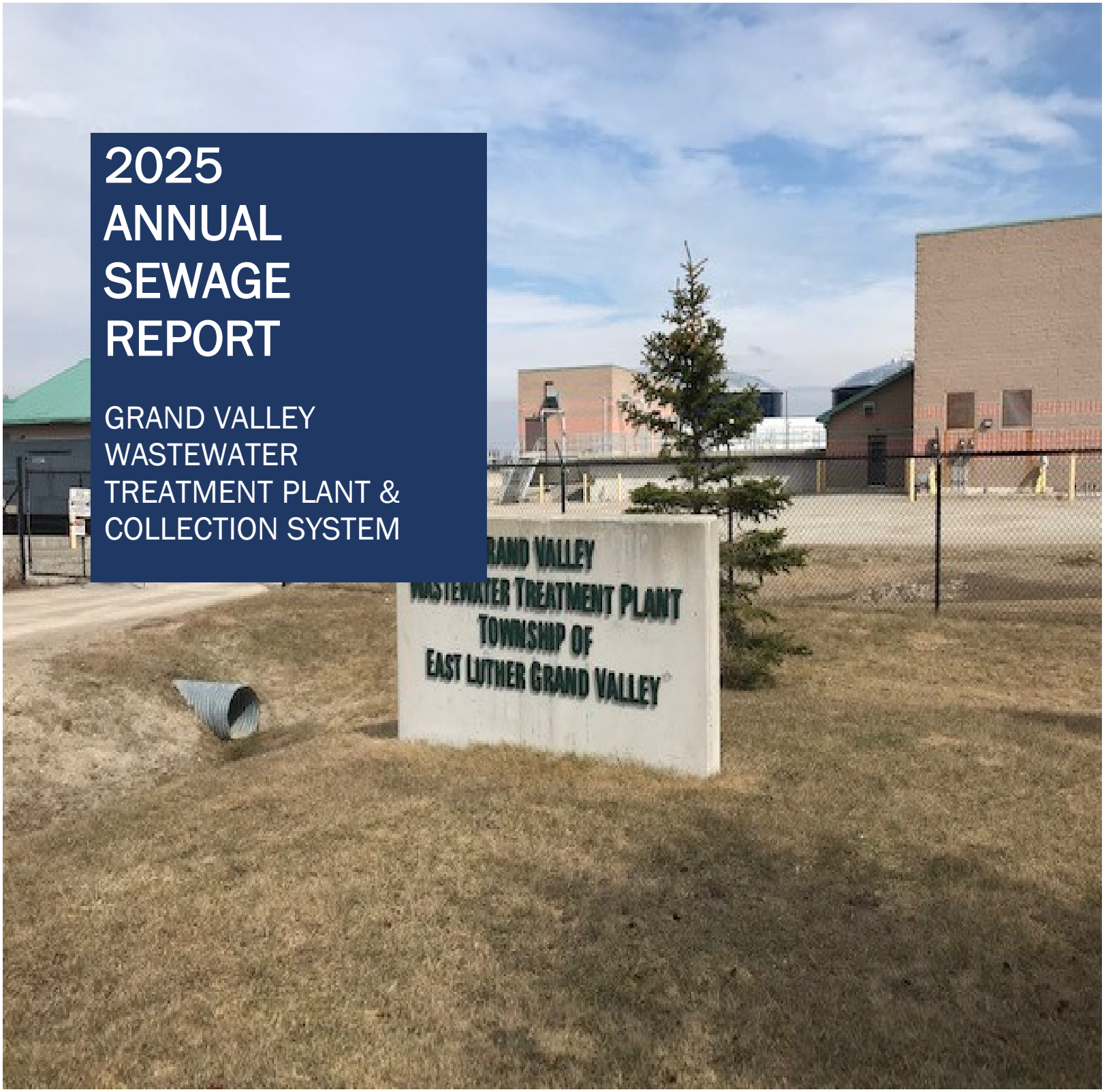

2025 ANNUAL SEWAGE REPORT

GRAND VALLEY WASTEWATER TREATMENT PLANT & COLLECTION SYSTEM

For the period of
January 1st, 2025 to December 31st, 2025

Prepared for The Town of Grand Valley by the Ontario Clean Water Agency

Town of GRAND VALLEY

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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1. System Description

The Grand Valley Wastewater Treatment Plant (WWTP) is an extended aeration plant with tertiary treatment and is located at 18 Watson Road in Grand Valley, Ontario. The WWTP and its collection system are owned by the Town of Grand Valley and the Operating Authority is the Ontario Clean Water Agency (OCWA). As per ECA 9611-CFVLRG, the plant's rated capacity is 1,555 m^3/d and its peak capacity is 5,300 m^3/d. The major process units consist of a receiving facility for imported sewage (discharging to the inlet works), inlet works, preliminary treatment consisting of screening and grit removal, influent flow measurement, secondary treatment systems consisting of biological treatment in the aerations tanks, secondary sedimentation in two clarifiers, and tertiary treatment consisting of a sand filtration system, phosphorus removal and UV disinfection. Sludge is managed through sludge digestion in primary and secondary digesters and stored in one sludge storage tank prior to haulage. The WWTP discharges the treated effluent via its outfall into the Grand River.

An overview of Grand Valley Wastewater Treatment Plant can be found in the following table:

Table 1. Grand Valley Wastewater Treatment Plant Overview

Facility Name	Grand Valley Wastewater Treatment Plant
Facility Type	Extended Air STP with Tertiary Treatment
Plant Classification	WWT II, WWC II
Works Number	110000301
Design Capacity	1,555 m^3/day
Peak Capacity	5,300 m^3/day
Receiving Water	Grand River
Environmental Compliance Approval	9611-CFVLRG, Issued July 27, 2022

2. Monitoring Data Influent

As per Section 11(4)(a) of ECA 9611-CFVLRG *a summary and interpretation of all Influent, Imported Sewage monitoring data, and a review of the historical trend of the sewage characteristics and flow rates* is required.

2.1 Influent ECA Monitoring Program

The following tables (Table 2 and Table 3) outline the influent monitoring program at the Grand Valley 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. These parameters were analyzed by an accredited analytical laboratory (SGS Canada Inc., Lakefield, Ontario). The sampling frequencies meet the requirements set out in Schedule D of ECA 9611-CFVLRG.

Table 2. Influent (Raw Sewage) Water Quality Monitoring Program and Sampling Frequencies- *as per (ECA 9611-CFVLRG), Schedule D*

Parameter	Sample Type	Minimum Frequency
BOD_5[2A]	24 hour composite	Weekly
Total Suspended Solids[2A]	24 hour composite	Weekly
Total Phosphorous[2A]	24 hour composite	Weekly
Total Kjeldahl Nitrogen[2A]	24 hour composite	Weekly

[2A]Refer to the **Appendix A** 2025 PAR for monthly sample results.

Table 3. Imported Sewage (Receiving Station) Monitoring Program and Sampling Frequencies- *as per (ECA 9611-CFVLRG), Schedule D*

Parameter	Sample Type	Minimum Frequency
BOD_5	Grab	Monthly as occurs
Total Suspended Solids	Grab	Monthly as occurs
Total Phosphorus	Grab	Monthly as occurs
Total Kjeldahl Nitrogen	Grab	Monthly as occurs

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

The following parameters in Table 4 are not reportable as they do not have limits or objectives but are monitored on a regular basis (see Section 2.1 for sampling frequency) as required by ECA 9611-CFVLRG. Table 4 summarizes the monitoring data for the reporting period.

Table 4. Raw Sewage (Influent) Quality Analysis for 2025

Parameter	Average (mg/L)	Minimum (mg/L)	Maximum (mg/L)
BOD_5[4A]	145.25	65.00	277.00
Total Suspended Solids[4A]	152.27	62.00	509.00
Total Phosphorous[4A]	2.55	0.64	5.43
Total Kjeldahl Nitrogen[4A]	23.83	5.10	43.40

[4A]Refer to **Appendix A** 2025 PAR for monthly sample results.

Influent Laboratory analysis for the reporting year averaged a Biochemical Oxygen Demand (BOD_5) annual concentration of 145.25 mg/L, a Total Suspended Solids (TSS) concentration of 152.27 mg/L, a Total Phosphorus (TP) concentration of 2.55 mg/L and a Total Kjeldahl Nitrogen (TKN) concentration of 23.83 mg/L. When comparing the data to 2024 trends, all parameter concentrations were slightly elevated in 2025 except for Total Suspended Solids, which was lower. The average concentration of BOD_5 in 2024 was 142.94 mg/L (2.31 mg/L higher in 2025). In 2024 TSS annual average concentration was 152.98 mg/L (0.71 mg/L lower in 2025). In 2024 TP annual average concentration was 2.38 mg/L (0.17 mg/L higher in 2025) and TKN annual average concentration in 2024 was 21.09 mg/L (2.74 mg/L higher in 2025).

Imported Sewage Quality:

The Grand Valley WWTP is equipped with an imported sewage receiving facility, which is located in the headworks building. During the reporting period the facility received a total of 38.00 m^3 of imported sewage. Please see **Appendix B** for details on volume received throughout the reporting period.

The following parameters in Table 5 are not reportable as they do not have limits or objectives but are monitored on a regular basis (see Section 2.1 for sampling frequency) as required by ECA 9611-CFVLRG. Table 5 summarizes the monitoring data for the reporting period.

Table 5. Imported Raw Sewage Quality Analysis for 2025

Parameter	Average (mg/L)	Minimum (mg/L)	Maximum (mg/L)
BOD_5	1982.67	482.00	6760.00
Total Suspended Solids	8165.78	152.00	36700.00
Total Phosphorous	81.21	12.00	282.00
Total Kjeldahl Nitrogen	232.33	58.00	506.00

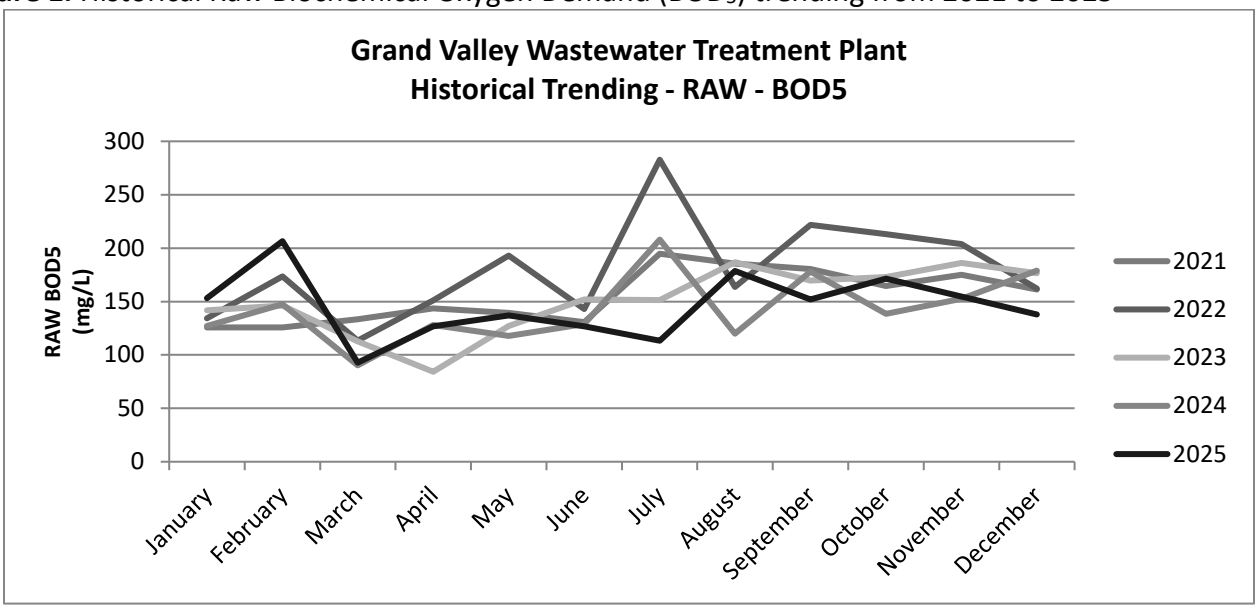
Laboratory analysis for the 2025 reporting year for imported sewage averaged a Biochemical Oxygen Demand (BOD_5) annual concentration of 1982.67 mg/L, a Total Suspended Solids (TSS) concentration of 8165.78 mg/L, a Total Phosphorus (TP) concentration of 81.21 mg/L and a Total Kjeldahl Nitrogen concentration of 232.33 mg/L. When comparing the data to 2024 trends all parameter concentrations are lower in 2025 than in 2024, except for TP. The average concentration of BOD_5 in 2024 was 2584.23 mg/L (601.56 mg/L lower in 2025). In 2024, TSS annual average concentration was 9053.46 mg/L (887.68 mg/L lower in 2025). In 2024, TP annual average concentration was 53.69 mg/L (27.52 mg/L higher in 2025) and TKN annual average concentration was 325.77 mg/L (93.44 mg/L lower in 2025).

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

Sewage Characteristics

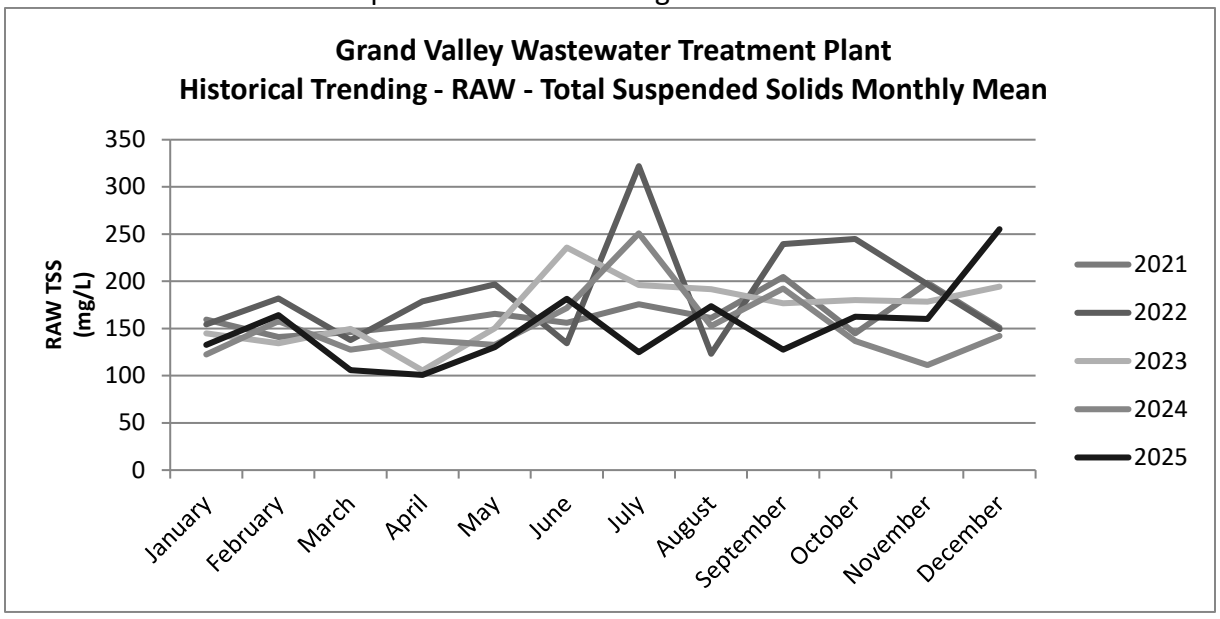
The below graph shows historical raw Biochemical Oxygen Demand (BOD_5) trending from 2021 to 2025. A review of the trends from the last 5 years for BOD_5 shows that the average BOD_5 concentration in the raw sewage has fluctuated year over year. A slightly higher BOD_5 loading was observed in 2025 comparatively to previous years.

