is approximately 63.04% of the specified design flow of 1,860.00 m^3/day. The highest recorded monthly average flow occurred in March 2026 at 5,417.80 m^3 and was due to increased precipitation and inflows from the seasonal melts during March. The total precipitation for March 2026 was one of the highest for the reporting period apart from December 2025 and July 2025 based on data from Environment Canada.
Please refer to below for graphical representation of influent flows for the reporting period:

Graph 5: Influent: Average Daily Flows & Peak Flows Versus Designed Limits for Reporting Period



Graph 6: Influent: Total Flows for the Reporting Period

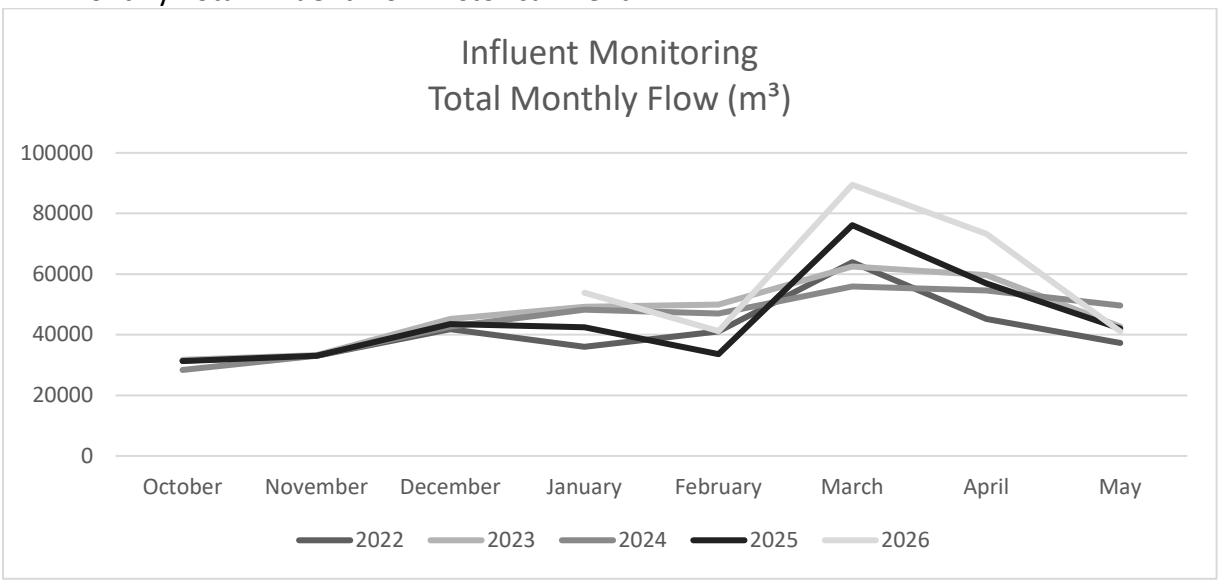


2.5 Influent Flow and Volume: Review of Historical Trends

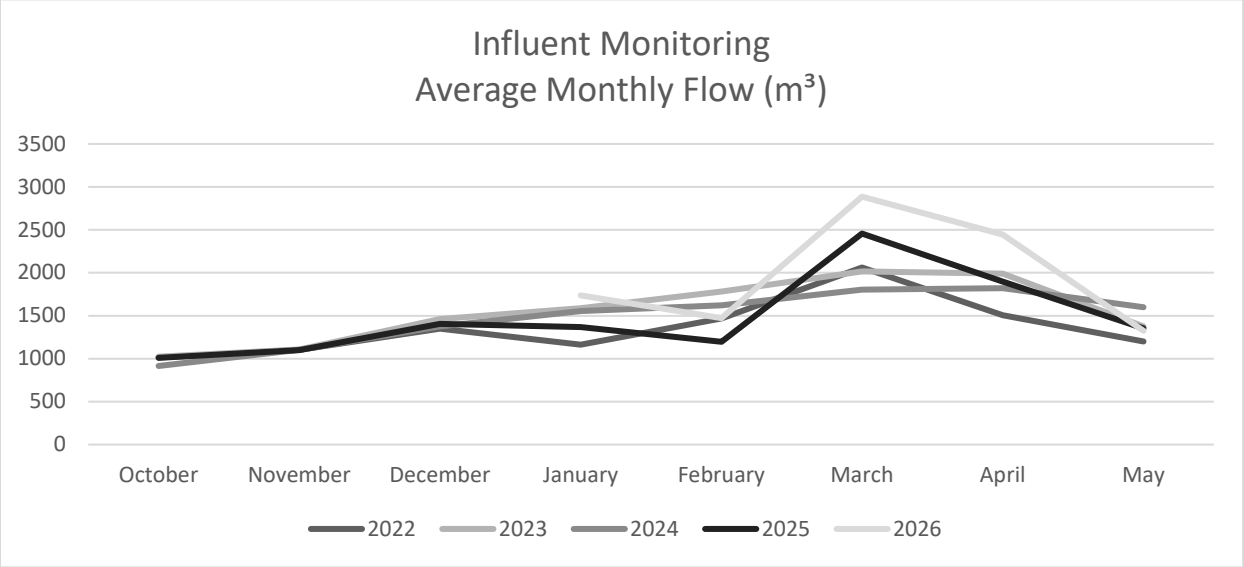
A review of historical trend of the influent flows are shown below in the following graphs 7-9:

The below graphs (7-9) show the historical monthly influent flow trending from 2022 to 2026. A review of the trends from the last five (5) years has shown similar flows in the months of October to December and a fluctuation of flow in the months of January to May.

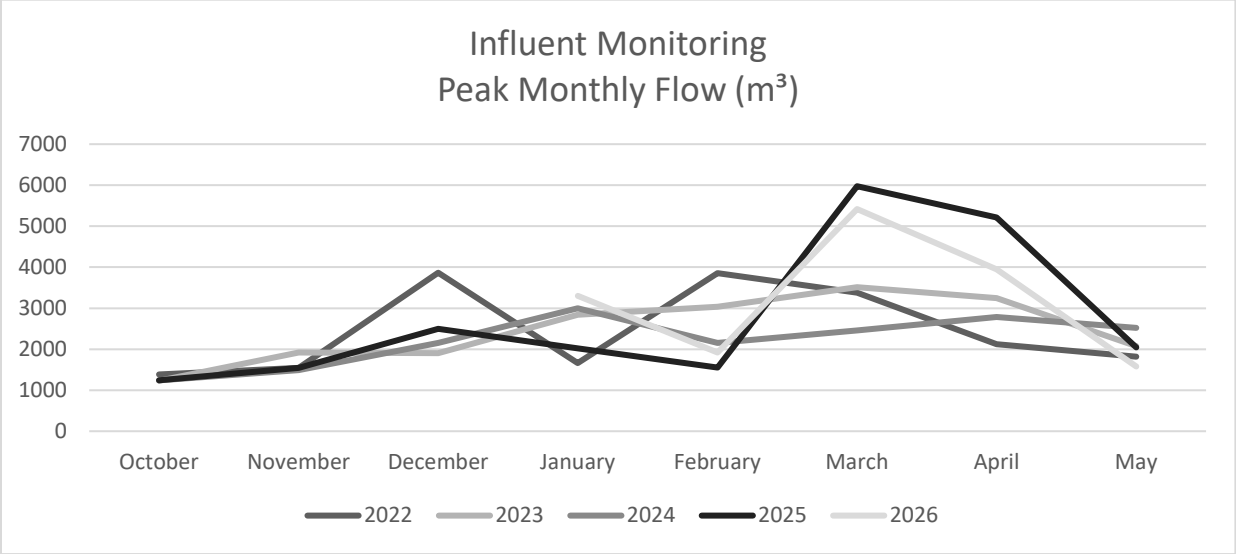
Graph 7: Monthly Total Influent Flow Historical Trend



Graph 8: Monthly Average Influent Flow Historical Trend



Graph 9: Monthly Peak Influent Flow Historical Trend



3. Effluent Monitoring

Where ECA 7654-BEMKVD, Section 13 (4)(b) requires:

"a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;"

3.1 Effluent ECA Monitoring Program

The following table outlines the monitoring programs at the Arthur Wastewater Treatment Plant (WWTP) as required by the most current ECA for the reporting period. The parameters were analyzed by an accredited analytical laboratory (SGS (Lakefield) Canada Inc.). Additional in-house samples are taken and analyzed throughout the year to assist with process performance monitoring, adjustment, and optimization.

Table 5: Effluent Monitoring Program – Plant Outfall Pipe - Weekly during approved discharge period, *as per ECA 7654-BEMKVD, Schedule E*

Parameters	Sample Type	Frequency
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	24-hour Composite	Weekly
Total Suspended Solids (TSS)	24-hour Composite	Weekly
Total Phosphorous (TP)	24-hour Composite	Weekly
Total Ammonia Nitrogen	24-hour Composite	Weekly
Total Kjeldahl Nitrogen (TKN)	24-hour Composite	Weekly
Nitrate as Nitrogen	24-hour Composite	Weekly
Nitrite as Nitrogen	24-hour Composite	Weekly
Unionized Ammonia	As Calculated	Weekly
E.Coli	Grab	Weekly
Dissolved Oxygen	Grab/Probe	Weekly
pH[5A]	Grab/Probe	Weekly
Temperature[5A]	Grab/Probe	Weekly

[5A]As per ECA 7654-BEMKVD- Schedule E, pH and temperature of the Final Effluent shall be determined in the field at the time of sampling for Total Ammonia Nitrogen

3.2 Monitoring Final Effluent Design Objectives, Limits and Loadings

The following tables outline the final effluent objectives, limits and loadings at the Arthur Wastewater Treatment Plant as per its most current ECA. The applicable effluent parameters are either "concentrations" expressed as milligrams per litre or "loadings" expressed as kilograms per day, and they are reportable either "Monthly" or "Seasonally."

Table 6: Arthur WWTP Final Effluent Design Objectives and Limits upon completion of construction of all Proposed Works in Phase 1, *as per ECA 7654-BEMKVD Schedule B and Schedule C*

Source	Parameter	Objective Monthly Average Concentration (mg/L)	Limit Monthly Average Concentration (mg/L)	Limit Seasonal Average Waste Loading (Kg/d)
Final Effluent	$CBOD_5$	6.0	10.0	18.6
	Total Suspended Solids	6.0	10.0	18.6
	Total Phosphorus	0.21	0.25	0.47
	Total Ammonia Nitrogen	0.6	3.5 (Jan 01-May 31) 2.8 (Oct 01-Oct 31) 3.5 (Nov 01-Dec 31)	6.5 (Jan 01-May 31) 5.2 (Oct 01-Oct 31) 6.5 (Nov 01-Dec 31)
	E. coli (GMD)[6A]	100 MPN/100 mL[6B]	100 MPN/100 mL	n/a
	pH	6 to 8 inclusive		

[6A] Geometric Mean Density

[6B] As of January 2025 SGS updated their *E.coli* method for non-drinking water sample. As of January 2025 *E.coli* are analyzed as *E.coli* MPN

3.3 Effluent Monitoring Data: Summary and Interpretation of Reporting Year and Comparison to Objectives and Limits

A review of the effluent monitoring data shows that the following parameters were within the objectives (as applicable) and limits set out in the most current ECA for the duration of the 2025/2026 reporting period:

- $CBOD_5$ monthly average effluent concentration
- TSS monthly average effluent concentration
- TP monthly average effluent concentration
- *E.Coli* monthly geometric mean density
- pH single sample

A review of the effluent monitoring data shows that the following parameters were within the limits set out in the most current ECA during the reporting period but were unable to meet the objectives in the following instances:

- TAN monthly effluent concentration – for January, March and April 2026

It should be noted that as per the ECA, the objectives are non-enforceable design objectives to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs. Exceedances of objectives are not reportable.

A review of the effluent monitoring data shows that the following parameters were not within the limits set out in the most current ECA during the reporting period in the following instances and were reportable as non-compliance events with the ECA:

- N/A - all parameters were within the limits set out in the most current ECA

The following tables (7 to 12) summarize monthly and seasonal annual data in comparison to the applicable ECA objectives and limits for the reporting period October 1, 2025 – May 31, 2026 at the Arthur WWTP.