Figure 1. Historical Raw Biochemical Oxygen Demand (BOD_5) trending from 2021 to 2025



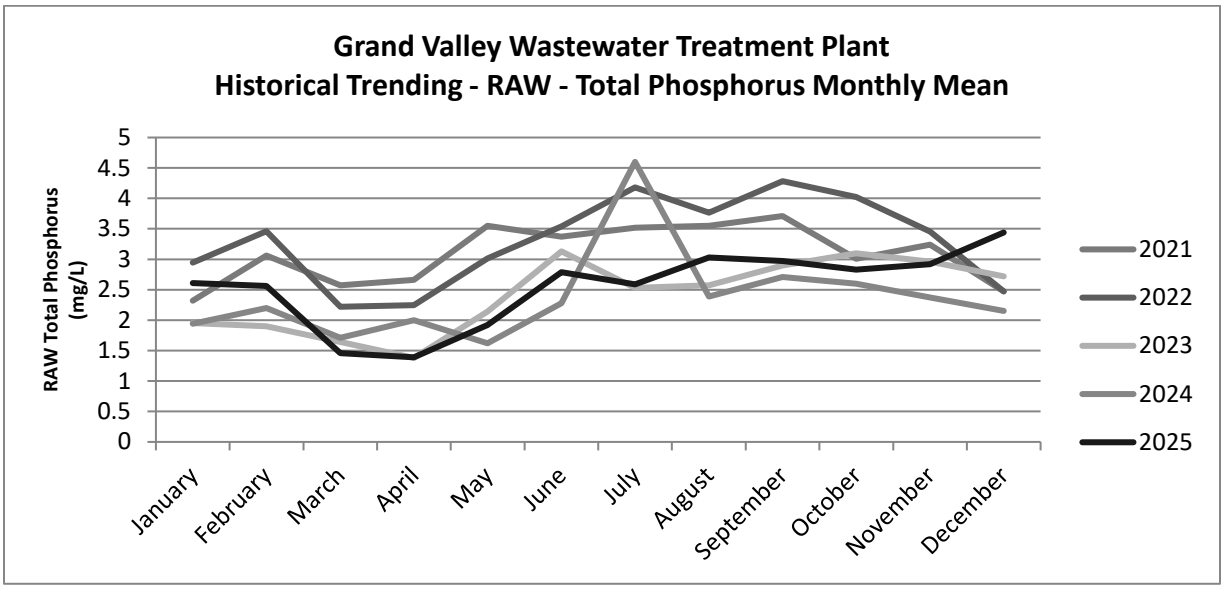
The below graph shows the historical raw Total Suspended Solids trending from 2021 to 2025. A review of the trends from the last 5 years for Total Suspended Solids shows that the average TSS concentration in the raw sewage has fluctuated year over year. A slightly lower TSS loading was observed in 2025 comparatively to previous year.

Figure 2. Historical Raw Total Suspended Solids trending from 2021 to 2025



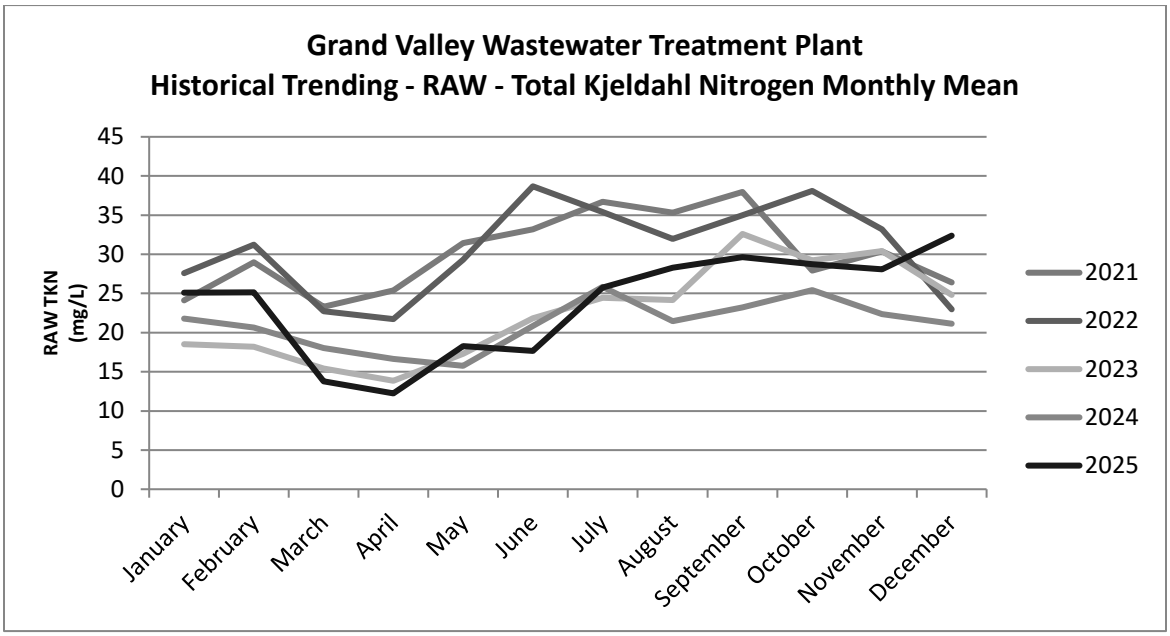
The below graph shows the historical raw Total Phosphorus trending from 2021 to 2025. A review of the current 2025 trends versus the last 5 years has shown a continued slight decrease in concentrations of total phosphorus for the majority of the year.

Figure 3. Historical Raw Total Phosphorus trending from 2021 to 2025



The below graph shows the historical raw Total Kjeldahl Nitrogen trending from 2021 to 2025. A review of the current 2025 trends versus the last 5 years shows a continued decrease in TKN concentrations year over year.

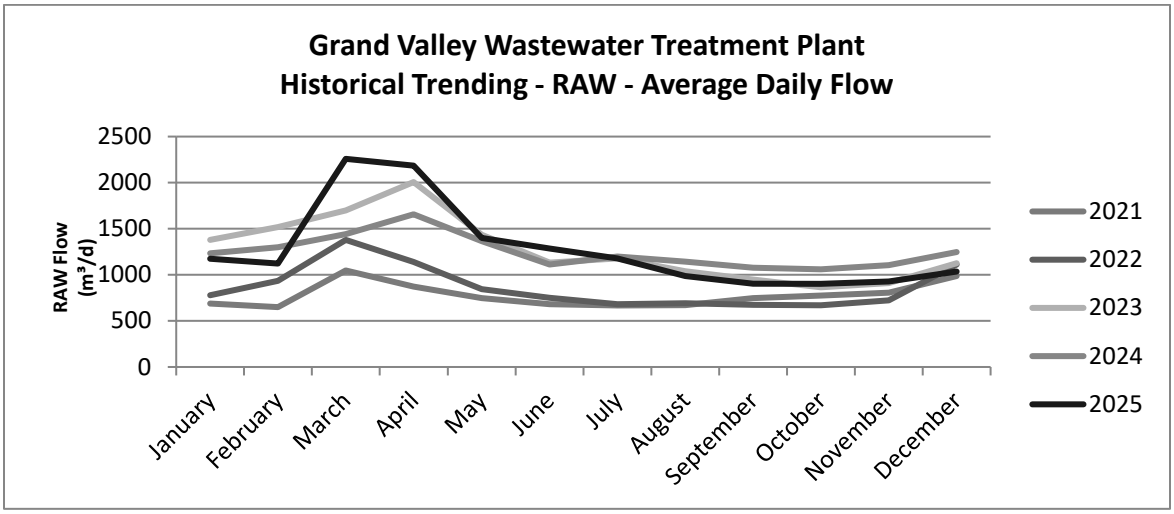
Figure 4. Historical Raw Total Kjeldahl Nitrogen trending from 2021 to 2025



Influent Flow

The below graph shows historical raw sewage flow trending from 2021 to 2025. The graph shows that the average daily flows increased in 2025. There is a consistent peak in the months of March and April, which would represent warmer temperatures resulting in snow melt and seasonal precipitation.

Figure 5. Historical Raw Flow Trending from 2021 to 2025



The total raw sewage volume of wastewater treated in 2025 was 467,361.81 m^3. The annual average daily flow of raw sewage was 1,280.44 m^3/day, which represents 82.34 % of the design rated capacity (1,555 m^3/day). The maximum peak flow of 6,134.50 m^3/day occurred on March 25, 2025 due to higher precipitation and snowmelt, which was over the designed peak flow of 5,300 m^3/day. This represents a peak flow of 3.9 times the rated capacity. The wastewater treatment plant operated within the rated capacity 82.74% of the time (302 out of 365 days of the year).

3. Effluent Monitoring

As per Section 11(4)(b) of ECA 9611-CFVLRG, *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* is required.

Where: Condition 7 is *"regarding compliance limits is imposed to ensure that the Final Effluent discharged from the Works to the environment meets the Ministry's effluent quality requirements"*

3.1 Effluent ECA Monitoring Program

Final effluent is sampled on a regular basis. The following table outlines the monitoring program at the Grand Valley 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 sampling frequencies meet the requirements set out in Schedule D of ECA 9611-CFVLRG.

Table 6. Final Effluent Monitoring Program – *as per Schedule D of ECA 9611-CFVLRG.*

Parameters	Sample Type	Minimum Frequency
$CBOD_5$[6A]	24-hour Composite	Weekly
Total Suspended Solids[6A]	24-hour Composite	Weekly
Total Phosphorous[6A]	24-hour Composite	Weekly
Total Ammonia Nitrogen[6A]	24-hour Composite	Weekly
E. Coli[6A]	Grab	Weekly
pH	Grab/Analyzer/Probe	Weekly
Temperature	Grab/Analyzer/Probe	Weekly
Un-ionized Ammonia	As Calculated	Weekly

[6A]Refer to the **Appendix A** PAR for monthly sample results.

3.2 Effluent ECA Objectives and Limits

The following tables outlines the final effluent objectives, limits and loadings at the Grand Valley WWTP as per its ECA. The applicable effluent parameters are either "concentrations" expressed as milligrams per litre or "loadings" expressed as kilograms per day. As per Schedule C, concertation limits for $CBOD_5$, TSS, TP, and TAN are reportable based on a monthly average effluent concentration, *E.Coli* based on a monthly Geometric Mean Density, pH based on a Single Sample Result, and the Loading Limits are reportable based on a Monthly Average Daily Effluent Loading. Any exceedance with the limits found in Table 8 constitutes a non-compliance with ECA 9611-CFVLRG.

Table 7. Final Effluent Design Objectives- *as per Schedule B of ECA 9611-CFVLRG*

Effluent Parameter	Monthly Average Effluent Concentration Objective (mg/L)
$CBOD_5$	8.00
Total Suspended Solids	8.00
Total Phosphorous	0.11
Total Ammonia Nitrogen Dec 01 to Mar 31 Apr 01 to May 31 June 01 to Sept 30 Oct 01 to Nov 30	 3.00 0.80 0.50 0.80
E.Coli	100 CFU/100 mL
pH	between 6.5 - 8.5 inclusive

Table 8. Final Effluent Design Limits- *as per Schedule C of ECA 9611-CFVLRG*

Effluent Parameter	Monthly Average Effluent Concentration Limit (mg/L)	Monthly Average Effluent Loading Limit (kg/day)
$CBOD_5$	10.0	15.6
Total Suspended Solids	10.0	15.6
Total Phosphorous	0.135	0.21
Total Ammonia Nitrogen Dec 01 to March 31 Apr 01 to May 31 June 01 to Sep 30 Oct 01 to Nov 30	 4.0 1.0 0.7 1.0	 6.22 1.56 1.09 1.56
E.Coli[8A]	200 CFU/100 mL	-
pH[8B]	Between 6.0 - 9.5 inclusive	-

[8A]As per ECA 9611-CFVLRG Schedule C, E.Coli concentration is reportable based on a Monthly Geometric Mean Density of Colony Forming Units (CFU)/100 mL

[8B]As per ECA 9611-CFVLRG Schedule C, pH is reportable based on a Single Sample result, where the limit is 6.0 - 9.5 inclusive, at all times.

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

Analytical and monitoring data for the Grand Valley Wastewater Treatment Facility is stored in OCWAs data management system (WISKI). Annual and monthly averages for flows, $CBOD_5$, Suspended Solids, Total Phosphorous, Nitrogen-series and *E.coli* can be found in **Appendix A**. A comparison of analytical data from effluent samples to the effluent objectives and effluent limits shown in tables 9 to 17.

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 reporting period:

- CBOD5 monthly average daily effluent concentration
- CBOD5 monthly average daily effluent loading
- TSS monthly average daily effluent concentration
- TSS monthly average daily effluent loading
- TP monthly average daily effluent concentration
- TP monthly average daily effluent loading
- TAN monthly average daily effluent concentrations
- TAN monthly average daily effluent loading
- E.coli monthly geometric mean

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 is not reportable as a non-compliance.

The following tables summarize monthly and annual data in comparison to the applicable ECA objectives and limits for the reporting period. Refer to **Appendix A** 2025 Annual Performance Report for a more detailed description of monthly sample results.