Table 7: Effluent Sampling Results: $CBOD_5$ and $CBOD_5$ Loading Concentrations versus ECA Objectives and Compliance Limits

	Monthly Average Concentration (mg/L)	Within Monthly Objective? (6.0 mg/L)	Within Monthly Limit? (10.0 mg/L)	Seasonal Average Loading (kg/d)	Within Seasonal Limit? (18.6 kg/d)
October 2025	-	N/A	N/A	-	N/A
November 2025	<2.33	Yes	Yes	<2.28	N/A
December 2025	<3.00	Yes	Yes	<6.46	N/A
January 2026	<2.25	Yes	Yes	<5.74	N/A
February 2026	<2.00	Yes	Yes	<5.86	N/A
March 2026	<2.00	Yes	Yes	<7.49	N/A
April 2026	<2.40	Yes	Yes	<6.85	N/A
May 2026	<2.00	Yes	Yes	<2.41	N/A
Seasonal Annual Average	N/A	N/A	N/A	**5.53**	Yes

Table 8: Effluent Sampling Results: TSS and TSS Loading Concentrations versus ECA Objectives and Compliance Limits

	Monthly Average Concentration (mg/L)	Within Monthly Average Objective? (6.0 mg/L)	Within Monthly Average Limits? (10.0 mg/L)	Seasonal Average Loading (kg/d)	Within Seasonal Limit? (18.6 kg/d)
October 2025	-	N/A	N/A	-	N/A
November 2025	3.33	Yes	Yes	3.25	N/A
December 2025	3.40	Yes	Yes	7.32	N/A
January 2026	5.25	Yes	Yes	13.39	N/A
February 2026	<2.25	Yes	Yes	<6.59	N/A
March 2026	3.75	Yes	Yes	14.05	N/A
April 2026	4.00	Yes	Yes	11.42	N/A
May 2026	<3.00	Yes	Yes	<3.61	N/A
Seasonal Annual Average	N/A	N/A	N/A	**8.52**	Yes

Table 9: Effluent Sampling Results: TP and TP Loading Concentrations versus ECA Objectives and Compliance Limits

	Monthly Average Concentration (mg/L)	Within Monthly Average Objective? (0.21 mg/L)	Within Monthly Average Limits? (0.25 mg/L)	Seasonal Average Loading (kg/d)	Within Seasonal Limit? (0.47 kg/d)
October 2025	-	N/A	N/A	-	N/A
November 2025	0.11	Yes	Yes	0.10	N/A
December 2025	0.14	Yes	Yes	0.30	N/A
January 2026	0.13	Yes	Yes	0.33	N/A
February 2026	0.16	Yes	Yes	0.47	N/A
March 2026	0.18	Yes	Yes	0.67	N/A
April 2026	0.07	Yes	Yes	0.20	N/A
May 2026	0.11	Yes	Yes	0.13	N/A
Seasonal Annual Average	N/A	N/A	N/A	**0.31**	Yes

Table 10: Effluent Sampling Results: TAN and TAN Loading Concentrations versus ECA Objectives and Compliance Limits

	Monthly Average Concentration (mg/L)	Within Monthly Average Objective? (0.6 mg/L)	Within Monthly Average Limits? 3.5 mg/L (Jan 1-May 31) 2.8 mg/L (Oct 1-Oct 31) 3.5 mg/L (Nov 1-Dec 31)	Seasonal Average Loading (kg/d)	Within Seasonal Limit? 6.5 mg/L (Jan 1-May 31) 5.2 mg/L (Oct 1-Oct 31) 6.5 mg/L (Nov 1-Dec 31)
October 2025	-	N/A	N/A	-	N/A
November 2025	0.40	Yes	Yes	0.39	N/A
December 2025	0.36	Yes	Yes	0.78	N/A
January 2026	0.85	**No**	Yes	2.17	N/A
February 2026	0.40	Yes	Yes	1.17	N/A
March 2026	1.25	**No**	Yes	4.68	N/A
April 2026	<0.64	**No**	Yes	<1.83	N/A
May 2026	<0.10	Yes	Yes	<0.12	N/A
Seasonal Annual Average	N/A	N/A	N/A	**1.59**	Yes

Table 11: Effluent Sampling Results: *E.coli* Concentrations versus ECA Compliance Limits

	Monthly Geometric Mean Density	**Within Monthly Objective/Limits? (100 MPN/100mL)[11A]**
October 2025	-	N/A
November 2025	7.29	Yes
December 2025	38.92	Yes
January 2026	5.46	Yes
February 2026	66.77	Yes
March 2026	18.41	Yes
April 2026	8.78	Yes
May 2026	1.19	Yes

[11A]As of January 2025 SGS updated their *E.coli* method for non-drinking water sample. As of January 2025 *E.coli* are analyzed as *E.coli* MPN

Table 12: Effluent Sampling Results: pH versus ECA Compliance Limits

	pH Ranges	**Within Objective/Limits? (6 – 8 inclusive)**
October 2025	-	N/A
November 2025	7-7	Yes
December 2025	7-8	Yes
January 2026	7-8	Yes
February 2026	7-8	Yes
March 2026	7-8	Yes
April 2026	7-8	Yes
May 2026	7-8	Yes

3.4 Success & Adequacy of the System

The parameter $CBOD_5$ objective for the seasonal discharge was not exceeded during the reporting period. There were no limit exceedances during the reporting period.

The parameter TSS objective for the seasonal discharge was not exceeded during the reporting period. There were no limit exceedances during the reporting period.

The parameter TP objective for the seasonal discharge was not exceeded during the reporting period. There were no limit exceedances during the reporting period.

The parameter TAN objective for the seasonal discharge was exceeded for January, March and April 2026. There were no limit exceedances during the reporting period.

E.Coli concentrations reached a maximum geometric mean density of 66.77 in February 2026, which did not exceed the compliance objective and limit of 100 MPN/100mL or 100 CFU/100mL. During the seasonal discharge period, there were no exceedances during the reporting period.

pH remained within the compliance limits for the duration of the reporting year.

Please refer to **Section 3** of this report for more details regarding the discharge period exceedances.

Refer to Appendix A for a detailed Performance Assessment Report.

3.5 Effluent Flows - Discharges

The below chart summarizes the effluent discharged during the discharge period:

Table 13: Effluent Discharge Summary

Month	Average Daily Flow (m^3/day)	Peak Flow (m^3/day)	Total Flow (m^3)	Max Daily Effluent Flow Limit (m^3)	Within Limit?
October 2025	-	-	-	1,400.00	N/A
November 2025	974.89	2,330.00	29,246.80	4,600.00	Yes
December 2025	2,151.59	2,819.80	66,699.30	3,800.00	Yes
January 2026	2,549.77	3,379.30	79,042.90	5,000.00	Yes
February 2026	2,928.67	3,771.30	82,002.80	5,000.00	Yes
March 2026	3,747.19	5,290.40	116,162.80	5,500.00	Yes
April 2026	2,855.24	3,188.90	85,657.30	3,200.00	Yes
May 2026	1,204.68	1,287.90	37,345.20	1,300.00	Yes
Reporting Period Average	1,042.89	-	-	-	-
Reporting Period Max	-	5,290.40	-	-	-
Reporting Period Total	-	-	496,157.10	-	-

During the reporting period, the average annual daily flow for final effluent to outfall (Conestogo River) was 1,042.89 m^3/day. The maximum peak final effluent daily flow was 5,290.40 m^3/day, which occurred on March 22, 2026 which corresponds with the maximum influent flow due to seasonal snowmelts and rainfall during this timeframe.

4. Annual Update to the Stage-Discharge Curve

Where ECA 7654-BEMKVD, Section 13 (4)(c) requires:

"a summary of the annual update to the stage-discharge curve as required in Paragraph 9 (e);"

9(e). The Owner shall operate, calibrate and maintain the Conestogo River at Arthur hydrometric station (17T 536350E 4853113N) and collect and record daily streamflow measurements for that station or for any replacement gauging station approved by the District Manager.

The Conestogo River Arthur hydrometric station equipment is calibrated as per manufacturer's recommendations. On an annual basis a third-party vendor calibrates the monitoring and metering equipment. Preventative maintenance is scheduled for all equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance).

Maintenance activities are scheduled within OCWA's work management system (Maximo) and upon completion operations staff set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

Flowmetrix Technical Services successfully calibrated the hydrometric station measuring equipment on September 9, 2025.

Refer to Appendix B for the Calibration Reports.

Operation staff collect and record daily streamflow measurements for the Conestogo River hydrometric station on their daily check sheets and enter it into OCWA's PDM (WISKI7) Management System.

Table 14: Conestogo River Streamflow Measurements

Month	Monthly Minimum Daily River Height (cm)	Monthly Average Daily River Height (cm)	Monthly Max Daily River Height (cm)
October 2025	10.85	13.47	20.81
November 2025	12.84	17.74	25.12
December 2025	18.45	34.19	81.13
January 2026	26.77	49.88	96.64
February 2026	10.52	30.62	45.58
March 2026	33.12	61.29	133.50
April 2026	26.38	50.60	91.61
May 2026	13.77	20.45	45.30
Annual Minimum	**10.52**	**-**	**-**
Annual Average	**-**	**34.78**	**-**
Annual Max	**-**	**-**	**133.50**

Refer to Appendix C for Report of Daily Streamflow Measurements

Refer to Appendix D for the Grand River Conservation Authority Manual Discharge Measurements and TAN Concentrations

5. Monitoring Schedule

Where ECA 7654-BEMKVD, Section 13 (4)(d) requires:

"a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year;"

Operational staff at the Arthur WWTP maintained a sampling schedule where samples were taken on Tuesdays for the majority of the 2025 reporting period. For the 2026 reporting period the sampling schedule was revised and updated to rotate the day of the week to Wednesdays as per the ECA requirement in section 11 (b). A summary of dates deviated from the monitoring schedules are summarized in the below table 15. Deviations were due to training for operations, vacations coverages and delay of start up of effluent discharge. The 2025/2026 reporting period sampling calendar can be found in **Appendix E**

Table 15: Summary of dates deviated from the monitoring schedule

Sample	Scheduled Sample Date	Date Sample was Taken
Monthly Raw Influent/Sludge	November 4, 2025	November 13, 2025
Weekly Effluent	November 4, 2025	November 13, 2025
Monthly Raw Influent/Sludge	January 7, 2026	January 14, 2026
Weekly Effluent	April 1, 2026	April 2, 2026
Monthly Raw Influent/Sludge	April 1, 2026	April 8, 2026
Monthly Raw Influent/Sludge	May 6, 2026	May 13, 2026
Weekly Effluent	May 27, 2026	May 28, 2026

6. Operational Issues and Corrective Actions

Where ECA 7654-BEMKVD, Section 13 (4)(e) requires:

"a summary of all operating issues encountered and corrective actions taken;"

There were no operating issues encountered during the reporting period.

7. Maintenance Activities

Where ECA 7654-BEMKVD, Section 13 (4)(f) requires:

"a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;"

7.1 Work Management System

Planned maintenance, including scheduled and non-scheduled maintenance activities are scheduled using a computerized Work Management System (WMS) that allows user to:

- Enter detailed asset information
- Generate and process work orders
- Access maintenance and inspection procedures
- Plan, schedule, and document all asset related tasks and activities
- Access maintenance records and asset histories

Work Orders are automatically generated by the WMS program and are assigned to the applicable Operations staff accordingly.

7.2 Preventative Maintenance

There were a number of maintenance tasks throughout 2025/26 reporting period. They are as follows:

- Monthly lagoon inspections (May-Oct)
- Monthly panel alarm, float and generator testing

- Annual generator inspections and load testing
- Annual calibrations
- Annual lifting device inspection
- UV inspection and servicing
- Semi-annual lagoon perimeter inspection

7.3 Repairs & Improvements

There were a number of repairs and/or improvements during the reporting period. They are as follows:

- Installation of new sludge blower #1 VFD
- New sand for sand filters
- Repairs to raw inlet cement wall
- Frederick St. PS Transducer Replacement
- UV Control Board Replacement
- Filter Gate Valve Rebuild

8. Effluent Quality Assurance & Control

Where ECA 7654-BEMKVD, Section 13 (4)(g) requires:

"a summary of any effluent quality assurance or control measures undertaken;"

Quality assurance and control measures undertaken during the reporting period include adherence to provincial regulations, use of accredited laboratories, operation of the system by licensed Operators, scheduled sampling and analysis, in-house laboratory analysis, and calibration and preventative maintenance of equipment. The sections below provide further details of these measures.

8.1 Adherence to Provincial Regulations

The Ontario Clean Water Agency operates the Arthur WWTP in accordance with provincial regulations and the Environmental Compliance Approval.

8.2 Use of Accredited Laboratories

During the reporting period, all chemical sample analyses were conducted by SGS (Lakefield) Canada Inc.; a laboratory audited by the Canadian Association for Laboratory Accreditation Inc. (CALA) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analysts performing the test methods.

8.3 Operation by Licensed Operators

The Arthur WWTP was operated and maintained by licensed Operators. The mandatory licensing program for operators of sewage treatment facilities in Ontario is regulated under the Ontario Water Resources Act (OWRA) Regulation 435/93 and Ontario Regulation 129/04. A Licensed individual has

successfully passed the licensing exam and meets the education and experience requirements set out in the regulation.

8.4 Sampling and Analysis

The Ontario Clean Water Agency followed a sampling and analysis schedule that meets the requirements of the ECA.

8.5 In-house Analysis

In-house samples were collected and analyzed at the Arthur WWTP laboratory throughout the year in order to support process performance monitoring, adjustment, and optimization. In-house analysis were conducted by Licensed Operators for monitoring purposes using standard methods. The data generated from these tests is used to determine the treatment efficiency while effectively maintaining process control. All in-house monitoring equipment is calibrated based on the manufacturer's recommendations. Using their expertise, Operators of the facility make best efforts to stay within the ECA Effluent Objectives and Limits.

9. Calibration and Maintenance Procedures

Where ECA 7654-BEMKVD, Section 13 (4)(h) requires:

"a summary of the calibration and maintenance carried out on all Influent and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;"

All in-house monitoring equipment is calibrated as per manufacturer's recommendations. Monitoring and metering equipment is also calibrated by a third party on an annual basis. Preventative maintenance is scheduled for all equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system Maximo, upon completion, Operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

Flowmetrix Technical Services successfully calibrated flow measuring equipment on September 9, 2025. All program parameters received a passing inspection.

Refer to Appendix B for the Calibration Reports.