Table 9. 2025 Effluent Sampling Results: $CBOD_5$ and $CBOD_5$ Loading Concentrations[9A]

	Monthly Average Concentration (mg/L)	Within Objectives (8.0 mg/L)	Within Limits (10.0 mg/L)	Monthly Average Loading (kg/d)	Within Objectives (kg/d)	Within Limits (15.60 kg/d)
January	<2.00	Yes	Yes	<2.20	n/a	Yes
February	<2.00	Yes	Yes	<2.05	n/a	Yes
March	<3.29	Yes	Yes	<7.12	n/a	Yes
April	<2.20	Yes	Yes	<4.68	n/a	Yes
May	<2.75	Yes	Yes	<3.99	n/a	Yes
June	<2.00	Yes	Yes	<2.68	n/a	Yes
July	<2.00	Yes	Yes	<2.10	n/a	Yes
August	<2.00	Yes	Yes	<1.70	n/a	Yes
September	<2.00	Yes	Yes	<1.68	n/a	Yes
October	<2.00	Yes	Yes	<1.80	n/a	Yes
November	<2.00	Yes	Yes	<1.94	n/a	Yes
December	<2.00	Yes	Yes	<2.15	n/a	Yes

[9A]As per the ECA, $CBOD_5$ Concentration Averaging Calculator is a Monthly Average Effluent Concentration

[9A]As per the ECA, $CBOD_5$ Loading Limits Concentration Averaging Calculator is a Monthly Average Daily Effluent Loading

Table 10. 2025 Effluent Sampling Results: TSS and TSS Loading Concentrations[10A]

	Monthly Average Concentration (mg/L)	Within Objectives (8.0 mg/L)	Within Limits (10.0 mg/L)	Monthly Average Loading (kg/d)	Within Objectives (kg/d)	Within Limits (15.60 kg/d)
January	3.00	Yes	Yes	3.30	n/a	Yes
February	<3.00	Yes	Yes	<3.07	n/a	Yes
March	<6.71	Yes	Yes	<14.54	n/a	Yes
April	<3.00	Yes	Yes	<6.38	n/a	Yes
May	3.25	Yes	Yes	4.71	n/a	Yes
June	<2.00	Yes	Yes	<2.68	n/a	Yes
July	<3.00	Yes	Yes	<3.15	n/a	Yes
August	<3.25	Yes	Yes	<2.76	n/a	Yes
September	<2.25	Yes	Yes	<1.90	n/a	Yes
October	<2.20	Yes	Yes	<1.98	n/a	Yes
November	<2.75	Yes	Yes	<2.67	n/a	Yes
December	3.60	Yes	Yes	3.87	n/a	Yes

[10A]As per the ECA, TSS Concentration Averaging Calculator is a Monthly Average Effluent Concentration

[10A]As per the ECA, TSS Loading Limits Concentration Averaging Calculator is a Monthly Average Daily Effluent Loading

Table 11. 2025 Effluent Sampling Results: TP and TP Loading Concentrations[11A]

	Monthly Average Concentration (mg/L)	Within Objectives (0.11 mg/L)	Within Limits (0.135 mg/L)	Monthly Average Loading (kg/d)	Within Objectives (kg/d)	Within Limits (0.21 kg/d)
January	0.05	Yes	Yes	0.06	n/a	Yes
February	<0.04	Yes	Yes	<0.04	n/a	Yes
March	<0.08	Yes	Yes	<0.16	n/a	Yes
April	0.04	Yes	Yes	0.08	n/a	Yes
May	<0.04	Yes	Yes	<0.05	n/a	Yes
June	<0.03	Yes	Yes	<0.04	n/a	Yes
July	<0.03	Yes	Yes	<0.04	n/a	Yes
August	0.05	Yes	Yes	0.04	n/a	Yes
September	0.05	Yes	Yes	0.04	n/a	Yes
October	<0.04	Yes	Yes	<0.04	n/a	Yes
November	0.06	Yes	Yes	0.06	n/a	Yes
December	0.06	Yes	Yes	0.06	n/a	Yes

[11A]As per the ECA, TP Concentration Averaging Calculator is a Monthly Average Effluent Concentration

[11A]As per the ECA, TP Loading Limits Concentration Averaging Calculator is a Monthly Average Daily Effluent Loading

Table 12. 2025 Effluent Sampling Results: TAN and TAN Loading Concentrations[12A]

Month	Monthly Average Concentration (mg/L)	Within Monthly Objective? (3.0 mg/L Dec 1-Mar 31) (0.8 mg/L April 1-May 31) (0.5 mg/L June 1-Sept 30) (0.8 mg/L Oct 1- Nov 30)	Within Monthly Compliance Limit? (4.0 mg/L Dec 1-Mar 31) (1.0 mg/L April 1-May 31) (0.7 mg/L June 1-Sept 30) (1.0 mg/L Oct 1- Nov 30)	Monthly Loading Limit (kg/d)	Within Monthly Compliance Loading Limit? (6.22 kg/d Dec 1-Mar 31) (1.56 kg/d Apr 1-May 31) (1.09 kg/d Jun 1-Sep 30) (1.0 mg/L Oct 1- Nov 30)
January	<0.10	Yes	Yes	<0.11	Yes
February	<0.10	Yes	Yes	<0.10	Yes
March	<0.17	Yes	Yes	<0.37	Yes
April	<0.10	Yes	Yes	<0.21	Yes
May	<0.10	Yes	Yes	<0.15	Yes
June	<0.10	Yes	Yes	<0.13	Yes
July	<0.10	Yes	Yes	<0.11	Yes
August	<0.10	Yes	Yes	<0.09	Yes
September	<0.10	Yes	Yes	<0.08	Yes
October	<0.10	Yes	Yes	<0.09	Yes
November	<0.10	Yes	Yes	<0.10	Yes
December	<0.10	Yes	Yes	<0.11	Yes

[12A]As per the ECA, TAN Concentration Averaging Calculator is a Monthly Average Effluent Concentration

[12A]As per the ECA, TAN Loading Limits Concentration Averaging Calculator is a Monthly Average Daily Effluent Loading

Table 13. 2025 Effluent Sampling Results: *E.Coli* Concentrations[13A]

	Monthly Geometric Mean Density (CFU/100 mL)	Within Objectives (100 CFU/100 mL)	Within Limits (200 CFU/100 mL)
January	1.00	Yes	Yes
February	1.00	Yes	Yes
March	1.00	Yes	Yes
April	1.00	Yes	Yes
May	1.00	Yes	Yes
June	1.00	Yes	Yes
July	1.00	Yes	Yes
August	1.00	Yes	Yes
September	1.00	Yes	Yes
October	1.15	Yes	Yes
November	1.00	Yes	Yes
December	1.00	Yes	Yes

[13A]As per the ECA, E.Coli Concentration Averaging Calculator is a Monthly Geometric Mean Density

Table 14. 2025 Effluent Sampling Results: pH[14A]

	pH			
	pH Monthly Minimum	pH Monthly Maximum	Within Objectives (6.5-8.5)	Within Limits (6.0-9.5)
January	7.31	7.48	Yes	Yes
February	7.23	7.36	Yes	Yes
March	7.35	7.78	Yes	Yes
April	7.46	7.83	Yes	Yes
May	7.62	7.76	Yes	Yes
June	7.63	7.70	Yes	Yes
July	7.63	7.82	Yes	Yes
August	7.32	7.60	Yes	Yes
September	7.53	7.71	Yes	Yes
October	7.60	7.70	Yes	Yes
November	7.61	7.66	Yes	Yes
December	7.54	7.79	Yes	Yes

[14A]As per the ECA, pH is based on a single sample result, inclusive, at all times

Table 15. 2025 Effluent Sampling: Minimum and Maximum Temperature

	Temperature[15A]	
	Monthly Minimum (°C)	Monthly Maximum (°C)
January	10.60	12.00
February	10.60	11.70
March	9.70	11.90
April	9.90	13.80
May	13.70	14.00
June	14.60	18.20
July	13.40	19.00
August	19.70	20.40
September	18.70	19.50
October	16.20	19.20
November	13.80	15.50
December	10.90	13.20

[15A]Required as per Schedule D Monitoring Program- there are no objectives or limits listed within the ECA

Table 16. 2025 Effluent Sampling: Minimum and Maximum of Un-Ionized Ammonia

	Un-Ionized Ammonia[16A]		
	Monthly Average	Monthly Minimum	Monthly Maximum
January	<0.001	<0.001	<0.001
February	<0.001	<0.001	<0.001
March	<0.001	<0.001	0.001
April	<0.001	<0.001	0.002
May	<0.001	<0.001	<0.001
June	<0.001	<0.001	<0.001
July	<0.001	<0.001	<0.001
August	<0.001	<0.001	<0.001
September	<0.001	<0.001	<0.001
October	<0.001	<0.001	<0.001
November	<0.001	<0.001	<0.001
December	<0.001	<0.001	<0.001

[16A] Required as per Schedule D Monitoring Program- there are no objectives or limits listed within the ECA

Table 17. 2025 Annual Effluent Results Summary

Parameter	**Average mg/L**	**Minimum mg/L**	**Maximum mg/L**	**Average Annual Loading kg/d**
$CBOD_5$	<2.24	<2.00	5.00	<2.78
Total Suspended Solids	3.35	<2.00	7.00	4.15
Total Phosphorus	0.05	<0.03	0.07	0.06
Total Ammonia Nitrogen	<0.11	<0.10	0.10	<0.14
E.Coli (CFU/100 mL)	-	1.00	1.15	-
pH	-	7.23	7.83	-
Temperature (^oC)	-	9.07	20.40	-
Un-Ionized Ammonia	-	<0.001	0.001	-

3.4 Effluent Flow: Summary and Interpretation of Reporting Year

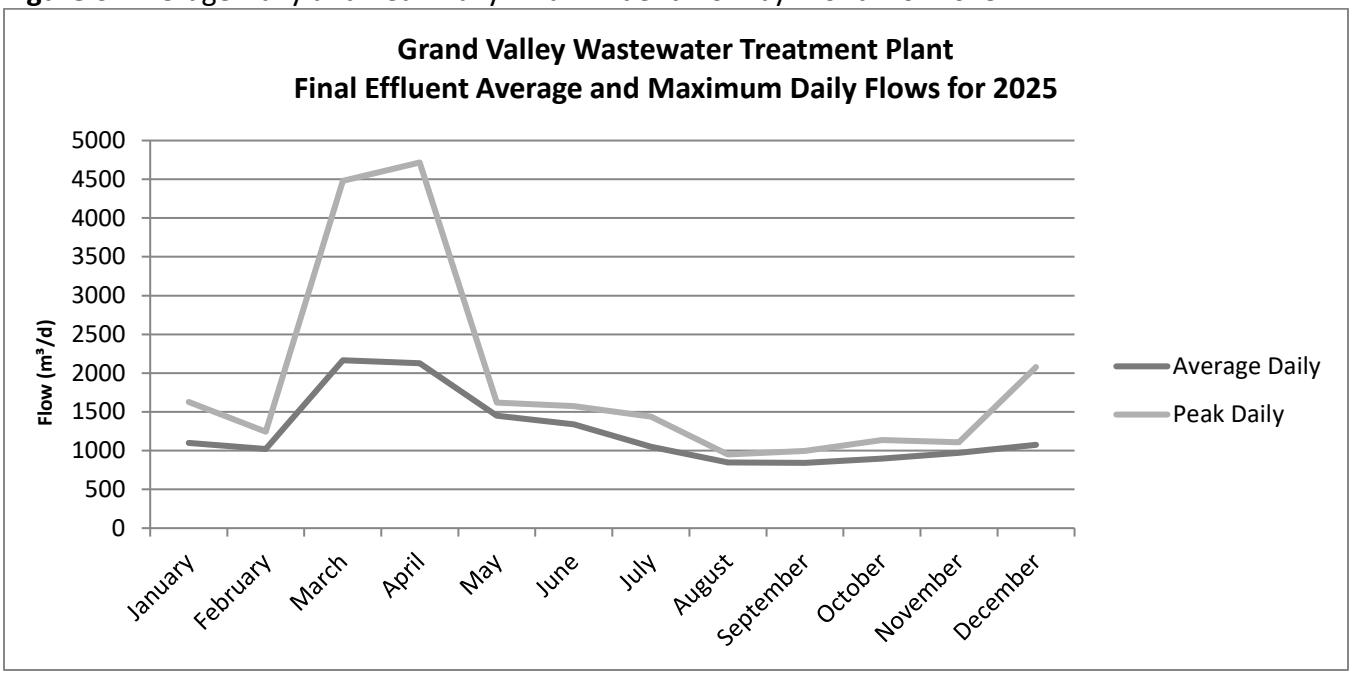
The following table (Table 18) outlines the final effluent average daily flow data in 2025 and the graph shows the final effluent daily and peak final effluent flow by month for the reporting period.

Table 18: Final Effluent Average Daily Flow and Peak Flow Data by Month for 2025

Month	**Average Daily** (m^3/day)	**Peak Daily** (m^3/day)	**Total** (m^3/day)
January	1099.28	1626.20	34077.80
February	1022.78	1242.90	28637.80

Month	Average Daily (m^3/day)	Peak Daily (m^3/day)	Total (m^3/day)
March	2165.55	4478.70	67132.00
April	2125.72	4716.70	63771.50
May	1449.07	1621.10	44921.30
June	1340.33	1575.80	40209.90
July	1051.08	1438.30	32583.60
August	849.43	950.60	26332.40
September	842.05	997.80	25261.60
October	898.94	1135.70	27867.00
November	970.53	1106.80	29115.96
December	1075.03	2076.30	33325.90
2025 Average	**1241.74**	**4716.70**	**453236.76**

Figure 6: Average Daily and Peak Daily Final Effluent Flow by Month for 2025



During the reporting period, the average annual daily flow for final effluent to outfall (Grand River) was 1,241.74 m^3/day. The maximum peak final effluent daily flow was 4,716.70 m^3/day, which occurred on April 3, 2025 corresponding with the maximum peak daily influent flows in late March 2025 continuing into April 2025 due to seasonal snowmelt and precipitation.

3.5 Overview of Success and Adequacy of the Works

The annual average effluent TSS concentration was 3.35 mg/L, corresponding to a removal efficiency greater than 97%. The annual average effluent Total Phosphorus concentration was 0.05 mg/L, with a removal efficiency greater than 97%. The annual average effluent Total Ammonium Nitrogen concentration was below the laboratory detection limit of 0.11 mg/L, indicating consistently low effluent ammonia levels throughout the year.

Effluent bacteriological quality complied with the ECA requirement of <200 organisms per 100 mL. The maximum geometric mean density recorded in 2025 was 1.15 CFU/100 mL, demonstrating reliable and effective disinfection performance.

A total of 467,361.81 m^3 of raw sewage was treated in 2025. The annual average daily flow was 1,280.44 m^3/day, representing 82.34% of the rated capacity of 1,555 m^3/day. The maximum peak flow of 6,134.50 m^3/day occurred on March 25, 2025 during a period of increased precipitation and snowmelt. This peak flow was 3.9 times the rated capacity and exceeded the design peak flow of 5,300 m^3/day. The facility operated within its rated capacity on 302 days (82.74%) of the year.

Overall, the wastewater treatment plant met all effluent limits and objectives established in the ECA. High removal efficiencies were achieved for key parameters, and the treatment process consistently produced high-quality effluent. Based on this performance, the current sewage treatment program is considered effective for meeting regulatory requirements. OCWA will continue to use best efforts to maintain compliance and optimize treatment performance.

4. Operating Problems and Corrective Actions

As per Section 11(4)(c) of ECA 9611-CFVLRG, *a summary of all operating issues encountered and corrective actions taken*;

During the reporting period there were no operating problems encountered or corrective actions required at the Grand Valley Wastewater Plant that affected the quality of the effluent leaving the plant.

5. Major Maintenance Activities

As per Section 11(4)(d) of ECA 9611-CFVLRG, *a summary of all normal and emergency repair and maintenance activities carried out on any major structure, equipment, apparatus, mechanisms forming part of the works* is required;

5.1 Work Management System

Planned maintenance, including scheduled and non-scheduled maintenance activities are captured 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.

5.2 Preventative Maintenance Activities

In 2025, there were a number of preventative maintenance tasks completed throughout the reporting period. They are included below, but not limited to:

- Annual UV inspection
- Annual wet well clean outs
- Annual pump inspections
- Annual lifting device inspections
- Annual third party generator inspection and load testing
- Annual third party flow meter calibrations
- Annual backflow prevention inspection
- Annual grating inspection

5.3 Repairs and Improvement

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

- Compactor Repairs
- Emma St. VFD Repair
- Emma St. Generator Repairs
- Escalator Screen Repairs
- HVAC Repairs
- On-site Pumping Station Pump Repairs
- UV Parts Replacements
- Collection System Flushing and CCTV

6. Effluent Quality Assurance and Control

As per Section 11(4)(e) of ECA 9611-CFVLRG, *a summary of any effluent quality assurance or control measures undertaken in the reporting period* is required:

Quality assurance and control measures undertaken during the reporting period include adherence to provincial regulations, use of accredited laboratories, and 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.

6.1 Adherence to Provincial Regulations

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

6.2 Use of Accredited Laboratories

Analytical tests to monitor the effluent quality are conducted by 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. During the reporting period, all chemical sample analyses were conducted by SGS Canada Inc.

6.3 Operation by Licensed Operators

The 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.

6.4 Sampling and Analysis

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

6.5 In-house Analysis

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 use best efforts to stay within the ECA Effluent Objectives and Limits.

7. Calibration and Maintenance Procedures

As per Section 11(4)(f) of ECA 9611-CFVLRG, *a summary of the calibration and maintenance carried out on all influent, imported sewage and final effluent monitoring equipment to ensure that the accuracy is within the tolerance of the equipment as required in this Approval or recommended by the manufacturer* is required.

All in-house monitoring equipment is calibrated/verified 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 Wastewater Treatment Plant and pumping stations at a 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 status to complete. On a monthly basis, preventative work orders are reviewed for completion.

SCG Flowmetrix was contracted to calibrate flow measuring equipment and handheld devices. Handheld devices that included a spectrophotometer, dissolved oxygen meter and pH meter were calibrated on August 22, 2025. The flow measuring equipment was calibrated on September 9, 2025. Copies of the calibration reports can be found in **Appendix C** of this report.

8. Design Objectives

As per Section 11(4)(g) of ECA 9611-CFVLRG *a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situations:*

i. When any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of Final Effluent quality;
ii. When the annual average daily influent flow reaches 80% of the rated capacity;

Where: Condition 6 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 compliance limits of Condition 7 are exceeded."*

Best efforts were made to achieve the design objectives as per ECA 9611-CFVLRG. Throughout the reporting period there were no instances where the Grand Valley WWTP exceeded the ECA objective and compliances limits. Based on the data, the final effluent was within the all of the effluent objectives and there appears to be no increased trend in deterioration of final effluent quality.

During the reporting period, the annual average daily influent flow exceeded 80% of the rated capacity of the system. The annual average daily flow of raw sewage in 2025 was 1,280.44 m^3/day, representing 82.34% of the rated capacity of 1,555 m^3/day. Exceeding the 80% threshold triggers the requirement under Section 11(4)(g)(ii) to assess issues and identify proactive actions. Increased flows were associated with seasonal precipitation and snowmelt, as well as infiltration and inflow (I&I) entering the new gravity sewers on Emma Street.

Although elevated flows did not negatively impact effluent quality during the reporting period, continued high flows may affect long-term system capacity. The Town, as the Owner has initiated efforts to address I&I in the affected areas. Recommended proactive actions include:

- Continuing I&I investigations and flow monitoring in the Emma Street catchment;
- Prioritizing sewer rehabilitation or repairs where I&I sources are identified;
- Reviewing hydraulic performance during wet-weather events;
- Continuing coordination between OCWA and the Town regarding long-term capacity planning.

These actions support the intent of Condition 6 by ensuring that the Owner and Operating Authority take proactive steps to maintain performance, address contributing factors, and prevent future exceedances as flows approach the rated capacity.

9. Sludge Generation

As per Section 11(4)(h) of ECA 9611-CFVLRG, *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* is required.

Digested sludge produced at the Grand Valley WWTP is land-applied in accordance with the Nutrient Management Act 2002 and Ontario Regulation 267/03.

Grab samples of digested (aerobic) sludge are collected and tested as per these guidelines. In 2025, sludge sample analysis were carried out by SGS Canada Inc. Sludge analysis showed that the sludge met the quality criteria specified in the Ontario Guidelines for the Utilization of Biosolids and Other Wastes on Agricultural Land (Guidelines). A summary of sludge sample results is provided in **Appendix D** of this report for the reporting year.

Saugeen Agri. Service was contracted to haul and spread sludge from the Grand Valley plant in 2025 under Certificate of Approval - Waste Management System #9566-6HYKC3.

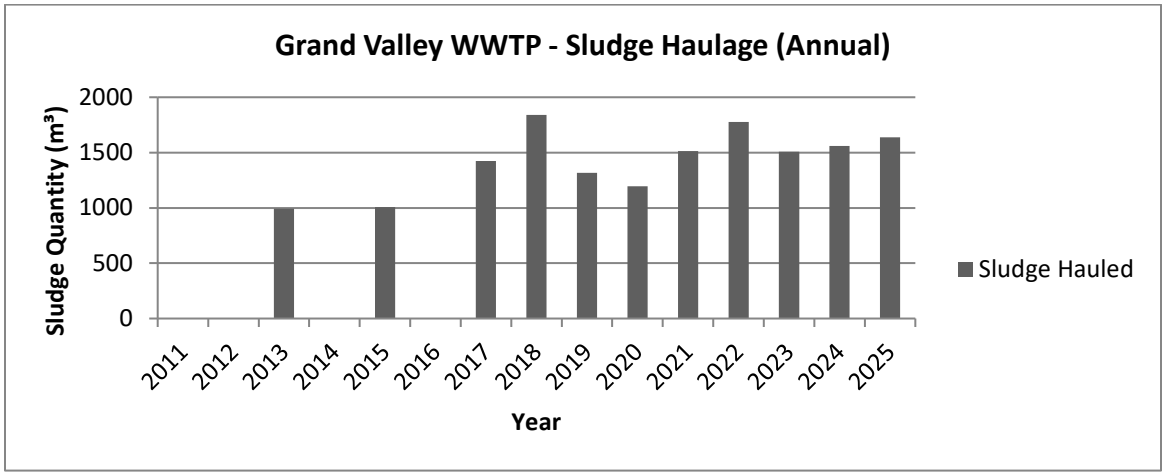
The following certified site was utilized in 2025 with a total of 1,6383.60 m^3 of sludge hauled from the Grand Valley Wastewater Treatment Plant:

Table 19. Volume of Sludge Generated from Grand Valley Wastewater Treatment Plant in 2025

Site	Site Location	Volume of Biosolids (m^3)	Hauler
NASM Submission ID: 62762	David Hill's C&M Farm	1,638.60	Saugeen Agri Service

Based on the design flow and average wastewater quantity, the anticipated volume of sludge generated for 2026 would be similar to previous years where sludge was hauled. In previous years, the hauled sludge volume has ranged between ~1,000 to ~1,800 m^3.

Figure 7. Grand Valley Wastewater Treatment Plant Haulage Volumes (2011 to 2025)



10. Community Complaints

As per Section 11(4)(i) of ECA 9611-CFVLRG, *a summary of any complaints received and any steps taken to address the complaints* is required.

A standard operating procedure (SOP) is in place for addressing complaints received from the community. All complaints are addressed and documented in the facility logbook. Community complaint information is entered in OCWA's electronic WMS database system (Maximo). This system contains all the required information and history of complaints received by OCWA staff.

There were no complaints received during the reporting period.

11. By-pass, Spill or Abnormal Discharge Events

As per Section 11(4)(j) of ECA 9611-CFVLRG, *a summary of all Bypasses, Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events* is required.

There was one (1) bypass/overflow, spill or abnormal discharge events that occurred during the reporting period. Please refer to Table 20 below for details of the bypass event. The bypass incident report and email notification is included in **Appendix E.**

Table 20. Summary of bypass/overflow, spill or abnormal discharge events

Date of the Event(s)	Estimated or Measured Volume (M^3)	Duration of the Event(s)	Location of the Event(s)	Reason for the Event(s)	Level of treatment the bypass(es)/overflow(s) received and disinfection status	Samples Collected
Start: March 16, 2025 23:55PM	$20m^3$	32 hours	Grand Valley WWTP – 18	Significant weather-related high flows	Partially treated effluent – a portion of the	Samples were taken

Date of the Event(s)	Estimated or Measured Volume (M^3)	Duration of the Event(s)	Location of the Event(s)	Reason for the Event(s)	Level of treatment the bypass(es)/overflow(s) received and disinfection status	Samples Collected
End: March 18, 2025 8:35AM		and 40 minutes	Watson Road, Grand Valley	caused by localized heavy precipitation, snowmelt, and flooding exceeded the hydraulic capacity of the filters.	flow was directed over the filters and received UV disinfection before entering the effluent channel.	according to ECA #9611-CFVLRG on March 17, 2025 and March 18, 2025

ECA 9611-CFVLRG requires that Quarterly bypass/overflow reports be submitted to the Water Supervisor. All 2025 quarterly reports were submitted to the Water Supervisor by the deadlines specified in the ECA.

12. Notice of Modifications

As per Section 11(4)(k) of ECA 9611-CFVLRG, *a summary of all Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Condition 10, including a report on status of implementation of all modifications* is required.

There were no modifications made within the works that required notice of modifications for the reporting period.

13. Conformance with Procedure F-5-1

As per Section 11(4)(l) ECA 9611-CFVLRG, *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* is required.

The Grand Valley Wastewater Treatment Plant had one (1) overflow occurrence during the reporting period. Flushing and CCTV is budgeted and conducted on an annual basis to identify collection system leaks. The Town has also procured the services of Burnside Engineering which conducted a deeper investigation into the recent forecemain replacement near Emma St. Pumping Station. CCTV revealed several leaks at connection points, which were repaired by September 2025. An equalization tank was also installed at the WWTP in 2020, which has improved storage capacity during storm events. Burnside is continuing to monitor and analyze the flows coming into Emma St. PS as well as the WWTP during the

flooding periods of the Grand River. At the time of this report, the Grand Valley WWTP has been successfully operating through spring rainfall and snowmelt events without any bypass or overflow events occurring.

14. Changes/Updates to Scheduled Construction/Commissioning

As per Section 11(4)(m) ECA 9611-CFVLRG, *any changes or updated to the schedule for the completion of the construction and commissioning operation of major process(es)/equipment groups in the Proposed Works.*

There are no changes or updates for the reporting period.

15. Monitoring Schedule

As per Section 11(4)(n) ECA 9611-CFVLRG, *a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year.*

As per the ECA, Section 9(1) "the Owner shall, upon commencement of operations of the Works, carry out a scheduled monitoring program of collecting samples at the required sampling points, at the frequency specified or higher, by means of the specified sample type and analyzed for each parameter listed in Schedule D and record all results.

Where, Section 9(1) requires:

- (a) all samples and measured are to taken at a time and in a location character characteristic of the quality and quantity of sewage stream over the period of time being monitored and follows.
- (c) at a frequency where (i) Weekly means once every week; (ii) Monthly means once every month; and (iii) Quarterly means once every three months.".
- (d) and that a schedule of the day of the week/month for the scheduled sampling shall be created and that be schedule be revised and updated every year through the rotation of the week/month for the sampling program.

During the reporting year, the Grand Valley WWTP deviated once from the 2025 sampling plan.

Date	Reason for Deviation
October 21, 2025	The monthly biosolids sample scheduled for October 7, 2025 was collected on October 21, 2025. Sampling could not be completed on the scheduled date because the biosolids storage tank was empty following sludge haulage activities completed in late September 2025. Sampling was conducted as soon as sufficient biosolids were available in the tank.

Refer to **Appendix F** for the 2026 sampling schedule. The sampling calendar was issued on December 15, 2025 to operations staff and was designed to meet the monitoring program (see Table 2, 3 and 6), frequency and schedule rotation requirements of the current ECA as described above.

16. Additional Information

There were no requests from the District Manager for any other information during the reporting period.

17. Sludge Accountability

Refer to **Appendix G** for enhanced reporting of flow, loadings and sludge accountability calculated on the sludge accountability spreadsheet, which is provided to the Grand River Conservation Authority each year.

18. Municipal Sewage Collection System - Annual Performance Report

This report was prepared in accordance with the requirements of the Environmental Compliance Approval for a Municipal Sewage Collection Systems, Schedule E, Section 4.6.1.

Municipal Sewage Collection System ECA #	101-W601, Issue 1
Sewage Works	Grand Valley Sewage Collection System
Collection System Owner	The Corporation of the Town of Grand Valley
Reporting Period	January 1, 2025 to December 31, 2025

Is the Annual Report available to the public at no charge on a website on the Internet?

Yes

Note: As per Schedule E, Section 4.7.1 of CLI-ECA #101-W601, the annual performance report must be made available, on request and without charge, to members of the public who are served by the Authorized System; and 4.7.2 must be made available, by June 1st of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet.

Location where Annual Performance Report required under CLI-ECA #101-W601, Schedule E will be available for inspection. *(CLI-ECA #101-W601, Schedule E, Section 4.6.1 & 4.7.1):*

- Town of Grand Valley Town Office, 5 Main Street, Grand Valley, Ontario, L9W 5S6
- https://www.townofgrandvalley.ca/living-here/water-and-waste-water/municipal-waste-water-treatment/

Pursuant to Schedule E, sections 4.6.3 to 4.6.9, this Annual Performance Report shall:

a) If applicable, includes a summary of all required monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.

b) If applicable, include a summary of any operating problems encountered and corrective actions taken.

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

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

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

f) Include a summary of all Collection System Overflow(s) and Spill(s) of Sewage.
   i. Dates;
   ii. Volumes and durations;

iii. If applicable, loadings for total suspended solids, BOD, total phosphorus, and total kjeldahl nitrogen and sampling results for E.Coli;
iv. Disinfection, if any; and
v. Any adverse impacts(s) and any corrective actions, if applicable

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

i. A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted.
ii. Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timelines.
iii. An assessment of the effectiveness of each action taken.
iv. An assessment of the ability to meet Procedure F-5-1 or Procedure F-5-5 objectives (as applicable) and if able to meet the objectives, an overview of next steps and estimated timelines to meet the objectives.
v. Public reporting approach including proactive efforts.

18.1 Description of the Works

The Grand Valley Sewage Collection System consists of works for the collection and transmission of sewage, consisting of approximately 17 km of separate sanitary sewers, forcemains and two sewage pumping stations. The system ultimately discharges to the Grand Valley Wastewater Treatment Plant. The sewage pumping stations in the Authorized system include:

- Emma St. SPS – located on Emma St. South in Grand Valley, the SPS consist of a wet well type SPS with two submersible pumps, isolation check, air, pressure and relief valves, flowmeter, level transducer, floats, an emergency overflow pipe, all of which convey sewage to the Grand Valley WWTP via a forcemain. The SPS is equipped with a stand-by diesel generator in case of power failure.
- Amaranth St. SPS – located on Amaranth St. in Grand Valley, the SPS is a small pumping station that serves approximately five house and consist of a wet well, two submersible pumps, and a emergency overflow pipe and floats, all of which convey sewage to MH3052 (manhole) via a forcemain.

A third Southeast SPS is not currently constructed but will be located on Watson Road in Grand Valley and consist of a wet well type SPS with two submersible pumps with VFDs, isolation and check valves, flowmeter, hydrostatic level transducer and floats, all of which convey sewage to the Grand Valley WWTP via a forcemain. The SPS is equipped with a stand-by diesel generator in case of power failure.