10. Design Objective Requirements

Where ECA 7654-BEMKVD, Section 13 (4)(i) requires:

"a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situations":

i. When any of the design objectives are not achieved more than 50% of the time in a year, or there is an increasing trend of deterioration of Final Effluent quality;

ii. *When Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;"*

Best efforts are being made to meet the objectives under the amended ECA #7654-BEMKVD (September 10, 2019) Phase 2 design is completed and currently being review by the Municipalities Engineer on Record.

The average monthly flow for the reporting period was 1,172.46 m^3, which is approximately 63.04% of the specified design flow of 1,860.00 m^3/day. The highest recorded monthly average flow occurred in March 2026 at 5,417.80 m^3 and was due to increased precipitation and inflows from the seasonal melts during March. The total precipitation for March 2026 was one of the highest for the reporting period apart from December 2025 and July 2025 based on data from Environment Canada.

There were no instances when the daily peak of 6,500 m^3 was exceeded. The highest recorded final effluent peak flow of 5,290.40 m^3/day occurred in March 22, 2026. This maximum peak flow is approximately 81.39% of the approved Peak Flow Rating for the Works.

Schedule B is imposed "to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliances limits of Schedule C are exceeded."

OCWA as the Operating Authority (on behalf of the Township of Wellington North) has made best efforts to stay within the Effluent Objectives in the ECA. These efforts are supported through:

- Continuous monitoring equipment
- Regular plant inspections/checks
- In-house sampling and testing
- Laboratory (3rd party) analysis of influent and effluent samples
- Data review
- Process optimization and adjustments (as required)
- Scheduled/preventative maintenance
- Repairs as necessary

A summary of the effluent quality in comparison to the effluent objectives can be found in Tables 7-12 of section 3.3 of this report. These results show that sewage treatment operations for 2025/2026 provided effluent quality that was within effluent objectives outlined in the ECA and minimized environmental impairment with the exception of Total Ammonia Nitrogen (January, March and April 2026). Higher loading from incoming sewage could account for some effluent objective exceedances. Minor operational changes were implemented to provide higher effluent quality in order to achieve the effluent objectives outlined in the ECA.

Refer to ***Appendix A*** for detailed Performance Assessment Report for the facility, including raw and final effluent discharge data and influent and effluent flow data.

11. Sludge Production and Disposal

Where ECA 7654-BEMKVD, Section 13 (4)(j) requires:

"a tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;"

The table below shows a summary of sludge haulage for the October 1, 2025 to the May 31, 2026 reporting period:

Table 16: Sludge Haulage

Date	NASM #	Volume Hauled (m^3)	Comments
October 17, 2025	62762	851.00	Hauled by Saugeen Agri. for Land Application at David Hill's – Tommy's Farm
December 1, 2, 12 2025	-	264.00	Hauled to Lystek International Inc.
February 3, 4, 2026	-	240.00	
March 10, 2026	-	103.00	
April 1, 2, 2026	-	122.00	
May 13, 14, 25, 2026	-	1018.00	Hauled to Mount Forest
Land Applied Total:		**851.00**	
Lystek Total:		**729.00**	
Hauled to Mount Forest WPCP:		**1,018.00**	
Total:		**2,598.00**	

Digested sludge produced at the Arthur WWTP is land-applied in accordance with the Nutrient Management Act 2002 and Ontario Regulation 267/03. Additional sludge haulage is directed towards Lystek International Inc., located in Dundalk, Ontario. This facility converts biosolids into "market ready" fertilizer products.

Grab samples of digested (aerobic) sludge are collected and tested as per the guidelines. During the reporting period, sludge sample analysis was carried out by SGS (Lakefield) Canada Inc. A summary of sludge sample results is provided in **Appendix F.**

One hauler was used during the reporting period October 1, 2025 – May 31, 2026:

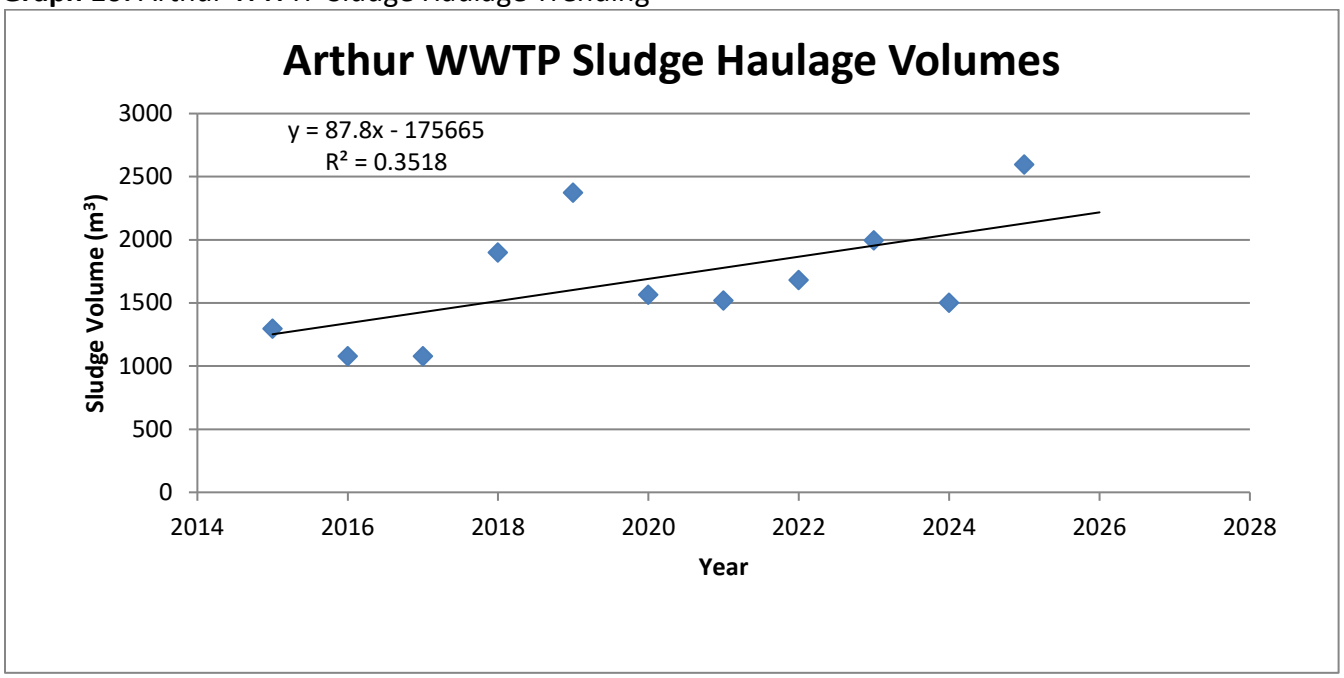
- Saugeen Agri. - Certificate of Approval: Waste Management System # 9566-6HYKC3

The Certificate of Approval for the Mount Forest Sludge Storage Facility #6134-73FHHU allows the storage of sludge from the Arthur WWTP. There was no sludge stored at the Mount Forest facility for this reporting period.

Trending sludge production can be seen in Graph 10. Please note: the reporting year noted on the X-axis is the first year of the reporting period, meaning 2025 would include the period from October 1, 2025 to May 31, 2026.

Based on the design flow, predicted sludge haulage, average wastewater quality and a linear regression with an R^2 value of 35.18%, the anticipated volume to be generated in the next reporting period is approximately 2,200 m^3.

Graph 10: Arthur WWTP Sludge Haulage Trending



12. Community Complaints

Where ECA 7654-BEMKVD, Section 13 (4)(k) requires:

"a summary of any complaints received and any steps taken to address the complaints;"

There is a standard operating procedure (SOP) in place that outlines the steps required for receiving and addressing community complaints. All complaints are to be discussed and/or investigated, and resolved as required. The community complaint is logged in detail in the facility logbook and then various details are entered into OCWA's work management system (Maximo). This database contains the history of all complaints with the relevant information enclosed.

There were no community complaints received for the Arthur WWTP during the October 1, 2025 – May 31, 2026 reporting period.

13. By-pass, Spill or Abnormal Discharge Events

Where ECA 7654-BEMKVD, Section 13 (4)(l) requires:

"a summary of all By-pass, Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events;"

All quarterly bypass and overflow reports, as per Section 4(6) and 5(6) of the ECA were submitted as required to the Ministry's local office prior to or by the reporting deadlines listed in the most current ECA. There were no reportable incidents during the reporting period.

13.1 By-pass Events

There were no bypass events during the reporting period.

Table 17: Summary of Bypass Event(s)

Date	SAC Incident Number	Estimated/Measured Volume (m^3)	Duration	Location	Reason	Level of Treatment Received	Samples Collection
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

13.2 Overflow events

There were no overflow events during the reporting period.

13.3 Spills

There were no spills during the reporting period.

13.4 Abnormal Discharge Events

There were no abnormal discharge events during the reporting period.

14. Notice of Modifications (Limited Operational Flexibility)

Where ECA 7654-BEMKVD, Section 13 (4)(m) requires:

"a summary of all Notice of Modifications to the Sewage Works completed under Paragraph 1.d. of Condition 10, including a report on status of implementation of all modification;"

There were no Notice of Modifications under Schedule B, Section 1 submitted during this reporting period.

14.1 Modification Completion Reports

There were no modifications completed under Schedule B, Section 3 during this reporting period.

15. Conformance with Procedure F-5-1

Where ECA 7654-BEMKVD, Section 13 (4)(n) requires:

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

Sanitary Sewage Pumping Stations

Frederick Street Pumping Station and Forcemain

Upgrade to the existing Frederick Street Pumping Station having a firm capacity of 110 L/s, located at 176 Frederick Street West, comprising;

- Construction of a new wet well having dimension of 5.5m x 5.3m x 7.2m, having an active storage volume of 90 m3, equipped with three variable speed controlled sewage pumps, two for duty and one for standby, each with a rated capacity of 55 L/s under 30m TDH, discharging through a common header to Arthur Wastewater Treatment Plant through an existing 755m long 250mm diameter forcemain, complete with a MCC, a new PLC based control system, high level floats and alarms;
- Conversion of existing wet well in to a bypass chamber, complete with one (1) sewage drain pump, located in the existing wet well, with a capacity of 10 L/s under 8m TDH, receiving sewage overflow from the inlet sewer under extreme flow events with an Emergency Overflow to the Conestogo River;

Arthur Wastewater Treatment Plant (WWTP)

Equalization Tank (to be upgraded to Extended Aeration Plant B during Phase 2)

- Construction of the equalization tank 1 (to be used as the future secondary treatment/extended aeration tank during Phase 2), having a total capacity of 2,100 m3, and operated in a manner to allow the flows entering the secondary treatment in Phase 1 to be reduced to 5,270 m3/d, comprising of two cells and a central future secondary clarifier tank, receiving diverted peak flow through a weir located in the headworks building outlet pipe under peak flow conditions, complete with a sewer line connecting a new hopper adjacent to the existing Headworks to a new Headworks channel upstream of Plant B;
- One (1) submersible drain pump, to be located in a precast manhole (to be converted to a scum collection pit and transfer pump in Phase 2), connected to the equalization tank, with a capacity of 10 L/s under a TDH of 8m, discharging to Headworks channel;

Proposed Works - Phase 2

Inlet Works

- Diversion of existing sanitary Sewers from Preston Street to the new Headworks building of sewage treatment plant;
- Diversion of existing sanitary sewage forcemain from Frederick Street Sewage Pumping Station in to the new Headworks building of sewage treatment plant;

Headworks Building
Inlet Channels

- One (1) duty inlet channel 0.8m wide, 1.2m deep, equipped with an inclined mechanically cleaned screen with 6mm spacing, designed to handle an average daily flow of 2,300 m3/d and a maximum daily flow of 12,700 m3/d, equipped with washer/compactor conveyor for screenings, complete with diffusers for intermittent channel aeration;
- one (1) back-up channel 0.8m wide, 1.2m deep, equipped with an inclined manual bar screen having 50mm spacing, complete with diffusers for intermittent channel aeration;

Grit Removal

- A Grit removal system with by-pass capability, comprising of a Vortex Grit Tank 2.5m in diameter with a 0.37 kW vortex drive, a Vortex Grit Classifier Unit designed for a peak flow rate of 12,700 m3/d, screenings/grit disposal bin in the Screen room;

Flow Channels and Parshall Flume

- Two flow splitting channels, complete with flow control weirs and two Parshall Flume flowmeters, one in each channel, downstream of the Vortex Tank, with duty channel discharging to the existing and new treatment units (Plant A and Plant B);

The increased capacity and upgrade to the Sewage Pump Station will aid in directing influent flows to the plant more effectively and efficiently. In addition to having an additional pump and all pumps being upsized with Variable Frequency Drives (VFD) this will allow the pumps to adjust to the required pumping speeds in increments as needed, increasing overall pump efficiency. This upgrade will further reduce the chance of potential future bypass/overflow events through increased reliability and capacity.

During high flow events, the increased flows from the pump station will be split at the head of the plant and will allow part of the flow to go through treatment and a portion to be captured in the equalization tank to not overwhelm the treatment system and be pumped back to the Headworks at a later time.
There are no estimated budget forecasts at this time as the current construction upgrades has mitigated the bypass/overflow events at the plant and at the pump station.