The Grand Valley Municipal Collection System contains no combined sewage pumping stations, no combined sewage storage structures or combined storage tanks. The authorized collection system also contains no authorized combined sewer collection system overflow points and two authorized sanitary sewer overflow points for use in emergency situation, which are listed below.

- Emma Street SPS Overflow Location - discharging to a ditch, which is in close proximity to Grand River
- Amaranth St. SPS Overflow Location – discharging to Grand River

18.2 Summary of Monitoring Data and Interpretation

No monitoring data is required within the municipal sewage collection system.

18.3 Summary of Operating Problems Encountered and Corrective Actions Taken

There was one (1) operating problem encountered within the municipal sewage collection system:

1) Emma St. PS - There was evidence of significant inflow and infiltration (I&I) entering the Emma St. Pumping Station during high-flow events in the spring of 2025. A CCTV investigation completed by Burnside identified several leaks, which were subsequently repaired. Elevated flows continue to be observed during periods when the Grand River floods near Emma St., and further investigation is ongoing.

18.4 Summary of Calibration, Maintenance, and Repairs

All in-house monitoring equipment is calibrated or verified in accordance with the manufacturer's recommendations. Monitoring and metering equipment is also calibrated annually by a third-party service provider. Preventative maintenance is scheduled for all equipment at the wastewater treatment plant and pumping stations at appropriate intervals, depending on the equipment type and maintenance requirements. Maintenance activities are scheduled through the electronic work management system (WMS), and upon completion, Operators set the status of the associated work orders to "complete." Preventative maintenance work orders are reviewed monthly to confirm completion.

SCG Flowmetrix was contracted to calibrate flow measuring equipment within the Sewage Pump Stations on September 9, 2025. Copies of the calibration reports can be found in **Appendix B** of this report.

As summary of any major maintenance, preventative maintenance activities and repairs can be found below.

Emma Street Sewage Pumping Station:

- Annual pump inspections
- 3rd Party generator inspection and load testing (repairs made to run in Auto)
- Annual wet well inspection and clean out
- Collection system flushing CCTV

Amaranth Street Sewage Pumping Station:

- Annual pump inspections
- Annual wet well inspection and clean out
- Collection system flushing CCTV

Southeast Sewage Pumping Station:

- N/A - not currently constructed

18.5 Community Complaints Received in Relation to the Sewage Works

A standard operating procedure (SOP) is in place for addressing complaints received from the community. All complaints are addressed and documented in the facility logbook. Community complaint information is also entered into the WMS, which maintains the required information and history of all complaints.

There were no complaints received during the reporting period.

18.6 Alterations to the Authorized System

There were no alterations to the authorized system occurred during the reporting period.

18.7 Summary of Collection System Overflow(s) and Spill(s) of Sewage

There were no collection system overflow(s) or spill(s) events that occurred during the reporting period

18.8 Efforts Made to Reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses

The sewage pump stations are equipped with alarm monitoring for high flow events. Preventative maintenance procedures are in place to ensure the sewage pump stations are operating as designed and include:

- Annual pump inspections and life cycle replacements
- Emma Street SPS - 3rd Party generator inspection and load testing/repairs
- Annual wet well inspections and clean out
- Collection system/manhole leak repairs

Appendix A

Performance Assessment Report

2025

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report Standard ECA

From 1/1/2025 to 12/31/2025

5762 GRAND VALLEY WASTEWATER TREATMENT FACILITY 110000301

	1 / 2025	2/ 2025	3/ 2025	4/ 2025	5/ 2025	6/ 2025	7/ 2025	8/ 2025	9/ 2025	10/ 2025	11/ 2025	12/ 2025	<--Total-->	<--Avg-->	<--Max-->	<-Criteria->
Flows																
Raw Flow: Total - Raw Sewage m³/d	36,417.60	31,423.60	70,007.30	65,543.00	43,430.50	38,539.00	36,459.70	30,567.60	27,072.40	27,968.30	27,853.91	32,078.90	467,361.81			0.00
Raw Flow: Avg - Raw Sewage m³/d	1,174.76	1,122.27	2,258.30	2,184.77	1,400.98	1,284.63	1,176.12	986.05	902.41	902.20	928.46	1,034.80		1,280.44		1,555.00
Raw Flow: Max - Raw Sewage m³/d	1,658.00	1,222.00	6,134.50	5,796.10	1,688.10	1,539.50	1,501.40	1,080.50	1,053.20	1,070.50	1,046.30	1,909.20			6,134.50	0.00
Raw Flow: Count - Raw Sewage m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Eff. Flow: Total - Final Effluent m³/d	34,077.80	28,637.80	67,132.00	63,771.50	44,921.30	40,209.90	32,583.60	26,332.40	25,261.60	27,867.00	29,115.96	33,325.90	453,236.76			0.00
Eff. Flow: Avg - Final Effluent m³/d	1,099.28	1,022.78	2,165.55	2,125.72	1,449.07	1,340.33	1,051.08	849.43	842.05	898.94	970.53	1,075.03		1,241.74		
Eff. Flow: Max - Final Effluent m³/d	1,626.20	1,242.90	4,478.70	4,716.70	1,621.10	1,575.80	1,438.30	950.60	997.80	1,135.70	1,106.80	2,076.30			4,716.70	0.00
Eff Flow: Count - Final Effluent m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw Sewage mg/L	153.25	206.50	92.75	126.80	137.00	126.75	113.40	178.50	152.00	171.40	154.75	137.80		145.25	206.50	0.00
Raw: # of samples of BOD5 - Raw Sewage mg/L	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Carbonaceous Biochemical Oxygen Demand: CBOD																
Eff: Avg cBOD5 - Final Effluent including Bypass mg/L	< 2.00	< 2.00	< 3.29	< 2.20	< 2.75	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	2.00		< 2.24	< 3.29	10.00
Eff: # of samples of cBOD5 - Final Effluent including Bypass mg/L	4.00	4.00	7.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	55.00			0.00
Loading: cBOD5 - Final Effluent including Bypass kg/d	< 2.199	< 2.046	< 7.115	< 4.677	< 3.985	< 2.681	< 2.102	< 1.699	< 1.684	< 1.798	< 1.941	< 2.150		< 2.78	< 7.12	15.600
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage mg/L	132.50	164.25	105.75	100.80	130.25	181.50	124.80	173.75	127.50	162.40	160.00	255.20		152.27	255.20	0.00
Raw: # of samples of TSS - Raw Sewage mg/L	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Eff: Avg TSS - Final Effluent including Bypass mg/L	3.00	< 3.00	< 6.71	< 3.00	3.25	< 2.00	< 3.00	< 3.25	< 2.25	< 2.20	< 2.75	3.60		3.35	6.71	10.00
Eff: # of samples of TSS - Final Effluent including Bypass mg/L	4.00	4.00	7.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	55.00			0.00
Loading: TSS - Final Effluent including Bypass kg/d	3.298	< 3.068	< 14.540	< 6.377	4.709	< 2.681	< 3.153	< 2.761	< 1.895	< 1.978	< 2.669	3.870		4.15	14.54	15.600
Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage mg/L	2.61	2.56	1.46	1.39	1.92	2.79	2.59	3.03	2.97	2.83	2.92	3.44		2.55	3.44	0.00
Raw: # of samples of TP - Raw Sewage mg/L	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Eff: Avg TP - Final Effluent including Bypass mg/L	0.05	< 0.04	< 0.08	0.04	< 0.04	< 0.03	< 0.03	0.05	0.05	< 0.04	0.06	0.06		0.05	0.08	0.14
Eff: # of samples of TP - Final Effluent including Bypass mg/L	4.00	4.00	7.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	55.00			0.00
Loading: TP - Final Effluent including Bypass kg/d	0.055	< 0.041	< 0.164	0.077	< 0.051	< 0.040	< 0.036	0.038	0.038	< 0.038	0.058	0.062		0.06	0.16	0.210

Performance Assessment Report Standard ECA

From 1/1/2025 to 12/31/2025

Nitrogen Series

Raw: Avg TKN - Raw Sewage mg/L	25.10	25.15	13.78	12.24	18.28	17.65	25.76	28.30	29.65	28.72	28.08	32.38		23.83	32.38	0.00
Raw: # of samples of TKN - Raw Sewage mg/L	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Eff: Avg TAN - Final Effluent including Bypass mg/L	< 0.10	< 0.10	< 0.17	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.11	< 0.17	4.00
Eff: # of samples of TAN - Final Effluent including Bypass mg/L	4.00	4.00	7.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	55.00			0.00
Loading: TAN - Final Effluent including Bypass kg/d	< 0.110	< 0.102	< 0.371	< 0.213	< 0.145	< 0.134	< 0.105	< 0.085	< 0.084	< 0.090	< 0.097	< 0.108		< 0.14	< 0.37	6.220
Eff: Avg NO3-N - Final Effluent mg/L	22.88	23.55	14.53	12.94	17.30	19.73	17.75	28.85	29.28	26.62	24.78	18.80		21.23	29.28	0.00
Eff: # of samples of NO3-N - Final Effluent mg/L	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Eff: Avg NO2-N - Final Effluent mg/L	< 0.03	< 0.03	< 0.05	< 0.08	< 0.03	< 0.03	< 0.06	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.04	< 0.08	0.00
Eff: # of samples of NO2-N - Final Effluent mg/L	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00

pH

Eff: Min pH Field: Lab Upload - Final Effluent ---	7.31	7.23	7.35	7.46	7.62	7.63	7.63	7.32	7.53	7.60	7.61	7.54				9.50
Eff: Max pH Field: Lab Upload - Final Effluent ---	7.48	7.36	7.78	7.83	7.76	7.70	7.82	7.60	7.71	7.70	7.66	7.79			7.83	9.50

Disinfection

Eff: GMD E. Coli MPN - Final Effluent MPN	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.15	1.00	1.00				
Eff: # of samples of E. Coli MPN - Final Effluent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00

Appendix B

Septage Receiving

2025

Customized Monthly Vertical Report

From 01/01/2025 to 12/31/2025

Facility Name: GRAND VALLEY WASTEWATER TREATMENT FACILITY
Receiver: Grand River

Facility Org Number: 5762
Facility Owner: Municipality: Town of Grand Valley

Works: 110000301
Facility Classification: Class 2 Wastewater Treatment

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

	Septage			
	Septage Received - m³			
	IH Edited Count	IH Mon.Max	IH Mon.Mean	IH Mon.Min
Jan 2025	0.00			
Mar 2025	1.00	1.40	1.40	1.40
Apr 2025	7.00	11.20	7.63	4.10
May 2025	11.00	12.70	8.72	3.90
Jun 2025	2.00	11.20	10.30	9.40
Jul 2025	5.00	27.80	13.78	5.30
Aug 2025	6.00	14.40	8.23	3.80
Sep 2025	3.00	10.40	7.27	4.10
Oct 2025	2.00	7.70	5.60	3.50
Dec 2025	1.00	6.80	6.80	6.80
Total	38.00			
Avg			8.67	
Max		27.80		
Min				1.40

Appendix C

Calibration Reports

2025

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 *Paris Machuk*

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:	D70A7219000
FUSE	CP-02: FU9
PLANT ID	Grand Valley WWTP
METER ID	Site WW PS
FIT ID	FIT-2001
CLIENT TAG	n/a
OCWA#	275316
GPS COORDINATES	N43 53.253 W080 18.530
VERIFICATION DATE	August 22nd 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	August 2026

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	100
F.S. FLOW - MAG	LPS	78.538
F.S. RANGE - O/P	LPS	30.000
TUBE k-FACTOR		1.30280
TUBE zero		14

FORWARD TOTALIZER INFORMATION

AS FOUND	552716.8	M3
AS LEFT	552725.7	M3
DIFFERENCE	8.9	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	7.5	15.0	22.5	30.0	LPS
				0.0	9.5	19.1	28.6	38.2	% F.S. Flow
				0.0	25.0	50.0	75.0	100.0	% F.S. Range
REF. FLOW RATE				**0.0**	**7.5**	**15.0**	**22.5**	**30.0**	LPS
MUT [Reading]				0.0000	7.5032	15.0050	22.5020	29.9970	LPS
MUT [Difference]				0.0	0.0	0.0	0.0	0.0	LPS
MUT [% Error]				n/a	0.04	0.03	0.01	-0.01	% O.R
mA OUTPUT				**4.000**	**8.000**	**12.000**	**16.000**	**20.000**	mA
MUT [Reading]	min.	4	mA	3.998	7.998	11.996	15.998	19.993	mA
MUT [Difference]	max.	20	mA	-0.002	-0.002	-0.004	-0.002	-0.007	mA
MUT [% Error]				-0.05	-0.02	-0.03	-0.01	-0.04	% O.R
TOTALIZER - REF. FLOW RATE								**30.000**	LPS
TOTALIZER [MUT]								3.0	M3
TEST TIME								100.03	SECONDS
CALC. TOTALIZER								3.001	M3
ERROR								-0.03	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	E&H (FC)	1
PROCESS METER	DMM	20
ANALOG METER	AM	N/A
STOP WATCH	SW	Yes

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.02	PASS
mA OUTPUT	-0.03	PASS
TOTALIZER - R	-0.03	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 *Paris Machuk*

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 53
CONVERTER S/N:	D70A7319000
FUSE	CP-02: FU10
PLANT ID	Grand Valley WWTP
METER ID	Septage PS Flow
FIT ID	FIT-2002
CLIENT TAG	n/a
OCWA#	275317
GPS COORDINATES	N43 53.253 W080 18.530
VERIFICATION DATE	August 22nd 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	August 2026

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	100
F.S. FLOW - MAG	LPS	78.538
F.S. RANGE - O/P	LPS	30.000
TUBE k-FACTOR		1.30280
TUBE zero		-1.00000

FORWARD TOTALIZER INFORMATION

AS FOUND	76585.97	M3
AS LEFT	76596.46	M3
DIFFERENCE	10.49	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	7.5	15.0	22.5	30.0	LPS
				0.0	9.5	19.1	28.6	38.2	% F.S. Flow
				0.0	25.0	50.0	75.0	100.0	% F.S. Range
REF. FLOW RATE				**0.000**	**7.500**	**15.000**	**22.500**	**30.000**	LPS
MUT [Reading]				0.000	7.494	15.004	22.506	30.002	LPS
MUT [Difference]				0.000	-0.006	0.004	0.006	0.002	LPS
MUT [% Error]				n/a	-0.08	0.03	0.03	0.01	% O.R
mA OUTPUT				**4.000**	**8.000**	**12.000**	**16.000**	**20.000**	mA
MUT [Reading]	min.	4	mA	3.998	7.997	11.999	16.001	19.996	mA
MUT [Difference]	max.	20	mA	-0.002	-0.003	-0.001	0.001	-0.004	mA
MUT [% Error]				-0.05	-0.04	-0.01	0.01	-0.02	% O.R
TOTALIZER - REF. FLOW RATE								**30.000**	LPS
TOTALIZER [MUT]								3.00	M3
TEST TIME								100.01	SECONDS
CALC. TOTALIZER								3.000	M3
ERROR								-0.01	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	E&H (FC)	1
PROCESS METER	PM	20
ANALOG METER	AM	N/A
STOP WATCH	SW	Yes