16. Construction and Commissioning Schedule Updates

Where ECA 7654-BEMKVD, Section 13 (4)(o) requires:

"any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es)/equipment groups in the Proposed Works;"

Substantial completion of all Phase 1 construction was achieved on December 16, 2020. Letter of Substantial Completion of Phase 1 dated December 17, 2020 was completed by CIMA Engineering. Phase 2 design is completed and currently being reviewed by the Municipalities Engineer on Record.

2025 – 2026 Annual Performance Report
Arthur Wastewater Treatment Plant
ECA 7654-BEMKVD

Appendix A

Performance Assessment Report

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report Standard ECA

From 10/1/2025 to 5/31/2026

5767 ARTHUR WASTEWATER TREATMENT PLANT 110000882

	10 / 2025	11/ 2025	12/ 2025	1/ 2026	2/ 2026	3/ 2026	4/ 2026	5/ 2026	6/ 2026	7/ 2026	8/ 2026	9/ 2026	<--Total-->	<--Avg-->	<--Max-->	<-Criteria->
Flows																
Raw Flow: Total - Raw Sewage m³/d	31,304.30	33,008.20	43,554.00	53,891.30	41,229.00	89,471.10	73,330.40	41,069.20	0.00	0.00	0.00	0.00	406,857.50			0.00
Raw Flow: Avg - Raw Sewage m³/d	1,009.82	1,100.27	1,404.97	1,738.43	1,472.46	2,886.16	2,444.35	1,324.81	0.00	0.00	0.00	0.00		1,172.46		1,860.00
Raw Flow: Max - Raw Sewage m³/d	1,242.30	1,544.70	2,495.30	3,300.40	1,917.40	5,417.80	3,951.10	1,578.80	0.00	0.00	0.00	0.00			5,417.80	0.00
Raw Flow: Count - Raw Sewage m³/d	31.00	30.00	31.00	31.00	28.00	31.00	30.00	31.00	0.00	0.00	0.00	0.00	243.00			0.00
Eff. Flow: Total - Final Effluent m³/d	0.00	29,246.80	66,699.30	79,042.90	82,002.80	116,162.80	85,657.30	37,345.20	0.00	0.00	0.00	0.00	496,157.10			0.00
Eff. Flow: Avg - Final Effluent m³/d	0.00	974.89	2,151.59	2,549.77	2,928.67	3,747.19	2,855.24	1,204.68	0.00	0.00	0.00	0.00		1,042.89		
Eff. Flow: Max - Final Effluent m³/d	0.00	2,330.00	2,819.80	3,379.30	3,771.30	5,290.40	3,188.90	1,287.90	0.00	0.00	0.00	0.00			5,290.40	0.00
Eff Flow: Count - Final Effluent m³/d	31.00	30.00	31.00	31.00	28.00	31.00	30.00	31.00	0.00	0.00	0.00	0.00	243.00			0.00
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw Sewage mg/L	284.00	252.00	197.00	179.00	198.00	406.00	128.00	242.00	0.00	0.00	0.00	0.00			406.00	0.00
Raw: # of samples of BOD5 - Raw Sewage mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	8.00			0.00
Carbonaceous Biochemical Oxygen Demand: CBOD																
Eff: Avg cBOD5 - Final Effluent including Bypass mg/L	0.00 <	2.33 <	3.00 <	2.25 <	2.00 <	2.00 <	2.40 <	2.00	0.00	0.00	0.00	0.00			< 3.00	10.00
Eff: # of samples of cBOD5 - Final Effluent including Bypass mg/L	0.00	3.00	5.00	4.00	4.00	4.00	5.00	4.00	0.00	0.00	0.00	0.00	29.00			0.00
Loading: cBOD5 - Final Effluent including Bypass kg/d	0.000 <	2.275 <	6.455 <	5.737 <	5.857 <	7.494 <	6.853 <	2.409	0.000	0.000	0.000	0.000		5.53	< 7.49	18.600
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage mg/L	411.00	238.00	82.00	112.00	186.00	590.00	172.00	197.00	0.00	0.00	0.00	0.00			590.00	0.00
Raw: # of samples of TSS - Raw Sewage mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	8.00			0.00
Eff: Avg TSS - Final Effluent including Bypass mg/L	0.00	3.33	3.40	5.25 <	2.25	3.75	4.00 <	3.00	0.00	0.00	0.00	0.00			5.25	10.00
Eff: # of samples of TSS - Final Effluent including Bypass mg/L	0.00	3.00	5.00	4.00	4.00	4.00	5.00	4.00	0.00	0.00	0.00	0.00	29.00			0.00
Loading: TSS - Final Effluent including Bypass kg/d	0.000	3.250	7.315	13.386 <	6.590	14.052	11.421 <	3.614	0.000	0.000	0.000	0.000		8.52	14.05	18.600
Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage mg/L	6.10	4.83	4.66	2.65	5.48	13.60	3.38	3.61	0.00	0.00	0.00	0.00			13.60	0.00
Raw: # of samples of TP - Raw Sewage mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	8.00			0.00
Eff: Avg TP - Final Effluent including Bypass mg/L	0.00	0.11	0.14	0.13	0.16	0.18	0.07	0.11	0.00	0.00	0.00	0.00			0.18	0.25
Eff: # of samples of TP - Final Effluent including Bypass mg/L	0.00	3.00	5.00	4.00	4.00	4.00	5.00	4.00	0.00	0.00	0.00	0.00	29.00			0.00
Loading: TP - Final Effluent including Bypass kg/d	0.000	0.104	0.297	0.331	0.469	0.665	0.200	0.133	0.000	0.000	0.000	0.000		0.31	0.67	0.470
Nitrogen Series																
Raw: Avg TKN - Raw Sewage mg/L	43.00	28.70	42.80	22.20	42.20	63.00	22.50	27.30	0.00	0.00	0.00	0.00			63.00	0.00
Raw: # of samples of TKN - Raw Sewage mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	8.00			0.00
Eff: Avg TAN - Final Effluent including Bypass mg/L	0.00	0.40	0.36	0.85	0.40	1.25 <	0.64 <	0.10	0.00	0.00	0.00	0.00			1.25	3.50
Eff: # of samples of TAN - Final Effluent including Bypass mg/L	0.00	3.00	5.00	4.00	4.00	4.00	5.00	4.00	0.00	0.00	0.00	0.00	29.00			0.00
Loading: TAN - Final Effluent including Bypass kg/d	0.000	0.390	0.775	2.167	1.171	4.684 <	1.827 <	0.120	0.000	0.000	0.000	0.000		1.59	4.68	6.500
Eff: Avg NO3-N - Final Effluent mg/L	0.00	13.87	9.43	6.63	6.79	3.86	5.86	15.35	0.00	0.00	0.00	0.00			15.35	0.00
Eff: # of samples of NO3-N - Final Effluent mg/L	0.00	3.00	5.00	4.00	4.00	4.00	5.00	4.00	0.00	0.00	0.00	0.00	29.00			0.00
Eff: Avg NO2-N - Final Effluent mg/L	0.00 <	0.03 <	0.06 <	0.04 <	0.03 <	0.07 <	0.07 <	0.03	0.00	0.00	0.00	0.00			< 0.07	0.00
Eff: # of samples of NO2-N - Final Effluent mg/L	0.00	3.00	5.00	4.00	4.00	4.00	5.00	4.00	0.00	0.00	0.00	0.00	29.00			0.00
pH																
Raw: Min pH - Raw Sewage ---	9.09	7.89	8.27	7.61	8.44	8.37	8.20	8.22	0.00	0.00	0.00	0.00				0.00

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report Standard ECA

From 10/1/2025 to 5/31/2026

Raw: Max pH - Raw Sewage ---	9.09	7.89	8.27	7.61	8.44	8.37	8.20	8.22	0.00	0.00	0.00	0.00			9.09	0.00
Eff: Min pH - Final Effluent ---	0.00	7.01	7.20	7.45	7.44	7.42	7.37	7.42	0.00	0.00	0.00	0.00				8.00
Eff: Max pH - Final Effluent ---	0.00	7.46	7.80	7.73	7.53	7.87	7.64	7.73	0.00	0.00	0.00	0.00			7.87	8.00
Eff: Min pH Field: Lab Upload - Final Effluent ---	0.00	7.19	7.20	7.45	7.44	7.42	7.37	7.42	0.00	0.00	0.00	0.00				8.00
Eff: Max pH Field: Lab Upload - Final Effluent ---	0.00	7.46	7.80	7.73	7.53	7.87	7.64	7.73	0.00	0.00	0.00	0.00			7.87	8.00
Disinfection																
Eff: GMD E. Coli MPN - Final Effluent MPN	0.00	7.29	38.92	5.46	66.77	18.41	8.78	1.19	0.00	0.00	0.00	0.00				
Eff: # of samples of E. Coli MPN - Final Effluent	0.00	4.00	6.00	5.00	4.00	4.00	5.00	4.00	0.00	0.00	0.00	0.00	32.00			0.00

2025 – 2026 Annual Performance Report
Arthur Wastewater Treatment Plant
ECA 7654-BEMKVD

Appendix B

Calibration Reports

Verification report Promag 400

Endress+Hauser
People for Process Automation

FLOWMETRIX
TECHNICAL SERVICES

Plant operator: Arthur WWTP

Heartbeat Technology

Device information

Location	Pond Effluent
Device tag	Promag
Module name	K323-00
Nominal diameter	DN150 / 6"
Device name	Promag 400
Order code	5W4C1F-16LA0/0
Serial number	R701CC16000
Firmware version	02.01.00

Calibration

Calibration factor	1.0683
Zero point	-1.6

Verification information

Operating time (counter)	1741d22h16m20s
Date/time (manually recorded)	09.09.25 14:07
Verification ID	17
Verification mode	Standard verification

Overall verification result*

☑ Passed	Details see next page

*Result of the complete device functionality test via Heartbeat Technology

Confirmation

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

Notes

Date | Operator's signature | Inspector's signature

Verification report Promag 400

Endress+Hauser
People for Process Automation

FLOWMETRIX
TECHNICAL SERVICES

Plant operator: Arthur WWTP

Heartbeat Technology

Device identification and verification identification	
Serial number	R701CC16000
Device tag	Promag
Verification ID	17

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

Verification report Promag 400

Endress+Hauser
People for Process Automation

FLOWMETRIX
TECHNICAL SERVICES

Plant operator: Arthur WWTP

Device identification and verification identification

Serial number	R701CC16000
Device tag	Promag
Verification ID	17

Heartbeat Technology

Test item with value	Unit	Actual	Min.	Max.	Visualization
Sensor					
Shot time symmetry deviation		1.0000	0.9000	1.1000	
Hold voltage symmetry deviation		1.0000	0.9000	1.1000	
Coil current loss deviation	%	0.1393	-10.0000	10.0000	
Coil current offset	%	0.008123	-0.1000	0.1000	
Coil current deviation	%	0.0000	-0.1000	0.1000	
Coil resistance value	Ohm	123.4	50.0	240.0	
E1 electrode impedance	Ohm	222.17			
E2 electrode impedance	Ohm	223.15			
EPD electrode impedance	Ohm	240.84			
E1/E2 electrode impedance on E1	Ohm	225.10			
E1/E2 electrode impedance on E2	Ohm	226.04			
Sensor electronic module (ISEM)					
Supply voltage 30.0V	V	31.23	27.000	35.000	
Linearity and reference voltage 1		0.9998	0.9900	1.0100	
Linearity and reference voltage 2		0.9997	0.9900	1.0100	
Measuring point offset		-6.2326	-100.0000	100.0000	
Hold voltage feedback value	%	0.84	-10.0	10.0	
Shot voltage feedback value	%	-0.73	-20.0	20.0	
Electronic current loss deviation	%	0.41	-10.0000	10.0000	
Coil circuit value	%	0.00	-1.0	1.0	
Shot control circuit value	%	-0.18	-10.0	10.0	
Electrode signal integrity deviation	%	-0.25	-40.0	40.0	

Test item with value	Unit	Actual	Min.	Max.	Visualization
I/O module					
Output 1 value 1	mA	4.0048	3.8600	4.1400	
Output 1 value 2		0.0000	0.0000	0.0000	
Output 2 value 1		0.0000	0.0000	0.0000	
Output 3 value 1		0.0000	0.0000	0.0000	

Verification report Promag 400

Endress+Hauser
People for Process Automation

FLOWMETRIX
TECHNICAL SERVICES

Plant operator: Arthur WWTP

Heartbeat Technology

Device identification and verification identification

Serial number	R701CC16000
Device tag	Promag
Verification ID	17

Test item with value	Unit	Actual
Process conditions		
Volume flow value verification	l/s	0.0000
Conductivity value verification	µS/cm	-nan
Electronic temperature	°F	97.1
Current difference potential	V	-0.1142
Current potential electrode 1	V	0.2049
Current potential electrode 2	V	0.3199
Current potential electrode Pipe GND	V	0.002040

FLOWMETRIX
TECHNICAL SERVICES

ROSEMOUNT
Verification Report

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL

CUSTOMER	OCWA - Highlands Hub
CONTACT	Jenna Porter / Don Irvine
	Senior Operations Manager / Process Compliance Technician
	Cell: 519-323-6760 / Cell: 519-321-9474
	Email: jporter2@ocwa.com / dirvine@ocwa.com

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-QMS document at the time this test was conducted.

EQUIPMENT DETAIL

[MUT] MANUFACTURER	Rosemount
MODEL	8712D
CONVERTER SERIAL NUMBER	080220959
PLANT ID	Arthur WPCP
METER ID	Plant Effluent Flow Meter
FIT ID	n/a
CLIENT TAG	OCWA# 205612
OTHER	n/a
GPS COORDINATES	N43 49.903 W080 32.948
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	150
F.S. FLOW - MAG	LPS	223.7
F.S. RANGE - O/P	LPS	100.000
TUBE CAL. FACTOR		0916605509025005
VERIFICATOR CAL. FACTOR [16-digits]		1000015010000000

FORWARD TOTALIZER INFORMATION

AS FOUND	385949	M3
AS LEFT	385966	M3
DIFFERENCE	17	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
FORWARD FLOW DIRECTION	Yes
ALLOWABLE [%] ERROR	5

COMPONENTS TESTED

CONVERTER DISPLAY	yes
mA OUTPUT	yes
TOTALIZER	yes
ACCURACY BASED ON [% o.r.]	yes

ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

FLOW TUBE SIMULATION

			0	3	10	30	ft/s
DISPLAY			0.00	3.00	10.00	30.00	ft/s
MUT Reading			0.00	3.00	10.01	30.02	ft/s
MUT % Error			n/a	0.00	0.10	0.07	%
mA OUTPUT			4.000	5.600	9.333	20.000	mA
MUT Reading	4	mA	4.001	5.601	9.333	19.992	mA
MUT % Error	20	mA	0.03	0.02	0.00	-0.04	%
TOTALIZER						30.00	ft/s
TEST Accumulation						2000.00	ft
TIME						66.55	seconds
CALC. Velocity						30.05	ft/s
% Error						0.18	%

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	ROS	1
PROCESS METER	PM	0
ANALOG METER	AM	n/a
STOP WATCH	SW	Yes

*All values are for "As Found" values.

COMMENTS

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.06	PASS
mA OUTPUT	-0.01	PASS
TOTALIZER	0.18	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

FLOWMETRIX
TECHNICAL SERVICES

Parshall Flume
Verification/Calibration Report

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER OCWA - Highlands Hub
CONTACT Jenna Porter / Don Irvine
Senior Operations Manager / Process Compliance Technician
Cell: 519-323-6760 / Cell: 519-321-9474
Email: jporter2@ocwa.com / dirvine@ocwa.com

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-QMS document at the time this test was conducted.

EQUIPMENT DETAIL

[MUT] MANUFACTURER	Milltronics
MODEL	OCM-III
CONVERTER SERIAL NUMBER	PBD/W3100009
PLANT ID	Arthur WPCP
METER ID	Plant Effluent Flow
FIT ID	n/a
CLIENT TAG	n/a
OTHER	n/a
GPS COORDINATES	N43 49.903 W080 32.948
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

THROAT DIMENSION (DN)	inches	9
EMPTY DISTANCE	m	0.960
MAX. HEAD	m	0.334
DEAD ZONE	m	0.626
BLANKING DISTANCE	m	0.305
MAX. FLOW	LPS	100.0
F.S. RANGE - O/P	LPS	100.0

Ultrasonic sensor installed to ensure full scale flow condition

TOTALIZER

AS FOUND	5666761	M3
AS LEFT	5666780	M3
DIFFERENCE	19	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
ALLOWABLE [%] ERROR	5

COMPONENTS TESTED

CONVERTER DISPLAY	yes
mA OUTPUT	yes
TOTALIZER	yes
ACCURACY BASED ON [% o.r.]	no

ERROR DOCUMENTED IN THIS REPORT; BASED ON % F.S.

AS FOUND TEST RESULTS

					24.4	58.4	91.9	% F.S. Range
					0.133	0.235	0.316	m
REF. FLOW RATE					**24.444**	**58.400**	**91.875**	LPS
MUT [Reading]					24.760	57.050	91.840	LPS
MUT [Difference]					0.316	-1.350	-0.035	LPS
MUT [% Error]					0.32	-1.35	-0.04	%
mA OUTPUT					**7.911**	**13.344**	**18.700**	mA
MUT [Reading]	min.	4.000	mA		7.958	13.325	18.698	mA
MUT [Difference]	max.	20.000	mA		0.047	-0.019	-0.002	mA
MUT [% Error]					0.24	-0.09	-0.01	%
TOTALIZER - REF. FLOW RATE							**91.875**	LPS
TOTALIZER [MUT]							6	M3
TEST TIME							65.36	SECONDS
CALC. TOTALIZER							6.005	M3
ERROR							-0.08	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] LEVEL	Sim. BOARD	Yes
PROCESS METER	PM	0
STOP WATCH	SW	Yes

RESULTS

TEST	AVG %FS	PASS FAIL
DISPLAY	-0.36	PASS
mA OUTPUT	0.04	PASS
TOTALIZER	-0.08	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

FLOWMETRIX
TECHNICAL SERVICES

Parshall Flume
Verification/Calibration Report

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER OCWA - Highlands Hub
CONTACT Jenna Porter / Don Irvine
Senior Operations Manager / Process Compliance Technician
Cell: 519-323-6760 / Cell: 519-321-9474
Email: jporter2@ocwa.com / dirvine@ocwa.com

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-QMS document at the time this test was conducted.

EQUIPMENT DETAIL

[MUT] MANUFACTURER	Milltronics
MODEL	OCM-III
CONVERTER SERIAL NUMBER	PBD/W3100009
PLANT ID	Arthur WPCP
METER ID	Plant Effluent Flow
FIT ID	n/a
CLIENT TAG	n/a
OTHER	n/a
GPS COORDINATES	N43 49.903 W080 32.948
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

THROAT DIMENSION (DN)	inches	9
EMPTY DISTANCE	m	0.960
MAX. HEAD	m	0.334
DEAD ZONE	m	0.626
BLANKING DISTANCE	m	0.305
MAX. FLOW	LPS	100.0
F.S. RANGE - O/P	LPS	100.0

Ultrasonic sensor installed to ensure full scale flow condition

TOTALIZER

AS FOUND	5666761	M3
AS LEFT	5666780	M3
DIFFERENCE	19	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
ALLOWABLE [%] ERROR	5

COMPONENTS TESTED

CONVERTER DISPLAY	yes
mA OUTPUT	yes
TOTALIZER	yes
ACCURACY BASED ON [% o.r.]	no

ERROR DOCUMENTED IN THIS REPORT; BASED ON % F.S.

AS FOUND TEST RESULTS

					24.4	58.4	91.9	% F.S. Range
					0.133	0.235	0.316	m
REF. FLOW RATE					**24.444**	**58.400**	**91.875**	LPS
MUT [Reading]					24.760	57.050	91.840	LPS
MUT [Difference]					0.316	-1.350	-0.035	LPS
MUT [% Error]					0.32	-1.35	-0.04	%
mA OUTPUT					**7.911**	**13.344**	**18.700**	mA
MUT [Reading]	min.	4.000	mA		7.958	13.325	18.698	mA
MUT [Difference]	max.	20.000	mA		0.047	-0.019	-0.002	mA
MUT [% Error]					0.24	-0.09	-0.01	%
TOTALIZER - REF. FLOW RATE							**91.875**	LPS
TOTALIZER [MUT]							6	M3
TEST TIME							65.36	SECONDS
CALC. TOTALIZER							6.005	M3
ERROR							-0.08	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] LEVEL	Sim. BOARD	Yes
PROCESS METER	PM	0
STOP WATCH	SW	Yes

RESULTS

TEST	AVG %FS	PASS FAIL
DISPLAY	-0.36	PASS
mA OUTPUT	0.04	PASS
TOTALIZER	-0.08	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

FLOWMETRIX
TECHNICAL SERVICES

Volumetric Comparison
Verification Report

CERTIFICATION RESULTS

AS FOUND PASS

AS LEFT PASS

CLIENT DETAIL

CUSTOMER OCWA - Highlands Hub
CONTACT Jenna Porter / Don Irvine
Senior Operations Manager / Process Compliance Technician
Cell: 519-323-6760 / Cell: 519-321-9474
Email: jporter2@ocwa.com / dirvine@ocwa.com

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-QMS document at the time this test was conducted.

EQUIPMENT DETAIL

[MUT] MANUFACTURER	Milltronics
MODEL	MultiRanger 200
CONVERTER SERIAL NUMBER	PBD/U9180052
PLANT ID	Arthur WPCP
METER ID	River Gauge Level
FIT ID	n/a
CLIENT TAG	OCWA# n/a
OTHER	n/a
GPS COORDINATES	N43 49.903 W080 32.948
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

[MUT] PROGRAMMING PARAMETERS

P001=	1	Operartion Mode (1=Level)
P002=	1	(1=Liquid or Horizontal)
P003=	3	Process Speed (3=Fast)
P004=	112	Transducer Type (112=XRS-5)
P005=	2	Units (2=cm)
P006=	200.66	Empty Distance (Value in cm)
P007=	167.66	Span (Value in cm)
P065=	500	Reading Overide Value (Value in cm)
P212=	4	mA Output Min. Limit (Value)

REFERENCE

REFERENCE DEVICE Board Level

Condition of PASS/FAIL
of Individual Test Results; Y
or of Average Results; N

LEVEL COMPARISON

Reference Level (cm)	MUT Displayed Level (cm)	% ERROR
0	-0.07	n/a
30.56	30.43	-0.425
38.76	43.48	12.178
51.86	53.8	3.741
109.96	111.38	1.291
148.76	149.54	0.524
	Average	**3.46**

Note: This report validates the performance of the MUT only. This does not validate the setup based on process - no information available has been provided.

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] METER	KROHNE-LAB	n/a
[REFERENCE] METER	ELSTER-LAB	n/a
[REFERENCE] METER	FLOW-LAB1	n/a
[REFERENCE] METER	Coulter	n/a
PROCESS METER	PM	n/a

This report reflects the comparison test results at a constant test flow rate. This report reflects the "AS FOUND" and "AS LEFT" results based on the test results observed.

FLOWMETRIX
TECHNICAL SERVICES

Endress Hauser ProMag Series
Verification Report

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL

CUSTOMER OCWA - Highlands Hub
CONTACT Jenna Porter / Don Irvine
Senior Operations Manager / Process Compliance Technician
Cell: 519-323-6760 / Cell: 519-321-9474
Email: jporter2@ocwa.com / dirvine@ocwa.com

VER. BY - FM *Daniel Kettlewell*

Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-QMS document at the time this test was conducted.

EQUIPMENT DETAIL

[MUT] MANUFACTURER	ENDRESS & HAUSER
MODEL	Promag 53W
CONVERTER S/N:	M4053919000
FUSE	
PLANT ID	Arthur WPCP
METER ID	RAS West Flow
FIT ID	n/a
CLIENT TAG	OCWA# not assigned
OTHER	n/a
GPS COORDINATES	N43 49.903 W080 32.948
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	100
F.S. FLOW - MAG	LPS	78.538
F.S. RANGE - O/P	LPS	20.000
TUBE k-FACTOR		1.3323
TUBE zero		4

FORWARD TOTALIZER INFORMATION

AS FOUND	1039706	M3
AS LEFT	1039710	M3
DIFFERENCE	4	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
FORWARD FLOW DIRECTION	Yes
ALLOWABLE [%] ERROR	5

COMPONENTS TESTED

CONVERTER DISPLAY	yes
mA OUTPUT	yes
TOTALIZER	yes
ACCURACY BASED ON [% o.r.]	yes

ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

FLOW TUBE SIMULATION

				0.0	5.0	10.0	15.0	20.0	LPS
				0.0	6.4	12.7	19.1	25.5	% F.S. Flow
				0.0	25.0	50.0	75.0	100.0	% F.S. Range
REF. FLOW RATE				**0.0000**	**5.0000**	**10.0000**	**15.0000**	**20.0000**	LPS
MUT [Reading]				0.0000	5.0065	10.0160	15.0060	20.0230	LPS
MUT [Difference]				0.0000	0.0065	0.0160	0.0060	0.0230	LPS
MUT [% Error]				n/a	0.13	0.16	0.04	0.11	% O.R
mA OUTPUT				**4.000**	**8.000**	**12.000**	**16.000**	**20.000**	mA
MUT [Reading]	min.	4	mA	3.999	8.004	12.009	16.013	20.014	mA
MUT [Difference]	max.	20	mA	-0.001	0.004	0.009	0.013	0.014	mA
MUT [% Error]				-0.02	0.05	0.08	0.08	0.07	% O.R
TOTALIZER - REF. FLOW RATE								**20.000**	LPS
TOTALIZER [MUT]								2.0	M3
TEST TIME								98.94	SECONDS
CALC. TOTALIZER								1.979	M3
ERROR								1.06	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	E&H (FC)	1
PROCESS METER	PM	0
ANALOG METER	AM	n/a
STOP WATCH	SW	Yes

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.11	PASS
mA OUTPUT	0.05	PASS
TOTALIZER - R	1.06	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

FLOWMETRIX
TECHNICAL SERVICES

Endress Hauser ProMag Series
Verification Report

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL

CUSTOMER OCWA - Highlands Hub
CONTACT Jenna Porter / Don Irvine
Senior Operations Manager / Process Compliance Technician
Cell: 519-323-6760 / Cell: 519-321-9474
Email: jporter2@ocwa.com / dirvine@ocwa.com

VER. BY - FM *Daniel Kettlewell*

Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-QMS document at the time this test was conducted.