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.00	PASS
mA OUTPUT	-0.02	PASS
TOTALIZER - R	-0.01	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

Rectangular Weir
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/A0180523
PLANT ID	Grand Valley WWTP
METER ID	Stom Tank Flow
FIT ID	LIT-3001
CLIENT TAG	N/A
OCWA#	275357
GPS COORDINATES	n/a
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

THROAT WIDTH, (exp 1.5)	m	0.8
EMPTY DISTANCE, TX to notch	m	0.963
TRANSDUCER (TX), to sump flc	m	1.215
SUMP LEVEL, zero flow	m	0.252
MAX. HEAD	m	0.130
BLANKING DISTANCE	m	0.610
DEAD ZONE	m	0.833
MAX. FLOW	LPS	68.9
F.S. RANGE - O/P	LPS	69.0

Ultrasonic sensor installed to ensure full scale flow condition

TOTALIZER

AS FOUND	252787	M3
AS LEFT	252808	M3
DIFFERENCE	21	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
ALLOWABLE [%] ERROR	15

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

		0.0	7.4	32.9	70.4	91.9	% F.S. Range
		0.000	0.023	0.062	0.103	0.123	m
REF. FLOW RATE		**0.0**	**5.1**	**22.7**	**48.6**	**63.4**	LPS
MUT [Reading]		0.150	6.660	25.150	50.400	66.950	LPS
MUT [Difference]		0.2	1.5	2.5	1.8	3.5	LPS
MUT [% Error]		0.2	2.2	3.6	2.6	5.1	%
mA OUTPUT		**4.000**	**5.189**	**9.264**	**15.271**	**18.708**	mA
MUT [Reading]	min. 4.000 mA	4.037	5.525	9.803	15.683	19.419	mA
MUT [Difference]	max. 20.000 mA	0.037	0.336	0.539	0.412	0.711	mA
MUT [% Error]		0.19	1.68	2.70	2.06	3.55	%
TOTALIZER - REF. FLOW RATE						**63.430**	LPS
TOTALIZER [MUT]						10	M3
TEST TIME						152.67	SECONDS
CALC. TOTALIZER						9.684	M3
ERROR						3.16	%

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	3.37	PASS
mA OUTPUT	2.03	PASS
TOTALIZER	3.16	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 *Paris Machuk*

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 53
CONVERTER S/N:	D804D516000
FUSE	n/a
PLANT ID	Grand Valley WWTP
METER ID	Septage Receiving Flow Meter
FIT ID	n/a
CLIENT TAG	n/a
OCWA#	275318
GPS COORDINATES	N43 53.253 W080 18.530
VERIFICATION DATE	August 22nd 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	August 2026

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	100
F.S. FLOW - MAG	LPS	78.538
F.S. RANGE - O/P	LPS	30.000
TUBE k-FACTOR		1.35180
TUBE zero		0.00000

FORWARD TOTALIZER INFORMATION

AS FOUND	7450.507	M3
AS LEFT	7460.242	M3
DIFFERENCE	9.735	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	7.5	15.0	22.5	30.0	LPS
				0.0	9.5	19.1	28.6	38.2	% F.S. Flow
				0.0	25.0	50.0	75.0	100.0	% F.S. Range
REF. FLOW RATE				**0.000**	**7.500**	**15.000**	**22.500**	**30.000**	LPS
MUT [Reading]				0.000	7.506	14.999	22.503	29.997	LPS
MUT [Difference]				0.000	0.005	-0.001	0.003	-0.003	LPS
MUT [% Error]				n/a	0.07	-0.01	0.01	-0.01	% O.R
mA OUTPUT				**4.000**	**8.000**	**12.000**	**16.000**	**20.000**	mA
MUT [Reading]	min.	4	mA	3.998	7.998	11.997	15.998	19.994	mA
MUT [Difference]	max.	20	mA	-0.002	-0.002	-0.003	-0.002	-0.006	mA
MUT [% Error]				-0.05	-0.02	-0.03	-0.01	-0.03	% O.R
TOTALIZER - REF. FLOW RATE								**30.000**	LPS
TOTALIZER [MUT]								2.514	M3
TEST TIME								83.57	SECONDS
CALC. TOTALIZER								2.507	M3
ERROR								0.27	%

COMMENTS

Note: No disconnect found for this unit - Prior to next visit please have disconnect located and labeled.

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	E&H (FC)	1
PROCESS METER	PM	20
ANALOG METER	AM	N/A
STOP WATCH	SW	Yes

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.02	PASS
mA OUTPUT	-0.03	PASS
TOTALIZER - R	0.27	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	Elster
MODEL	T4000
CONVERTER SERIAL NUMBER	18438919
PLANT ID	Grand Valley STP
METER ID	Process Inlet
FIT ID	n/a
CLIENT TAG	OCWA# 275594
OTHER	n/a
GPS COORDINATES	N43 53.247 W080 18.534
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

[MUT] PROGRAMMING PARAMETERS

DIAMETER (DN-mm)	200
FLOW RATE UNITS	see below
TUBE CAL. FACTOR [AF]	n/a
TUBE CAL. FACTOR [AL]	n/a

REFERENCE METER

MANUFACTURER	Endress & Hauser
MODEL	Promag 50W
SERIAL NUMBER	E60C4516000

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

VOLUMETRIC COMPARISON

AS FOUND - REF				METER UNDER TEST				
ROF		% Error	QTY	HIGH	LOW	TOTAL	% ACC	P/F
3	lps	5	0.881 m3	0.900 m3	0.000 m3	0.900 m3	102.13	PASS
					Average Accuracy (%)		102.13	PASS

AS LEFT - REF				METER UNDER TEST				
ROF		% Error	QTY	HIGH	LOW	TOTAL	% ACC	P/F
3	lps	5	0.881 m3	0.900 m3	0.000 m3	0.900 m3	102.13	PASS
					Average Accuracy (%)		102.13	PASS

TOTALIZER/REGISTERS

	AS FOUND	
LOW	n/a	m3
HIGH	1107447.85	m3
	AS LEFT	
LOW	n/a	m3
HIGH	1107452.9	m3
	DIFFERENCE	
LOW	n/a	m3
HIGH	5.05	m3

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	1
[REFERENCE] METER	Coulter	n/a
PROCESS METER	PM	n/a

Accuracy Requirements: High Flow 98.5-101.5%, Medium Fow 98.5-101.5%, Low Flow/Cross Over 95-101.5%

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

Krohne
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	Krohne
MODEL	IFC100W
SERIAL NUMBER	C10 1314
FUSE	Control Panel CP-3 up stairs FU18
PLANT ID	Grand Valley WWTP
METER ID	WAS Flow
FIT ID	FIT-3101
CLIENT TAG	OCWA# 275511
OTHER	n/a
GPS COORDINATES	N43 53.253 W080 18.530
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	150
F.S. FLOW - MAG	LPS	175.0
F.S. RANGE - O/P	LPS	50.000
CAL. k-FACTOR	GKL	6.49870
Zero Offset Flow	LPS	0.0000

FORWARD TOTALIZER INFORMATION

AS FOUND	20643.71	M3
AS LEFT	20647.65	M3
DIFFERENCE	3.94	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		0.5	1.0	2.0	m/s
				0.0		5.0	10.0	20.0	% F.S. Flow
				0.0		17.5	35.0	70.0	% F.S. Range
REF. FLOW RATE				**0.000**		**8.751**	**17.502**	**35.004**	LPS
MUT [Reading]				0.000		8.848	17.589	35.108	LPS
MUT [Difference]				0.000		0.097	0.087	0.104	LPS
MUT [% Error]				n/a		1.10	0.50	0.30	%
mA OUTPUT				**4.000**		**6.800**	**9.601**	**15.201**	mA
MUT [Reading]	min.	4.000	mA	3.999		6.828	9.625	15.239	mA
MUT [Difference]	max.	20.000	mA	-0.001		0.028	0.024	0.038	mA
MUT [% Error]				-0.02		0.41	0.25	0.25	%
TOTALIZER - REF. FLOW RATE								**35.004**	LPS
TOTALIZER [MUT]								2	M3
TEST TIME								68.48	SECONDS
CALC. TOTALIZER								2.397	M3
ERROR								0.12	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	KRO	1
PROCESS METER	PM	0
ANALOG METER	AM	N/A
STOP WATCH	SW	N/A

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.63	PASS
mA OUTPUT	0.22	PASS
TOTALIZER	0.12	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

Krohne
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

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EQUIPMENT DETAIL

[MUT] MANUFACTURER	Krohne
MODEL	IFC100W
SERIAL NUMBER	C10 1318
FUSE	FU19
PLANT ID	Grand Valley WWTP
METER ID	RAS Flow
FIT ID	FIT-3102
CLIENT TAG	n/a
OCWA#	275513
GPS COORDINATES	n/a
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	150
F.S. FLOW - MAG	LPS	172.4
F.S. RANGE - O/P	LPS	70.000
CAL. k-FACTOR	GKL	6.40290
Zero Offset Flow	LPS	0.0000

FORWARD TOTALIZER INFORMATION

AS FOUND	2807302.16	M3
AS LEFT	2807307.608	M3
DIFFERENCE	5.448	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		0.5	1.0	2.0	m/s
				0.0		5.0	10.0	20.0	% F.S. Flow
				0.0		12.3	24.6	49.3	% F.S. Range
REF. FLOW RATE				**0.000**		**8.622**	**17.244**	**34.488**	LPS
MUT [Reading]				0.000		8.697	17.292	34.555	LPS
MUT [Difference]				0.000		0.075	0.048	0.067	LPS
MUT [% Error]				n/a		0.87	0.28	0.20	%
mA OUTPUT				**4.000**		**5.971**	**7.941**	**11.883**	mA
MUT [Reading]	min.	4.000	mA	4.000		5.985	7.953	11.895	mA
MUT [Difference]	max.	20.000	mA	0.000		0.014	0.012	0.012	mA
MUT [% Error]				0.00		0.24	0.15	0.10	%
TOTALIZER - REF. FLOW RATE								**34.488**	LPS
TOTALIZER [MUT]								2.3	M3
TEST TIME								66.84	SECONDS
CALC. TOTALIZER								2.305	M3
ERROR								-0.22	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	KRO	1
PROCESS METER	PM	0
ANALOG METER	AM	N/A
STOP WATCH	SW	N/A

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.45	PASS
mA OUTPUT	0.12	PASS
TOTALIZER	-0.22	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

Krohne
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

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EQUIPMENT DETAIL	
[MUT] MANUFACTURER	Krohne
MODEL	IFC100W
SERIAL NUMBER	C10 1339
FUSE	Control Panel CP-3 up stairs FU20
PLANT ID	Grand Valley WWTP
METER ID	Truck Loading
FIT ID	FIT-3103
CLIENT TAG	OCWA# 275508
OTHER	n/a
GPS COORDINATES	N43 53.253 W080 18.530
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS		
DIAMETER (DN)	mm	150
F.S. FLOW - MAG	LPS	174.3
F.S. RANGE - O/P	LPS	50.000
CAL. k-FACTOR	GKL	6.47320
Zero Offset Flow	LPS	0.0000

FORWARD TOTALIZER INFORMATION		
AS FOUND	20127.38	M3
AS LEFT	20133.1	M3
DIFFERENCE	5.72	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		0.5	1.0	2.0	m/s
				0.0		5.0	10.0	20.0	% F.S. Flow
				0.0		17.4	34.9	69.7	% F.S. Range
REF. FLOW RATE				**0.000**		**8.717**	**17.433**	**34.866**	LPS
MUT [Reading]				0.000		8.796	17.476	34.901	LPS
MUT [Difference]				0.000		0.079	0.043	0.035	LPS
MUT [% Error]				n/a		0.91	0.25	0.10	%
mA OUTPUT				**4.000**		**6.789**	**9.579**	**15.157**	mA
MUT [Reading]	min.	4.000	mA	4.001		6.814	9.593	15.175	mA
MUT [Difference]	max.	20.000	mA	0.001		0.025	0.014	0.018	mA
MUT [% Error]				0.03		0.36	0.15	0.12	%
TOTALIZER - REF. FLOW RATE								**34.866**	LPS
TOTALIZER [MUT]								2	M3
TEST TIME								70.32	SECONDS
CALC. TOTALIZER								2.452	M3
ERROR								-0.07	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.		
[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	KRO	1
PROCESS METER	PM	0
ANALOG METER	AM	N/A
STOP WATCH	SW	Yes

RESULTS		
TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.42	PASS
mA OUTPUT	0.16	PASS
TOTALIZER	-0.07	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

Krohne
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	Krohne
MODEL	IFC100W
SERIAL NUMBER	C10 2716
FUSE	Pull Plug on Board
PLANT ID	Grand Valley WWTP
METER ID	Biosolids Fill
FIT ID	FE-3104
CLIENT TAG	n/a
OCWA#	275507
GPS COORDINATES	N43 53.253 W080 18.530
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS		
DIAMETER (DN)	mm	150
F.S. FLOW - MAG	LPS	171.3
F.S. RANGE - O/P	LPS	60.000
CAL. k-FACTOR	GKL	6.36180
Zero Offset Flow	LPS	0.0000

FORWARD TOTALIZER INFORMATION		
AS FOUND	27616.67	M3
AS LEFT	27621.13	M3
DIFFERENCE	4.46	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		**0.5**	**1.0**	**2.0**	**m/s**
				0.0		**5.0**	**10.0**	**20.0**	**% F.S. Flow**
				0.0		**14.3**	**28.6**	**57.1**	**% F.S. Range**
REF. FLOW RATE				**0.000**		**8.567**	**17.133**	**34.266**	LPS
MUT [Reading]				0.000		8.619	17.179	34.311	LPS
MUT [Difference]				0.000		0.052	0.046	0.045	LPS
MUT [% Error]				n/a		0.61	0.27	0.13	%
mA OUTPUT				**4.000**		**6.284**	**8.569**	**13.138**	mA
MUT [Reading]	min.	4.000	mA	4.000		6.299	8.589	13.156	mA
MUT [Difference]	max.	20.000	mA	0.000		0.015	0.020	0.018	mA
MUT [% Error]				0.00		0.23	0.24	0.14	%
TOTALIZER - REF. FLOW RATE								**34.266**	LPS
TOTALIZER [MUT]								2	M3
TEST TIME								61.37	SECONDS
CALC. TOTALIZER								2.103	M3
ERROR								-0.14	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	KRO	1
PROCESS METER	PM	0
ANALOG METER	AM	N/A
STOP WATCH	SW	N/A

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.34	PASS
mA OUTPUT	0.15	PASS
TOTALIZER	-0.14	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

Krohne
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

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EQUIPMENT DETAIL	
[MUT] MANUFACTURER	Krohne
MODEL	IFC0100
SERIAL NUMBER	C093304
FUSE	PLC Compartment - FU9
PLANT ID	Grand Valley - Emma Street PS
METER ID	Discharge
FIT ID	FIT-4201
CLIENT TAG	N/A
OTHER	OCWA# 275431
GPS COORDINATES	N/A
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS		
DIAMETER (DN)	mm	250
F.S. FLOW - MAG	LPS	619.4
F.S. RANGE - O/P	LPS	100.000
CAL. k-FACTOR	GKL	8.28000
Zero Offset Flow	LPS	0.0000