EQUIPMENT DETAIL

[MUT] MANUFACTURER	ENDRESS & HAUSER
MODEL	Promag 53W
CONVERTER S/N:	M4053819000
FUSE	
PLANT ID	Arthur WPCP
METER ID	RAS East Flow
FIT ID	n/a
CLIENT TAG	OCWA# not assigned
OTHER	n/a
GPS COORDINATES	N43 49.903 W080 32.948
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	100
F.S. FLOW - MAG	LPS	78.538
F.S. RANGE - O/P	LPS	20.000
TUBE k-FACTOR		1.3156
TUBE zero		4

FORWARD TOTALIZER INFORMATION

AS FOUND	1294846	M3
AS LEFT	1294850	M3
DIFFERENCE	4	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
FORWARD FLOW DIRECTION	Yes
ALLOWABLE [%] ERROR	5

COMPONENTS TESTED

CONVERTER DISPLAY	yes
mA OUTPUT	yes
TOTALIZER	yes
ACCURACY BASED ON [% o.r.]	yes

ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

FLOW TUBE SIMULATION

				0.0	5.0	10.0	15.0	20.0	LPS
				0.0	6.4	12.7	19.1	25.5	% F.S. Flow
				0.0	25.0	50.0	75.0	100.0	% F.S. Range
REF. FLOW RATE				**0.000**	**5.000**	**10.000**	**15.000**	**20.000**	LPS
MUT [Reading]				0.000	4.996	9.995	14.997	19.995	LPS
MUT [Difference]				0.000	-0.004	-0.005	-0.004	-0.005	LPS
MUT [% Error]				n/a	-0.07	-0.05	-0.02	-0.02	% O.R
mA OUTPUT				**4.000**	**8.000**	**12.000**	**16.000**	**20.000**	mA
MUT [Reading]	min.	4	mA	3.999	8.000	12.001	16.002	19.998	mA
MUT [Difference]	max.	20	mA	-0.001	0.000	0.001	0.002	-0.002	mA
MUT [% Error]				-0.02	0.00	0.01	0.01	-0.01	% O.R
TOTALIZER - REF. FLOW RATE								**20.000**	LPS
TOTALIZER [MUT]								2.0	M3
TEST TIME								99.62	SECONDS
CALC. TOTALIZER								1.992	M3
ERROR								0.38	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	E&H (FC)	1
PROCESS METER	PM	0
ANALOG METER	AM	n/a
STOP WATCH	SW	Yes

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	-0.04	PASS
mA OUTPUT	0.00	PASS
TOTALIZER - R	0.38	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

Verification report Promag 400

Endress+Hauser
People for Process Automation

FLOWMETRIX
TECHNICAL SERVICES

Plant operator: Arthur WWTP

Heartbeat Technology

Device information

Location	Sludge Loading
Device tag	SSTP0-FI01
Module name	Promag L
Nominal diameter	DN150 / 6"
Device name	Promag 400
Order code	5L4C1F-LKF3/0
Serial number	R109EB16000
Firmware version	02.00.01

Calibration

Calibration factor	1.0563
Zero point	-1

Verification information

Operating time (counter)	1778d02h55m43s
Date/time (manually recorded)	09.09.25 14:15
Verification ID	24

Overall verification result

☒ Failed	Details see next page

*Result of the complete device functionality test via Heartbeat Technology

Confirmation

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

Notes

Date	Operator's signature	Inspector's signature

Verification report Promag 400

Endress+Hauser
People for Process Automation

FLOWMETRIX
TECHNICAL SERVICES

Plant operator: Arthur WWTP

Device identification and verification identification

Serial number	R109EB16000
Device tag	SSTP0-FI01
Verification ID	24

Heartbeat Technology

Sensor	**Failed**
Shot time symmetry	Passed
Hold voltage symmetry	Passed
Coil current loss	Passed
Coil current stability	Passed
Coil resistance	Passed
Cable defect	Passed
Cable defect	Passed
Cable defect	Failed
Sensor electronic module (ISEM)	**Passed**
External reference voltage	Passed
Linearity of electrode measuring circuit	Passed
Offset of electrode measuring circuit	Passed
System status	**Passed**
I/O module	**Passed**
Input/output 1	Passed
Input/output 2	Not done
Input/output 3	Not done

Verification report Promag 400

Endress+Hauser
People for Process Automation

FLOWMETRIX
TECHNICAL SERVICES

Plant operator: Arthur WWTP

Heartbeat Technology

Device information

Location	WAS Flow
Device tag	RP100-FI03
Module name	Promag L
Nominal diameter	DN80 / 3"
Device name	Promag 400
Order code	5L4C80-EXA4/0
Serial number	R109EA16000
Firmware version	02.00.01

Calibration

Calibration factor	1.0151
Zero point	7

Verification information

Operating time (counter)	1777d21h24m56s
Date/time (manually recorded)	09.09.25 14:21
Verification ID	2

Overall verification result

☑ Passed	Details see next page

*Result of the complete device functionality test via Heartbeat Technology

Confirmation

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

Notes

Date	Operator's signature	Inspector's signature

Verification report Promag 400

Endress+Hauser
People for Process Automation

FLOWMETRIX
TECHNICAL SERVICES

Plant operator: Arthur WWTP

Device identification and verification identification

Serial number	R109EA16000
Device tag	RP100-FI03
Verification ID	2

Heartbeat Technology

Sensor	☑ **Passed**
Shot time symmetry	☑ Passed
Hold voltage symmetry	☑ Passed
Coil current loss	☑ Passed
Coil current stability	☑ Passed
Coil resistance	☑ Passed
Cable defect	☑ Passed
Cable defect	☑ Passed
Cable defect	☑ Passed
Sensor electronic module (ISEM)	☑ **Passed**
External reference voltage	☑ Passed
Linearity of electrode measuring circuit	☑ Passed
Offset of electrode measuring circuit	☑ Passed
System status	☑ **Passed**
I/O module	☑ **Passed**
Input/output 1	☑ Passed
Input/output 2	? Not done
Input/output 3	? Not done

2025 – 2026 Annual Performance Report
Arthur Wastewater Treatment Plant
ECA 7654-BEMKVD

Appendix C

Daily Streamflow Measurements

Customized Monthly Vertical Report

From 10/01/2025 to 05/31/2026

Facility Name: ARTHUR WASTEWATER TREATMENT PLANT
Receiver: Conestoga River

Facility Org Number: 5767
Facility Owner: Municipality: Township of Wellington North

Works: 110000882
Facility Classification: Class 3 Wastewater Treatment
Total Design Capacity: 1860 m3/day

	Final Effluent		
	River Height - cm		
	IH Edited Count	IH Mon.Max	IH Mon.Mean	IH Mon.Min
Oct 2025	31.00	20.81	13.47	10.85
Nov 2025	30.00	25.12	17.74	12.84
Dec 2025	31.00	81.13	34.19	18.45
Total	92.00			
Avg			21.84	
Max		81.13		
Min				10.85
Jan 2026	31.00	96.64	49.88	26.77
Feb 2026	28.00	45.58	30.62	10.52
Mar 2026	31.00	133.50	61.29	33.12
Apr 2026	30.00	91.61	50.60	26.38
May 2026	31.00	45.30	20.45	13.77
Total	151.00			
Avg			42.75	
Max		133.50		
Min				10.52

Appendix D

Grand River Conservation Authority Manual Discharge Measurements & TAN Concentrations

Arthur WWTP Stream Gauge
Tentative Rating Table

Last Updated:
Sept. 9, 2017

Level (cm)	Flow (m^3/s)	Level (cm)	Flow (m^3/s)	Level (cm)	Flow (m^3/s)	Level (cm)	Flow (m^3/s)
10.1	0.000	14.3	0.035	18.5	0.09	22.7	0.17
10.2	0.001	14.4	0.036	18.6	0.09	22.8	0.17
10.3	0.001	14.5	0.037	18.7	0.09	22.9	0.17
10.4	0.002	14.6	0.038	18.8	0.09	23.0	0.17
10.5	0.003	14.7	0.039	18.9	0.09	23.1	0.18
10.6	0.003	14.8	0.040	19.0	0.10	23.2	0.18
10.7	0.004	14.9	0.041	19.1	0.10	23.3	0.18
10.8	0.005	15.0	0.042	19.2	0.10	23.4	0.18
10.9	0.005	15.1	0.043	19.3	0.10	23.5	0.19
11.0	0.006	15.2	0.045	19.4	0.10	23.6	0.19
11.1	0.007	15.3	0.046	19.5	0.10	23.7	0.19
11.2	0.008	15.4	0.047	19.6	0.11	23.8	0.19
11.3	0.008	15.5	0.048	19.7	0.11	23.9	0.20
11.4	0.009	15.6	0.049	19.8	0.11	24.0	0.20
11.5	0.010	15.7	0.050	19.9	0.11	24.1	0.20
11.6	0.011	15.8	0.052	20.0	0.11	24.2	0.20
11.7	0.011	15.9	0.053	20.1	0.12	24.3	0.20
11.8	0.012	16.0	0.054	20.2	0.12	24.4	0.21
11.9	0.013	16.1	0.055	20.3	0.12	24.5	0.21
12.0	0.014	16.2	0.056	20.4	0.12	24.6	0.21
12.1	0.015	16.3	0.058	20.5	0.12	24.7	0.22
12.2	0.015	16.4	0.059	20.6	0.12	24.8	0.22
12.3	0.016	16.5	0.060	20.7	0.13	24.9	0.22
12.4	0.017	16.6	0.062	20.8	0.13	25.0	0.22
12.5	0.018	16.7	0.063	20.9	0.13	25.1	0.23
12.6	0.019	16.8	0.064	21.0	0.13	25.2	0.23
12.7	0.020	16.9	0.066	21.1	0.13	25.3	0.23
12.8	0.021	17.0	0.067	21.2	0.14	25.4	0.23
12.9	0.021	17.1	0.068	21.3	0.14	25.5	0.24
13.0	0.022	17.2	0.070	21.4	0.14	25.6	0.24
13.1	0.023	17.3	0.071	21.5	0.14	25.7	0.24
13.2	0.024	17.4	0.072	21.6	0.14	25.8	0.24
13.3	0.025	17.5	0.074	21.7	0.15	25.9	0.25
13.4	0.026	17.6	0.075	21.8	0.15	26.0	0.25
13.5	0.027	17.7	0.077	21.9	0.15	26.1	0.25
13.6	0.028	17.8	0.078	22.0	0.15	26.2	0.26
13.7	0.029	17.9	0.080	22.1	0.15	26.3	0.26
13.8	0.030	18.0	0.081	22.2	0.16	26.4	0.26
13.9	0.031	18.1	0.083	22.3	0.16	26.5	0.26
14.0	0.032	18.2	0.084	22.4	0.16	26.6	0.27
14.1	0.033	18.3	0.086	22.5	0.16	26.7	0.27
14.2	0.034	18.4	0.087	22.6	0.16	26.8	0.27

Source: GRCA Manual Discharge Measurements

Arthur WWTP Stream Gauge
Tentative Rating Table

Last Updated:
Sept. 9, 2017

Level (cm)	Flow (m3/s)	Level (cm)	Flow (m3/s)	Level (cm)	Flow (m3/s)	Level (cm)	Flow (m3/s)
26.9	0.28	31.1	0.42	35.3	0.61	39.5	0.85
27.0	0.28	31.2	0.43	35.4	0.62	39.6	0.86
27.1	0.28	31.3	0.43	35.5	0.62	39.7	0.87
27.2	0.29	31.4	0.44	35.6	0.63	39.8	0.87
27.3	0.29	31.5	0.44	35.7	0.63	39.9	0.88
27.4	0.29	31.6	0.44	35.8	0.64	40.0	0.89
27.5	0.30	31.7	0.45	35.9	0.65	40.1	0.89
27.6	0.30	31.8	0.45	36.0	0.65	40.2	0.90
27.7	0.30	31.9	0.46	36.1	0.66	40.3	0.91
27.8	0.31	32.0	0.46	36.2	0.66	40.4	0.91
27.9	0.31	32.1	0.47	36.3	0.67	40.5	0.92
28.0	0.31	32.2	0.47	36.4	0.67	40.6	0.93
28.1	0.31	32.3	0.47	36.5	0.68	40.7	0.93
28.2	0.32	32.4	0.48	36.6	0.68	40.8	0.94
28.3	0.32	32.5	0.48	36.7	0.69	40.9	0.95
28.4	0.32	32.6	0.49	36.8	0.69	41.0	0.95
28.5	0.33	32.7	0.49	36.9	0.70	41.1	0.96
28.6	0.33	32.8	0.50	37.0	0.71	41.2	0.97
28.7	0.33	32.9	0.50	37.1	0.71	41.3	0.97
28.8	0.34	33.0	0.50	37.2	0.72	41.4	0.98
28.9	0.34	33.1	0.51	37.3	0.72	41.5	0.99
29.0	0.35	33.2	0.51	37.4	0.73	41.6	1.00
29.1	0.35	33.3	0.52	37.5	0.73	41.7	1.00
29.2	0.35	33.4	0.52	37.6	0.74	41.8	1.01
29.3	0.36	33.5	0.53	37.7	0.75	41.9	1.02
29.4	0.36	33.6	0.53	37.8	0.75	42.0	1.02
29.5	0.36	33.7	0.54	37.9	0.76	42.1	1.03
29.6	0.37	33.8	0.54	38.0	0.76	42.2	1.04
29.7	0.37	33.9	0.55	38.1	0.77	42.3	1.05
29.8	0.37	34.0	0.55	38.2	0.77	42.4	1.05
29.9	0.38	34.1	0.56	38.3	0.78	42.5	1.06
30.0	0.38	34.2	0.56	38.4	0.79	42.6	1.07
30.1	0.39	34.3	0.56	38.5	0.79	42.7	1.07
30.2	0.39	34.4	0.57	38.6	0.80	42.8	1.08
30.3	0.39	34.5	0.57	38.7	0.80	42.9	1.09
30.4	0.40	34.6	0.58	38.8	0.81	43.0	1.10
30.5	0.40	34.7	0.58	38.9	0.82	43.1	1.10
30.6	0.40	34.8	0.59	39.0	0.82	43.2	1.11
30.7	0.41	34.9	0.59	39.1	0.83	43.3	1.12
30.8	0.41	35.0	0.60	39.2	0.84	43.4	1.13
30.9	0.42	35.1	0.60	39.3	0.84	43.5	1.14
31.0	0.42	35.2	0.61	39.4	0.85	43.6	1.14

Source: GRCA Manual Discharge Measurements

Arthur WWTP Stream Gauge
Tentative Rating Table

Last Updated:
Sept. 9, 2017

Level (cm)	Flow (m3/s)	Level (cm)	Flow (m3/s)	Level (cm)	Flow (m3/s)	Level (cm)	Flow (m3/s)
43.8	1.16	52.2	1.95	60.6	3.03	69.0	4.47
44.0	1.17	52.4	1.97	60.8	3.06	69.2	4.51
44.2	1.19	52.6	1.99	61.0	3.09	69.4	4.55
44.4	1.21	52.8	2.01	61.2	3.12	69.6	4.58
44.6	1.22	53.0	2.04	61.4	3.15	69.8	4.62
44.8	1.24	53.2	2.06	61.6	3.18	70.0	4.66
45.0	1.25	53.4	2.08	61.8	3.22	70.2	4.70
45.2	1.27	53.6	2.11	62.0	3.25	70.4	4.74
45.4	1.29	53.8	2.13	62.2	3.28	70.6	4.78
45.6	1.30	54.0	2.15	62.4	3.31	70.8	4.82
45.8	1.32	54.2	2.18	62.6	3.34	71.0	4.87
46.0	1.34	54.4	2.20	62.8	3.37	71.2	4.91
46.2	1.36	54.6	2.22	63.0	3.40	71.4	4.95
46.4	1.37	54.8	2.25	63.2	3.44	71.6	4.99
46.6	1.39	55.0	2.27	63.4	3.47	71.8	5.03
46.8	1.41	55.2	2.30	63.6	3.50	72.0	5.07
47.0	1.43	55.4	2.32	63.8	3.54	72.2	5.12
47.2	1.44	55.6	2.35	64.0	3.57	72.4	5.16
47.4	1.46	55.8	2.37	64.2	3.60	72.6	5.20
47.6	1.48	56.0	2.40	64.4	3.64	72.8	5.24
47.8	1.50	56.2	2.42	64.6	3.67	73.0	5.29
48.0	1.52	56.4	2.45	64.8	3.70	73.2	5.33
48.2	1.54	56.6	2.47	65.0	3.74	73.4	5.37
48.4	1.56	56.8	2.50	65.2	3.77	73.6	5.42
48.6	1.57	57.0	2.53	65.4	3.81	73.8	5.46
48.8	1.59	57.2	2.55	65.6	3.84	74.0	5.51
49.0	1.61	57.4	2.58	65.8	3.88	74.2	5.55
49.2	1.63	57.6	2.61	66.0	3.91	74.4	5.60
49.4	1.65	57.8	2.63	66.2	3.95	74.6	5.64
49.6	1.67	58.0	2.66	66.4	3.98	74.8	5.69
49.8	1.69	58.2	2.69	66.6	4.02	75.0	5.73
50.0	1.71	58.4	2.72	66.8	4.06	75.2	5.78
50.2	1.73	58.6	2.74	67.0	4.09	75.4	5.82
50.4	1.75	58.8	2.77	67.2	4.13	75.6	5.87
50.6	1.77	59.0	2.80	67.4	4.16	75.8	5.92
50.8	1.80	59.2	2.83	67.6	4.20	76.0	5.96
51.0	1.82	59.4	2.86	67.8	4.24	76.2	6.01
51.2	1.84	59.6	2.89	68.0	4.28	76.4	6.06
51.4	1.86	59.8	2.91	68.2	4.31	76.6	6.11
51.6	1.88	60.0	2.94	68.4	4.35	76.8	6.15
51.8	1.90	60.2	2.97	68.6	4.39	77.0	6.20
52.0	1.92	60.4	3.00	68.8	4.43	77.2	6.25

Source: GRCA Manual Discharge Measurements

Arthur WWTP Stream Gauge
Tentative Rating Table

Last Updated:
Sept. 9, 2017

Level (cm)	Flow (m3/s)	Level (cm)	Flow (m3/s)	Level (cm)	Flow (m3/s)	Level (cm)	Flow (m3/s)
77.5	6.3	98.5	13.0	119.5	23.2	140.5	38
78.0	6.4	99.0	13.2	120.0	23.5	141.0	38
78.5	6.6	99.5	13.4	120.5	23.8	141.5	39
79.0	6.7	100.0	13.6	121.0	24.1	142.0	39
79.5	6.8	100.5	13.8	121.5	24.4	142.5	39
80.0	7.0	101.0	14.0	122.0	24.7	143.0	40
80.5	7.1	101.5	14.2	122.5	25.0	143.5	40
81.0	7.2	102.0	14.4	123.0	25.3	144.0	41
81.5	7.4	102.5	14.6	123.5	25.6	144.5	41
82.0	7.5	103.0	14.9	124.0	26.0	145.0	42
82.5	7.6	103.5	15.1	124.5	26.3	145.5	42
83.0	7.8	104.0	15.3	125.0	26.6	146.0	42
83.5	7.9	104.5	15.5	125.5	26.9	146.5	43
84.0	8.1	105.0	15.7	126.0	27.2	147.0	43
84.5	8.2	105.5	16.0	126.5	27.6	147.5	44
85.0	8.3	106.0	16.2	127.0	27.9	148.0	44
85.5	8.5	106.5	16.4	127.5	28.2	148.5	45
86.0	8.6	107.0	16.7	128.0	28.6	149.0	45
86.5	8.8	107.5	16.9	128.5	28.9	149.5	46
87.0	8.9	108.0	17.1	129.0	29.2	150.0	46
87.5	9.1	108.5	17.4	129.5	29.6	150.5	47
88.0	9.3	109.0	17.6	130.0	29.9	151.0	47
88.5	9.4	109.5	17.9	130.5	30.3	151.5	47
89.0	9.6	110.0	18.1	131.0	30.6	152.0	48
89.5	9.7	110.5	18.3	131.5	31.0	152.5	48
90.0	9.9	111.0	18.6	132.0	31.3	153.0	49
90.5	10.1	111.5	18.9	132.5	31.7	153.5	49
91.0	10.2	112.0	19.1	133.0	32.1	154.0	50
91.5	10.4	112.5	19.4	133.5	32.4	154.5	50
92.0	10.6	113.0	19.6	134.0	32.8	155.0	51
92.5	10.8	113.5	19.9	134.5	33.2	155.5	51
93.0	10.9	114.0	20.2	135.0	33.5	156.0	52
93.5	11.1	114.5	20.4	135.5	33.9	156.5	52
94.0	11.3	115.0	20.7	136.0	34.3	157.0	53
94.5	11.5	115.5	21.0	136.5	34.7	157.5	53
95.0	11.6	116.0	21.2	137.0	35.0	158.0	54
95.5	11.8	116.5	21.5	137.5	35.4	158.5	54
96.0	12.0	117.0	21.8	138.0	35.8	159.0	55
96.5	12.2	117.5	22.1	138.5	36.2	159.5	55
97.0	12.4	118.0	22.4	139.0	36.6	160.0	56
97.5	12.6	118.5	22.6	139.5	37.0	160.5	56
98.0	12.8	119.0	22.9	140.0	37.4	161.0	57

Source: GRCA Manual Discharge Measurements

AMMONIA			
NH3-N	X 1.22	X 1.29	T.A.N.
0.01	0.01220	0.0129	0.0251
0.02	0.02440	0.0258	0.0502
0.03	0.03660	0.0387	0.0753
0.04	0.04880	0.0516	0.1004
0.05	0.06100	0.0645	0.1255
0.06	0.07320	0.0774	0.1506
0.07	0.08540	0.0903	0.1757
0.08	0.09760	0.1032	0.2008
0.09	0.10980	0.1161	0.2259
0.10	0.12200	0.1290	0.2510
0.11	0.13420	0.1419	0.2761
0.12	0.14640	0.1548	0.3012
0.13	0.15860	0.1677	0.3263
0.14	0.17080	0.1806	0.3514
0.15	0.18300	0.1935	0.3765
0.16	0.19520	0.2064	0.4016
0.17	0.20740	0.2193	0.4267
0.18	0.21960	0.2322	0.4518
0.19	0.23180	0.2451	0.4769
0.20	0.24400	0.2580	0.5020
0.21	0.25620	0.2709	0.5271
0.22	0.26840	0.2838	0.5522
0.23	0.28060	0.2967	0.5773
0.24	0.29280	0.3096	0.6024
0.25	0.30500	0.3225	0.6275
0.26	0.31720	0.3354	0.6526
0.27	0.32940	0.3483	0.6777
0.28	0.34160	0.3612	0.7028
0.29	0.35380	0.3741	0.7279
0.30	0.36600	0.3870	0.7530
0.31	0.37820	0.3999	0.7781
0.32	0.39040	0.4128	0.8032
0.33	0.40260	0.4257	0.8283
0.34	0.41480	0.4386	0.8534
0.35	0.42700	0.4515	0.8785
0.36	0.43920	0.4644	0.9036
0.37	0.45140	0.4773	0.9287
0.38	0.46360	0.4902	0.9538
0.39	0.47580	0.5031	0.9789
0.40	0.48800	0.5160	1.0040
0.41	0.50020	0.5289	1.0291
0.42	0.51240	0.5418	1.0542
0.43	0.52460	0.5547	1.0793

AMMONIA			
NH3-N	X 1.22	X 1.29	T.A.N.
0.44	0.54900	0.5805	1.1295
0.45	0.56120	0.5934	1.1546
0.46	0.57340	0.6063	1.1797
0.47	0.58560	0.6192	1.2048
0.48	0.59780	0.6321	1.2299
0.49	0.61000	0.6450	1.2550
0.50	0.62220	0.6579	1.2801
0.51	0.63440	0.6708	1.3052
0.52	0.64660	0.6837	1.3303
0.53	0.65880	0.6966	1.3554
0.54	0.67100	0.7095	1.3805
0.55	0.68320	0.7224	1.4056
0.56	0.69540	0.7353	1.4307
0.57	0.70760	0.7482	1.4558
0.58	0.71980	0.7611	1.4809
0.59	0.73200	0.7740	1.5060
0.60	0.74420	0.7869	1.5311
0.61	0.75640	0.7998	1.5562
0.62	0.76860	0.8127	1.5813
0.63	0.78080	0.8256	1.6064
0.64	0.79300	0.8385	1.6315
0.65	0.80520	0.8514	1.6566
0.66	0.81740	0.8643	1.6817
0.67	0.82960	0.8772	1.7068
0.68	0.84180	0.8901	1.7319
0.69	0.85400	0.9030	1.7570
0.70	0.86620	0.9159	1.7821
0.71	0.87840	0.9288	1.8072
0.72	0.89060	0.9417	1.8323
0.73	0.90280	0.9546	1.8574
0.74	0.91500	0.9675	1.8825
0.75	0.92720	0.9804	1.9076
0.76	0.93940	0.9933	1.9327
0.77	0.95160	1.0062	1.9578
0.78	0.96380	1.0191	1.9829
0.79	0.97600	1.0320	2.0080
0.80	0.98820	1.0449	2.0331
0.81	1.00040	1.0578	2.0582
0.82	1.01260	1.0707	2.0833
0.83	1.02480	1.0836	2.1084
0.84	1.03700	1.0965	2.1335
0.85	1.04920	1.1094	2.1586
0.86	0.00000	0.0000	0.0000

2025 – 2026 Annual Performance Report
Arthur Wastewater Treatment Plant
ECA 7654-BEMKVD

Appendix E

Sampling Schedules

2025 Sampling Calendar
ARTHUR WWTP (Org #5767)
WWT III

JANUARY						
M	T	W	TH	F	St	Su
		1	2	3	4	5
6	**7 - W/M/BS**	8	9	10	11	12
13	**14 - W**	15	16	17	18	19
20	**21 - W**	22	23	24	25	26
27	**28 - W**	29	30	31		

FEBRUARY						
M	T	W	TH	F	St	Su
					1	2
3	**4 - W/M/BS**	5	6	7	8	9
10	**11 - W**	12	13	14	15	16
17	**18 - W**	19	20	21	22	23
24	**25 - W**	26	27	28		

MARCH						
M	T	W	TH	F	St	Su
					1	2
3	**4 - W/M/BS**	5	6	7	8	9
10	**11 - W**	12	13	14	15	16
17	**18 - W**	19	20	21	22	23
24	**25 - W**	26	27	28	29	30
31						