FORWARD TOTALIZER INFORMATION		
AS FOUND	4124390.198	M3
AS LEFT	4124402.926	M3
DIFFERENCE	12.728	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			**0.5**	**1.0**	**m/s**
				0.0			**5.0**	**10.0**	**% F.S. Flow**
				0.0			**31.0**	**61.9**	**% F.S. Range**
REF. FLOW RATE				**0.000**			**30.971**	**61.942**	LPS
MUT [Reading]				0.000			31.180	61.970	LPS
MUT [Difference]				0.000			0.209	0.028	LPS
MUT [% Error]				n/a			0.67	0.05	%
mA OUTPUT				**4.000**			**8.955**	**13.911**	mA
MUT [Reading]	min.	4.000	mA	4.019			8.987	13.919	mA
MUT [Difference]	max.	20.000	mA	0.019			0.032	0.008	mA
MUT [% Error]				0.48			0.35	0.06	%
TOTALIZER - REF. FLOW RATE								**61.942**	LPS
TOTALIZER [MUT]								4.51	M3
TEST TIME								72.55	SECONDS
CALC. TOTALIZER								4.494	M3
ERROR								0.34	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	KRO	1
PROCESS METER	PM	0
ANALOG METER	AM	N/A
STOP WATCH	SW	Yes

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.36	PASS
mA OUTPUT	0.30	PASS
TOTALIZER	0.34	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

Rectangular Weir
W/End Contractions
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/A0271007
PLANT ID	Grand Valley WWTP
METER ID	Filt Influent Channel
FIT ID	LIT-1101
CLIENT TAG	n/a
OCWA#	275543
GPS COORDINATES	N43 53.247 W080 18.534
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

THROAT WIDTH, (exp 1.5)	m	0.6096
EMPTY DISTANCE, TX to notch	m	0.354
TRANSDUCER (TX), to sump flo	m	2.136
SUMP LEVEL, zero flow	m	1.782
MAX. HEAD	m	0.055
BLANKING DISTANCE	m	0.305
DEAD ZONE	m	-0.006
MAX. FLOW	LPS	14.2
F.S. RANGE - O/P	LPS	14.2

Ultrasonic Sensor is not installed high enough, to ensure full scale flow conditions

TOTALIZER

AS FOUND	17091644 LITER
AS LEFT	17096957 LITER
DIFFERENCE	5313 LITER

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
ALLOWABLE [%] ERROR	15

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

		0.0	23.9	51.1	69.4	76.7	% F.S. Range
		0.000	0.021	0.035	0.043	0.046	m
REF. FLOW RATE		**0.0**	**3.4**	**7.3**	**9.8**	**10.9**	LPS
MUT [Reading]		0.000	4.120	6.500	8.720	9.290	LPS
MUT [Difference]		0.0	0.7	-0.8	-1.1	-1.6	LPS
MUT [% Error]		0.0	5.2	-5.3	-8.0	-11.3	%
mA OUTPUT		**4.000**	**7.818**	**12.177**	**15.105**	**16.275**	mA
MUT [Reading]	min. 4.000 mA	3.997	8.657	11.349	13.818	14.469	mA
MUT [Difference]	max. 20.000 mA	-0.003	0.839	-0.828	-1.287	-1.806	mA
MUT [% Error]		-0.02	4.20	-4.14	-6.43	-9.03	%
TOTALIZER - REF. FLOW RATE						**10.887**	LPS
TOTALIZER [MUT]						3000	LITER
TEST TIME						306.74	SECONDS
CALC. TOTALIZER						3339.592	LITER
ERROR						-11.32	%

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	-4.84	PASS
mA OUTPUT	-3.08	PASS
TOTALIZER	-11.32	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

v-Notch Weir
Verification/Calibration Report

AS LEFT 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/A0271006
PLANT ID	Grand Valley STP
METER ID	Final Effluent
FIT ID	LIT 1102
CLIENT TAG	N/A
OTHER	OCWA# 275531
GPS COORDINATES	N43 53.247 W080 18.534
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

NOTCH ANGLE (ϕ)	inches	90
EMPTY DISTANCE, TX to notch	m	1.113
TRANSDUCER (TX), to sump flo	m	n/a
SUMP LEVEL, zero flow	m	0.833
MAX. HEAD	m	0.380
BLANKING DISTANCE	m	0.305
DEAD ZONE	m	0.428
MAX. FLOW	LPS	122.8
F.S. RANGE - O/P	LPS	124.8

Ultrasonic Sensor is not installed high enough, to ensure full scale flow conditions

TOTALIZER

AS FOUND	4209096	M3
AS LEFT	4209119	M3
DIFFERENCE	23	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	No
ALLOWABLE [%] ERROR	15

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

				0.0		22.7	47.9	100.0	% F.S. Range
				0.000		0.210	0.283	0.380	m
REF. FLOW RATE				**0.00**		**27.89**	**58.80**	**122.84**	LPS
MUT [Reading]				0.610		28.550	60.140	123.150	LPS
MUT [Difference]				0.61		0.66	1.34	0.31	LPS
MUT [% Error]				0.5		0.5	1.1	0.3	%
mA OUTPUT				**4.000**		**7.633**	**11.658**	**20.000**	mA
MUT [Reading]	min.	4.000	mA	4.086		7.670	11.713	19.787	mA
MUT [Difference]	max.	20.000	mA	0.086		0.037	0.055	-0.213	mA
MUT [% Error]				0.43		0.19	0.27	-1.07	%
TOTALIZER - REF. FLOW RATE								**122.840**	LPS
TOTALIZER [MUT]								9.00	M3
TEST TIME								72.43	SECONDS
CALC. TOTALIZER								8.897	M3
ERROR								1.14	%

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	0.63	PASS
mA OUTPUT	-0.04	PASS
TOTALIZER	1.14	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

Rectangular Weir W/End Contractions

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 Paris Machuk

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	Siemens
MODEL	Milltronics OCM-III
CONVERTER SERIAL NUMBER	PBD/A0271005
PLANT ID	Grand Valley WWTP
METER ID	Primary Splitter Flow
FIT ID	n/a
CLIENT TAG	OCWA# 275347
OTHER	n/a
GPS COORDINATES	N43 53.253 W080 18.530
VERIFICATION DATE	August 22nd 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	August 2026

PROGRAMMING PARAMETERS

THROAT WIDTH, (exp 1.5)	m	1.5
EMPTY DISTANCE, TX to notch	m	0.439
TRANSDUCER (TX), to sump flc	m	N/A
SUMP LEVEL, zero flow	m	n/a
MAX. HEAD	m	0.150
BLANKING DISTANCE	m	0.305
DEAD ZONE	m	0.289
MAX. FLOW	LPS	157.0
F.S. RANGE - O/P	LPS	157.0

Ultrasonic sensor installed to ensure full scale flow condition

TOTALIZER

AS FOUND	4478530	M3
AS LEFT	4478589	M3
DIFFERENCE	59	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
ALLOWABLE [%] ERROR	15

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

				0.0	19.5	32.2	54.8	63.1	% F.S. Range
				0.000	0.050	0.070	0.100	0.110	m
REF. FLOW RATE				**0.00**	**30.62**	**50.58**	**86.02**	**99.11**	LPS
MUT [Reading]				0.00	30.43	56.93	81.80	102.97	LPS
MUT [Difference]				0.00	-0.19	6.35	-4.22	3.86	LPS
MUT [% Error]				0.0	-0.1	4.0	-2.7	2.5	%
mA OUTPUT				**4.000**	**7.121**	**9.156**	**12.769**	**14.103**	mA
MUT [Reading]	min.	4.000	mA	3.996	7.006	9.804	12.250	14.492	mA
MUT [Difference]	max.	20.000	mA	-0.004	-0.115	0.648	-0.519	0.389	mA
MUT [% Error]				-0.02	-0.58	3.24	-2.59	1.95	%
TOTALIZER - REF. FLOW RATE								**99.108**	LPS
TOTALIZER [MUT]								7	M3
TEST TIME								68.03	SECONDS
CALC. TOTALIZER								6.742	M3
ERROR								3.68	%

COMMENTS

Note: see notes about weir for this device.

A single level was verifed with process - then a mock setup was used to perform test points using Flowmetrix transducer and TS-2 temp sensor

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] LEVEL	Sim. BOARD	Yes
PROCESS METER	PM	20
STOP WATCH	SW	Yes

RESULTS

TEST	AVG %FS	PASS FAIL
DISPLAY	0.92	PASS
mA OUTPUT	0.40	PASS
TOTALIZER	3.68	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

Krohne
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	Krohne
MODEL	UFC0300
SERIAL NUMBER	A1072355
FUSE	Pull Plug on Unit
PLANT ID	Grand Valley WWTP
METER ID	Mixing Pump Circulation Flow
FIT ID	FIT-3105
CLIENT TAG	OCWA# 275516
OTHER	N/A
GPS COORDINATES	N43 53.253 W080 18.530
VERIFICATION DATE	September 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	September 2026

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	300
F.S. FLOW - MAG	LPS	215.5
F.S. RANGE - O/P	LPS	250.000
CAL. k-FACTOR	GK	1.00000
TRANSIT TIME SETUP		
PIPE TYPE		Stainless Steel SCH10S
PIPE CIRCUMFRENCE	mm	1017.40
DIAMETER - OD	mm	323.85
DIAMETER - ID	mm	304.80
WALL THICKNESS	mm	4.57
SENSOR SPACING	mm	K 47 or 389.23
Zero Offset Flow	LPS	0.0000

FORWARD TOTALIZER INFORMATION

AS FOUND	2930109.766	M3
AS LEFT	2930109.766	M3
DIFFERENCE	0	M3

TEST CRITERIA

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

COMPONENTS TESTED

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

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

FLOW TUBE SIMULATION

			0.0	**1.0**	**2.0**	**5.0**	**10.0**	**m/s**
			0.0	**29.0**	**58.0**	**87.0**	**116.0**	**% F.S. Flow**
			0.0	**25.0**	**50.0**	**75.0**	**100.0**	**% F.S. Range**
REF. FLOW RATE			**0.000**	**62.500**	**125.000**	**187.500**	**250.000**	LPS
MUT [Reading]								
MUT [Difference]								
MUT [% Error]								
mA OUTPUT			**4.000**	**8.000**	**12.000**	**16.000**	**20.000**	mA
MUT [Reading]	min.	4.000 mA	3.994	7.995	11.997	15.998	19.999	mA
MUT [Difference]	max.	20.000 mA	-0.006	-0.005	-0.003	-0.002	-0.001	mA
MUT [% Error]			-0.15	-0.06	-0.03	-0.01	-0.01	%
TOTALIZER - REF. FLOW RATE								
TOTALIZER [MUT]								
TEST TIME								
CALC. TOTALIZER								
ERROR								

COMMENTS

Note: transit time comparison failed as poor signals were observed with no flows shown - also on customer unit - believe that pipe is not full.

NOTE: an on board simulated output was done to verify this unit - this method does not validate the actual process - this only validates that the output is working as expected.

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	KRO	1
PROCESS METER	PM	0
ANALOG METER	AM	N/A
STOP WATCH	SW	N/A

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	N/A	N/A
mA OUTPUT	-0.05	PASS
TOTALIZER	N/A	N/A

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

Multi-Wavelength Colorimeter
Verification Report

PASS

AS FOUND CERTIFICATION

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

[MUT] MANUFACTURER	HACH
MODEL	DR1900
SERIAL NUMBER	250946601002
CLIENT TAG	n/a
LOCATION	n/a
OTHER	n/a

VER. BY *Daniel Kettlewell*

Quality Management Standards Information - Standards, reference equipment, and instrumentation used to conduct this test outlining the lot#, and expiry date is found in our current QMS document.

TOLERANCE [mg/L]	0.05
STANDARD RECOVERY [%]	90
VERIFICATION DATE	August 22nd 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	August 2026

CHLORINE [Cl_2] SECONDARY STANDARDS

STANDARD	BLANK [mg/L]			READING mg/L	PASS FAIL
STD 1	0.23	+/-	0.09	0.24	PASS
STD 2	0.98	+/-	0.10	0.95	PASS
STD 3	1.58	+/-	0.14	1.61	PASS

CHLORINE [Cl_2] PRIMARY STANDARDS

STANDARD VALUE [mg/L]	27.3
STANDARD ADDITIONS SIZE [mL]	0.200
BLANK SAMPLE SIZE [mL]	10.0
DPD LOT#	A3223
EXPIRY DATE	Aug-28

SAMPLE TEST #	Cl_2 STANDARD mL	COMBINED SAMPLE mL	REFERENCE STANDARD mg/L	REFERENCE READING mg/L	MUT READING mg/L	DIFF. ERROR mg/L	PASS FAIL	STANDARD RECOVERY %
BLANK	0	10.000	0	0	0	0	PASS	N/A
STD 1	0.200	10.200	0.54	0.53	0.53	0.00	PASS	98.1
STD 2	0.400	10.400	1.05	0.99	1.00	0.01	PASS	94.3
STD 3	0.600	10.600	1.55	1.42	1.44	0.02	PASS	91.6
				AVERAGE RESULTS		0.01	PASS	94.7

COMMENTS

[QMS] INFORMATION	ITEM	ID #
[REFERENCE] HACH PCII	HACH PC II	1
10.0 mL PIPETTE	HACH-PP-10	1
0.2 mL PIPETTE	G-PP-2	1
SECONDARY STANDARDS	AS-CLSS	1
PRIMARY STANDARDS	AS-CLPS	1
ABSORBANCE STANDARDS	AS-ABS	1

ABSORBANCE CHECKS		
WAVELENGTH	TESTED	PASS/FAIL
420 nm	Yes	PASS
520 nm	Yes	PASS
560 nm	Yes	PASS
610 nm	Yes	PASS

Primary and Secondary standards were used to confirm the overall accuracy of this instrument along with conducting an analytical comparative technique against a reference meter. All values are considered "AS FOUND" readings. If the "AS FOUND" readings were not within acceptable limits, an "AS LEFT" report will be issued if the instrument was able to be calibrated to indicate the overall accuracy of the meter. If the meter was not calibrated for any reason, a comment will be issued for this instrument.

FLOWMETRIX
TECHNICAL SERVICES

Dissolved Oxygen
Verification/Calibration Report

AS LEFT **PASS**

CUSTOMER	OCWA - Highlands Hub	[MUT] MANUFACTURER	HACH
CONTACT	Jenna Porter / Don Irvine	MODEL	HQ40d
	Senior Operations Manager / Process Compliance Technician	SERIAL NUMBER	120800077752
	Cell: 519-323-6760 / Cell: 519-321-9474	CLIENT TAG	62584
	Email: jporter2@ocwa.com / dirvine@ocwa.com	LOCATION	n/a
		OTHER	n/a
VER. BY	*Daniel Kettlewell*	TOLERANCE [pH]	0.05

Quality Management Standards Information - Standards, reference equipment, and instrumentation used to conduct this test outlining the lot#, and expiry date is found in our current QMS document.