APRIL						
M	T	W	TH	F	St	Su
	1 - W/M/BS	2	3	4	5	6
7	**8 - W**	9	10	11	12	13
14	**15 - W**	16	17	18	19	20
21	**22 - W**	23	24	25	26	27
28	**29 - W**	30				

MAY						
M	T	W	TH	F	St	Su
			1	2	3	4
5	**6 - W/M/BS**	7	8	9	10	11
12	**13 - W**	14	15	16	17	18
19	**20 - W**	21	22	23	24	25
26	**27 - W**	28	29	30	31	

JUNE						
M	T	W	TH	F	St	Su
						1
2	**3 - M/BS/SE**	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

Stat Holiday/Weekend

Sample Day

W=Weekly Effluent; **M**=Monthly Raw; **BS**=Monthly Bio-Solids; **SE**=Secondary Effluent; **LCS**=Lagoon Cell Sampling

Discharge Period: October 1-May 31

If you are NOT able to sample on the scheduled day, call your PCT as soon as possible

S:\WestHighlands\19 WELLINGTON NORTH (Township of)\Arthur\01 OPERATIONAL\1-1 Sampling Schedules\2025 Sampling Calendar_Arthur_Waste_2024.12.13.xlsx

Revision # 8 - Revised 2024-12-13

2025 Sampling Calendar
ARTHUR WWTP (Org #5767)
WWT III

JULY						
M	T	W	TH	F	St	Su
	1	**2 - M/BS/SE**	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

AUGUST						
M	T	W	TH	F	St	Su
				1	2	3
4	**5 - M/BS/SE**	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

SEPTEMBER						
M	T	W	TH	F	St	Su
1	**2 - M/BS/SE**	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	**23-LCS**	24	25	26	27	28
29	30					

OCTOBER						
M	T	W	TH	F	St	Su
		1- W/M/BS	2	3	4	5
6	**7 - W**	8	9	10	11	12
13	**14 - W**	15	16	17	18	19
20	**21 - W**	22	23	24	25	26
27	**28 - W**	29	30	31		

NOVEMBER						
M	T	W	TH	F	St	Su
					1	2
3	**4 - W/M/BS**	5	6	7	8	9
10	11	**12 - W**	13	14	15	16
17	**18 - W**	19	20	21	22	23
24	**25 - W**	26	27	28	29	30

DECEMBER						
M	T	W	TH	F	St	Su
1	**2 - W/M/BS**	3	4	5	6	7
8	**9 - W**	10	11	12	13	14
15	**16 - W**	17	18	19	20	21
22	**23 - W**	24	25	26	27	28
29	**30 - W**	31				

Stat Holiday/Weekend

Sample Day

W=Weekly Effluent; **M**=Monthly Raw; **BS**=Monthly Bio-Solids; **SE**=Secondary Effluent; **LCS**=Lagoon Cell Sampling

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Revision # 8 - Revised 2024-12-13

2026 Sampling Calendar
ARTHUR WWTP (Org #5767)
WWT III

JANUARY						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
				1	2	3
4	5	6	**7 - W/M/BS**	8	9	10
11	12	13	**14 - W**	15	16	17
18	19	20	**21 - W**	22	23	24
25	26	27	**28 - W**	29	30	31

FEBRUARY						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
1	2	3	**4 - W/M/BS**	5	6	7
8	9	10	**11 - W**	12	13	14
15	16	17	**18 - W**	19	20	21
22	23	24	**25 - W**	26	27	28

MARCH						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
1	2	3	**4 - W/M/BS**	5	6	7
8	9	10	**11 - W**	12	13	14
15	16	17	**18 - W**	19	20	21
22	23	24	**25 - W**	26	27	28
29	30	31				

APRIL						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
			1 - W/M/BS	2	3	4
5	6	7	**8 - W**	9	10	11
12	13	14	**15 - W**	16	17	18
19	20	21	**22 - W**	23	24	25
26	27	28	**29 - W**	30		

MAY						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
					1	2
3	4	5	**6 - W/M/BS**	7	8	9
10	11	12	**13 - W**	14	15	16
17	18	19	**20 - W**	21	22	23
24	25	26	**27 - W**	28	29	30
31						

JUNE						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
	1	2	**3 - M/BS/SE**	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Stat Holiday/Weekend
Sample Day

W=Weekly Effluent; **M**=Monthly Raw; **BS**=Monthly Bio-Solids; **SE**=Secondary Effluent; **LCS**=Lagoon Cell Sampling

Discharge Period: October 1-May 31

If you are NOT able to sample on the scheduled day, call your PCT as soon as possible

S:\WestHighlands\19 WELLINGTON NORTH (Township of)\Arthur\01 OPERATIONAL\1-1 Sampling Schedules\2026 Sampling Calendar_Arthur_Waste_2025.12.15.xlsx

Revision #9 - Revised 2025-12-15

2026 Sampling Calendar
ARTHUR WWTP (Org #5767)
WWT III

JULY						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
			1	2	3	4
5	6	7	**8 - M/BS/SE**	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

AUGUST						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
						1
2	3	4	**5 - M/BS/SE**	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
		1	**2 - M/BS/SE**	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	**23 - LCS**	24	25	26
27	28	29	30			

OCTOBER						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
				1	2	3
4	5	6	**7 - W/M/BS**	8	9	10
11	12	13	**14 - W**	15	16	17
18	19	20	**21 - W**	22	23	24
25	26	27	**28 - W**	29	30	31

NOVEMBER						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
1	2	3	**4 - W/M/BS**	5	6	7
8	9	**10 - W**	11	12	13	14
15	16	17	**18 - W**	19	20	21
22	23	24	**25 - W**	26	27	28
29	30					

DECEMBER						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
		1	**2 - W/M/BS**	3	4	5
6	7	8	**9 - W**	10	11	12
13	14	15	**16 - W**	17	18	19
20	21	22	**23 - W**	24	25	26
27	28	29	**30 - W**	31		

Stat Holiday/Weekend	**W**=Weekly Effluent; **M**=Monthly Raw; **BS**=Monthly Bio-Solids; **SE**=Secondary Effluent; **LCS**=Lagoon Cell Sampling
Sample Day	Discharge Period: October 1-May 31

If you are NOT able to sample on the scheduled day, call your PCT as soon as possible

S:\WestHighlands\19 WELLINGTON NORTH (Township of)\Arthur\01 OPERATIONAL\1-1 Sampling Schedules\2026 Sampling Calendar_Arthur_Waste_2025.12.15.xlsx

Revision #9 - Revised 2025-12-15

2025 – 2026 Annual Performance Report
Arthur Wastewater Treatment Plant
ECA 7654-BEMKVD

Appendix F

Sludge Quality Analysis

Biosolids Quality Report

Facility: ARTHUR WASTEWATER TREATMENT PLANT

Solids & Nutrients

Period: 10/01/2025 to 05/31/2026

Works: 5767 / Digestor Type: Aerobic

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Solids & Nutrients | **Metals & Criteria** | **Last 4 Samples**

Facility Works Number: 110000882

Receiver: Conestoga River

Facility Owner: Municipality: Township of Wellington North

Facility Classification: Class 3 Wastewater Treatment

Total Design Capacity: 1860 m3/day

Note: all parameters in this report are derived from the Bslq Station

Month	Hauled Vol. (m^3)	Total Solids (mg/L)	Total Phosphorus (mg/L)	Total Ammonia Nitrogen (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Ammonia + Nitrate (mg/L)	Potassium (mg/L)
Parameter Short Name	**HauledVol**	**TS**	**TP**	**NH3p_NH4p_N**	**NO3-N**	**NO2-N**	**TKN**	**Calculation in Report**	**K**
T/S	**IH Month.Total**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**- no T/S**	**Lab Published Month Mean**
Oct	851.00	32,700.00	1,250.00	263.00	3.00	6.00	1,780.00	133.00	94.00
Nov	0.00	10,500.00	300.00	6.60	39.00	3.00	472.00	22.80	44.00
Dec	264.00	24,500.00	778.00	38.80	3.00	3.00	1,290.00	20.90	75.00
Jan	0.00	16,400.00	442.00	27.10	3.00	3.00	958.00	15.05	66.00
Feb	240.00	24,600.00	679.00	14.10	26.00	3.00	1,310.00	20.05	91.00
Mar	103.00	23,200.00	470.00	22.70	3.00	3.00	1,400.00	12.85	88.00
Apr	122.00	40,400.00	955.00	97.00	3.00	3.00	2,250.00	50.00	141.00
May	1,018.00	24,800.00	658.00	211.00	3.00	3.00	1,680.00	107.00	131.00
Average	324.75	24,637.50	691.50	85.04	10.38	3.38	1,392.50	47.71	91.25
Total	2,598.00	197,100.00	5,532.00	680.30	83.00	27.00	11,140.00	381.65	730.00

Biosolids Quality Report

Facility: ARTHUR WASTEWATER TREATMENT PLANT

Metals & Criteria

Period: 10/01/2025 to 05/31/2026

Works: 5767 / Digestor Type: Aerobic

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Solids & Nutrients | **Metals & Criteria** | **Last 4 Samples**

Note: all parameters in this report are derived from the Bslq Station

Month	Arsenic (mg/L)	Cadmium (mg/L)	Cobalt (mg/L)	Chromium (mg/L)	Copper (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Lead (mg/L)	Selenium (mg/L)	Zinc (mg/L)
Parameter Short Name	**As**	**Cd**	**Co**	**Cr**	**Cu**	**Hg**	**Mo**	**Ni**	**Pb**	**Se**	**Zn**
T/S	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**
Oct	0.20	0.01	0.05	0.85	24.00	0.01	0.50	0.48	0.20	0.10	12.00
Nov	0.10	0.01	0.01	0.14	5.50	0.00	0.07	0.10	0.10	0.10	4.00
Dec	0.10	0.01	0.03	0.51	22.00	0.01	0.17	0.31	0.20	0.10	10.00
Jan	0.10	0.01	0.02	0.52	41.00	0.00	0.16	0.28	0.10	0.10	5.00
Feb	0.10	0.01	0.05	0.86	61.00	0.00	0.23	0.47	0.10	0.10	9.00
Mar	0.10	0.01	0.03	0.74	50.00	0.01	0.15	0.38	0.10	0.10	7.00
Apr	0.20	0.01	0.06	1.40	97.00	0.01	0.23	0.72	0.20	0.10	12.00
May	0.10	0.01	0.04	0.87	50.00	0.01	0.16	0.45	0.20	0.10	7.00
Average	0.13	0.01	0.04	0.74	43.81	0.01	0.21	0.40	0.15	0.10	8.25
Max. Permissible Metal Concentrations (mg/kg of Solids)	170.00	34.00	340.00	2,800.00	1,700.00	11.00	94.00	420.00	1,100.00	34.00	4,200.00
Metal Concentrations in Sludge (mg/kg)	5.07	0.29	1.47	29.88	1,778.29	0.23	8.47	16.18	6.09	4.06	334.86

Biosolids Quality Report

Facility: ARTHUR WASTEWATER TREATMENT PLANT

Last 4 Samples

Period: 10/01/2025 to 05/31/2026

Works: 5767 / Digestor Type: Aerobic

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Solids & Nutrients **Metals & Criteria** **Last 4 Samples**

Note: all parameters in this report are derived from the Bslq Station

Parameter Short Name	Time Series	02/04/2026	03/04/2026	04/08/2026	05/13/2026	Average	Metal Concentrations in Sludge (mg/kg)	Max. Permissible Metal Concentrations (mg/kg of Solids)
As (mg/L)	Lab Published	0.10	0.10	0.20	0.10	0.13	4.42	170
Cd (mg/L)	Lab Published	0.01	0.01	0.01	0.01	0.01	0.25	34
Co (mg/L)	Lab Published	0.05	0.03	0.06	0.04	0.05	1.59	340
Cr (mg/L)	Lab Published	0.86	0.74	1.40	0.87	0.97	34.25	2800
Cu (mg/L)	Lab Published	61.00	50.00	97.00	50.00	64.50	2,283.19	1700
Hg (mg/L)	Lab Published	0.00	0.01	0.01	0.01	0.01	0.23	11
Mo (mg/L)	Lab Published	0.23	0.15	0.23	0.16	0.19	6.81	94
Ni (mg/L)	Lab Published	0.47	0.38	0.72	0.45	0.51	17.88	420
Pb (mg/L)	Lab Published	0.10	0.10	0.20	0.20	0.15	5.31	1100
Se (mg/L)	Lab Published	0.10	0.10	0.10	0.10	0.10	3.54	34
Zn (mg/L)	Lab Published	9.00	7.00	12.00	7.00	8.75	309.73	4200
E.Coli Dry Wt (cfu/g)	Lab Published						E. Coli average is the GMD	
TS (mg/L)	Lab Published	24,600.00	23,200.00	40,400.00	24,800.00	28,250.00		
TP (mg/L)	Lab Published	679.00	470.00	955.00	658.00	690.50		
NO2-N (mg/L)	Lab Published	3.00	3.00	3.00	3.00	3.00		
TKN (mg/L)	Lab Published	1,310.00	1,400.00	2,250.00	1,680.00	1,660.00		
K (mg/L)	Lab Published	91.00	88.00	141.00	131.00	112.75		
NH3p_NH4p_N (mg/L)	Lab Published	14.10	22.70	97.00	211.00	86.20		
NO3-N (mg/L)	Lab Published	26.00	3.00	3.00	3.00	8.75		