VERIFICATION DATE	August 22nd 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	August 2026

AS FOUND

DO Concentration [mg/L]	8.44
DO Concentration [%]	100.2
Barometric Pressure [hpa]	966
Temperature	21.3

AS LEFT

DO Concentration [mg/L]	8.38
DO Concentration [%]	100.0
Barometric Pressure [hpa]	967
Temperature	21.3

COMMENTS

[QMS] INFORMATION	ITEM	ID #

NIST Traceable Buffers were used to confirm the overall accuracy of this instrument. "AS FOUND" readings and "AS FOUND" readings are reported within this report. A temperature device was used to measure and record the buffer temperature to correct for pH values due to the effects related to buffer temperature.

FLOWMETRIX
TECHNICAL SERVICES

pH
Verification/Calibration Report

[MUT] AS FOUND **FAIL**

[MUT] AS LEFT **PASS**

CUSTOMER	OCWA - Highlands Hub	[MUT] MANUFACTURER	HACH
CONTACT	Jenna Porter / Don Irvine	MODEL	Sension 1
	Senior Operations Manager / Process Compliance Technician	SERIAL NUMBER	08020C110355
	Cell: 519-323-6760 / Cell: 519-321-9474	CLIENT TAG	275613
	Email: jporter2@ocwa.com / dirvine@ocwa.com	LOCATION	n/a
		OTHER	n/a
VER. BY	*Daniel Kettlewell*	TOLERANCE [pH]	0.05

Quality Management Standards Information - Standards, reference equipment, and instrumentation used to conduct this test outlining the lot#, and expiry date is found in our current QMS document.

VERIFICATION DATE	August 22nd 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	August 2026

pH VERIFICATION
NIST TRACEABLE (BUFFERS)

BEFORE CALIBRATION

REFERENCE BUFFER			[MUT] READINGS			
pH BUFFER	TEMP. ° C	pH CORRECTED	pH	TEMP. ° C	pH - ERROR DIFF.	PASS FAIL
4.01	21.0	4.01	4.36	21.0	0.35	FAIL
7.01	21.0	7.02	7.10	21.0	0.08	FAIL
10.01	21.0	10.05	9.70	21.0	-0.35	FAIL
					RESULT	**FAIL**

AFTER CALIBRATION

REFERENCE BUFFER			[MUT] READINGS			
pH BUFFER	TEMP. ° C	pH CORRECTED	pH	TEMP. ° C	pH - ERROR DIFF.	PASS FAIL
4.01	21.0	4.01	4.00	21.0	-0.01	PASS
7.01	21.0	7.02	7.00	21.0	-0.02	PASS
10.01	21.0	10.05	10.00	21.0	-0.05	PASS
					RESULT	**PASS**

mv offset/Assymetry	-7.2mV
Slope	54.7mV/pH

COMMENTS

[QMS] INFORMATION	ITEM	ID #
[REFERENCE]		
4.01 BUFFER	pHBUFF4	1
7.01 BUFFER	pHBUFF7	1
10.01 BUFFER	pHBUFF10	1
TEMPERATURE REF.	DDTEMP	1

NIST Traceable Buffers were used to confirm the overall accuracy of this instrument. "AS FOUND" readings and "AS FOUND" readings are reported within this report. A temperature device was used to measure and record the buffer temperature to correct for pH values due to the effects related to buffer temperature.

Appendix D

Sludge Haulage Summary & Sludge Quality

2025

Grand Valley WWTP - Daily Haulage Summary			
Date	**Site**	**NASM #**	**Sludge Hauled (m^3)**
September			
17-Sep-25	David Hill's C&M Farm	62762	572.30
18-Sep-25	David Hill's C&M Farm	62762	839.80
19-Sep-25	David Hill's C&M Farm	62762	226.50
		Total	**1638.60**

Biosolids Quality Report

Facility: GRAND VALLEY WASTEWATER TREATMENT FACILITY

Solids & Nutrients **Period: 01/01/2025 to 12/31/2025** **Works: 5762 / Digestor Type: Aerobic**

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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

Facility Works Number: 110000301 Receiver: Grand River

Facility Owner: Municipality: Town of Grand Valley

Facility Classification: Class 2 Wastewater Treatment

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**
Jan		43,400.00	1,840.00	294.00	3.00	3.00	1,650.00	148.50	138.00
Feb		42,300.00	1,450.00	379.00	3.00	3.00	1,850.00	191.00	113.00
Mar		35,400.00	1,200.00	313.00	3.00	3.00	1,710.00	158.00	117.00
Apr		36,300.00	1,170.00	299.00	3.00	3.00	1,870.00	151.00	113.00
May		31,500.00	971.00	306.00	3.00	3.00	1,490.00	154.50	104.00
Jun		29,200.00	717.00	338.00	3.00	3.00	1,270.00	170.50	82.00
Jul		25,800.00	780.00	391.00	3.00	3.00	1,390.00	197.00	96.00
Aug		24,900.00	482.00	453.00	3.00	3.00	1,250.00	228.00	76.00
Sep	1,638.60	23,900.00	754.00	498.00	3.00	3.00	1,210.00	250.50	92.00
Oct		47,400.00	1,610.00	327.00	3.00	3.00	1,680.00	165.00	103.00
Nov		47,900.00	1,670.00	372.00	3.00	3.00	1,930.00	187.50	111.00
Dec		47,100.00	1,940.00	312.00	3.00	3.00	2,640.00	157.50	116.00
Average	1,638.60	36,258.33	1,215.33	356.83	3.00	3.00	1,661.67	179.92	105.08
Total	1,638.60	435,100.00	14,584.00	4,282.00	36.00	36.00	19,940.00	2,159.00	1,261.00

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
Jan	0.20	0.04	0.10	0.83	19.00	0.04	0.34	0.70	0.70	0.20	37.00
Feb	0.20	0.04	0.09	0.69	17.00	0.04	0.28	0.57	0.60	0.20	31.00
Mar	0.10	0.03	0.07	0.61	13.50	0.03	0.21	0.47	0.46	0.10	24.00
Apr	0.10	0.03	0.06	0.52	13.00	0.03	0.21	0.43	0.50	0.20	23.00
May	0.10	0.02	0.05	0.42	10.00	0.02	0.18	0.35	0.30	0.10	17.00
Jun	0.10	0.02	0.04	0.33	7.60	0.02	0.13	0.28	0.30	0.10	14.00
Jul	0.10	0.02	0.04	0.36	8.00	0.02	0.14	0.28	0.30	0.10	14.00
Aug	0.10	0.01	0.03	0.19	4.80	0.01	0.09	0.17	0.20	0.10	9.00
Sep	0.10	0.02	0.04	0.34	7.40	0.01	0.13	0.27	0.30	0.10	13.00
Oct	0.20	0.04	0.08	0.72	17.00	0.03	0.29	0.54	0.60	0.20	29.00
Nov	0.20	0.04	0.09	0.85	18.00	0.04	0.31	0.61	0.60	0.20	32.00
Dec	0.20	0.05	0.10	0.90	20.00	0.03	0.34	1.00	0.70	0.30	37.00
Average	0.14	0.03	0.07	0.56	12.94	0.02	0.22	0.47	0.46	0.16	23.33
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)	3.91	0.83	1.81	15.53	356.93	0.68	6.09	13.02	12.77	4.37	643.53

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

Parameter Short Name	Time Series	09/02/2025	10/21/2025	11/04/2025	12/02/2025	Average	Metal Concentrations in Sludge (mg/kg)	Max. Permissible Metal Concentrations (mg/kg of Solids)
As (mg/L)	Lab Published	0.10	0.20	0.20	0.20	0.18	4.21	170
Cd (mg/L)	Lab Published	0.02	0.04	0.04	0.05	0.04	0.89	34
Co (mg/L)	Lab Published	0.04	0.08	0.09	0.10	0.08	1.86	340
Cr (mg/L)	Lab Published	0.34	0.72	0.85	0.90	0.70	16.90	2800
Cu (mg/L)	Lab Published	7.40	17.00	18.00	20.00	15.60	375.23	1700
Hg (mg/L)	Lab Published	0.01	0.03	0.04	0.03	0.03	0.68	11
Mo (mg/L)	Lab Published	0.13	0.29	0.31	0.34	0.27	6.43	94
Ni (mg/L)	Lab Published	0.27	0.54	0.61	1.00	0.61	14.55	420
Pb (mg/L)	Lab Published	0.30	0.60	0.60	0.70	0.55	13.23	1100
Se (mg/L)	Lab Published	0.10	0.20	0.20	0.30	0.20	4.81	34
Zn (mg/L)	Lab Published	13.00	29.00	32.00	37.00	27.75	667.47	4200
E.Coli Dry Wt (cfu/g)	Lab Published						E. Coli average is the GMD	
TS (mg/L)	Lab Published	23,900.00	47,400.00	47,900.00	47,100.00	41,575.00		
TP (mg/L)	Lab Published	754.00	1,610.00	1,670.00	1,940.00	1,493.50		
NO2-N (mg/L)	Lab Published	3.00	3.00	3.00	3.00	3.00		
TKN (mg/L)	Lab Published	1,210.00	1,680.00	1,930.00	2,640.00	1,865.00		
K (mg/L)	Lab Published	92.00	103.00	111.00	116.00	105.50		
NH3p_NH4p_N (mg/L)	Lab Published	498.00	327.00	372.00	312.00	377.25		
NO3-N (mg/L)	Lab Published	3.00	3.00	3.00	3.00	3.00		

Appendix E

Bypass/Overflow Incident Report

From:	Melissa Cortes
To:	moe.sac.moe@ontario.ca; Ec.FA-LP-On.ec@canada.ca; "Meghan Townsend"; carola.serwotka@ontario.ca
Cc:	Jenna Porter; Don Irvine; -GHRH-SPCM@ocwa.com (Mailing List); Karla Young; Caralynn McRae; Richard Junkin; Alex Solomonov; Suhail Auzam; Manan Barot; "Phil Wong"
Subject:	RE: Grand Valley WWTP - Environmental Incident #1-J2L1U9 - March 16, 2025
Date:	March-25-25 9:03:00 AM
Attachments:	Report CA14515-MAR25.pdf Report CA14540-MAR25.pdf image001.jpg image002.jpg

Good morning,

Please find attached lab result from the samples collected for the below Tertiary Bypass Incident (Incident# 1-J2L1U9) that occurred at the Grand Valley WWTP.

Thank you,

Melissa

Melissa Cortes (she/her)

Process & Compliance Technician
North & South Highlands Hubs, Georgian Highlands Region
300 Centennial Road
Shelburne ON, L9V 2Z4
Cell: 519-938-6909 Email: mcortes@ocwa.com

From: Melissa Cortes
Sent: March-21-25 3:59 PM
To: moe.sac.moe@ontario.ca; Ec.FA-LP-On.ec@canada.ca; 'Meghan Townsend' <mtownsend@townofgrandvalley.ca>; carola.serwotka@ontario.ca
Cc: Jenna Porter <JPorter2@ocwa.com>; Don Irvine <DIrvine@ocwa.com>; -GHRH-SPCM@ocwa.com (Mailing List) <GHRH-SPCM@ocwa.com>; Karla Young <KYoung@ocwa.com>; Caralynn McRae <CMcRae@ocwa.com>; Richard Junkin <RJunkin@ocwa.com>; Alex Solomonov <ASolomonov@ocwa.com>; Suhail Auzam <SAuzam@ocwa.com>; Manan Barot <MBarot@ocwa.com>; Phil Wong <phil.wong@wdgpublichealth.ca>
Subject: Grand Valley WWTP - Environmental Incident #1-J2L1U9 - March 16, 2025
Importance: High

Regarding: Written Notification concerning the Grand Valley WWTP Tertiary Bypass on March 16, 2025.

SAC Reference Number: 1-J2L1U9
Date: March 16, 2025
Facility: Grand Valley WWTP
Location: 18 Watson Road, Grand Valley, ON
Treatment Processes bypassed: Effluent Filters

Time Bypass Started: March 16, 2025 23:55 PM
Time Bypass Ended: March 18, 2025 8:35 AM
Duration of Incident: 32 hrs and 40 minutes
Bypass Contents: Partially Treated Effluent
Volume: Approx. $20m^3$
Location of Release: Through the regular outfall to the Grand River

Description of Incident/Reason for Tertiary Bypass: Filters were unable to handle all significant weather-related high flows (localized high precipitation, snow melt and flooding) so partial flowstream directed over filters and sent to UV banks before entering effluent channel.

Actions Taken: As flows decreased filters were able to handle all flows through the filters, Samples were taken according to ECA #9611-CFVLRG. On March 18, 2025 at 0835hrs flows had returned to normal and all flows were being processed through filters and bypass was ended/complete.

Samples Collected: Samples were taken according to ECA #9611-CFVLRG on March 17, 2025 and March 18, 2025.

Reporting:
March 17, 2025 at 0014 Alex Solomonv (OCWA) notified Brenda Capicciotti (SAC).
March 17, 2025 at 0045 Alex Solomonov (OCWA) notified Phillip Wong, Public Health Inspection (WDG Health Unit).
March 17, 2025 at 0810 Jenna Porter (OCWA) notified Meghan Townsend (Owner)
March 18, 2025 at 1118 Melissa Cortes (OCWA) notified/updated Fatima Jabeem (SAC) bypass ended and volume

Please find attached the Environmental Incident Report, the laboratory results from the bypass samples will be forwarded when received.

Melissa Cortes (she/her)

Process & Compliance Technician
North & South Highlands Hubs, Georgian Highlands Region
300 Centennial Road
Shelburne ON, L9V 2Z4
Cell: 519-938-6909 Email: mcortes@ocwa.com

Ontario Clean Water Agency
Environmental Incident Report

Facility ID: 5762

EIncidentReport

Facility Name: Grand Valley Wastewater Treatment Plant & Collection System

Address: 18 Watson Road

City: Grand Valley

Province: Ontario

Postal Code: L0N 1G0

Date of Occurrence: 03/16/2025

Time of Occurrence: 11:55:00 PM

Nature of the Incident

● Level 1 Contingency ○ Level 2 Contingency ○ Level 3 Contingency *Click here To Show the Definitions*

Incident affected: ☐ Air ☒ Water ☐ Land ☐ Nothing

What was discharged or emitted?

☐ Chlorine
☐ Sodium Hypochlorite
☐ Calcium Chloride
☐ Aluminum Compounds (Specify in Other)
☐ Arsenic
☐ Fluoride
☐ Oil/Diesel/Gas
☒ Untreated or partly treated sewage
☐ Odours
☐ Water
☐ Iron Coagulants

Other: _____

If this was a discharge, spill or emission...

If a liquid, approximately what quantity was released?: 20000 Litres

If a gas, approximately what quantity was released?: _____

If a solid, approximately what quantity was released?: _____ Kg

What was the source of release?:

Significant weather-related high flows (localized high precipitation, snow melt and flooding)

Where did the release go?:

Through the regular outfall to the Grand River

If it entered a watercourse: ● Yes ○ No

If it went off site: ● Yes ○ No

Duration of the release?: 32 hours and 30 minutes

Is the release now stopped?: ● Yes ○ No

Was there any damage? (i.e. property and/or environmental): ○ Yes ● No ○ N/A

If "Yes", describe below and fill out "Insurance Claim" report

Action(s) Taken

What actions were taken to control the incident?

During the high flow event the flow filled the equalization tank, once full then flowed to storm tank. Both were full by March 16, 2025 at 23:30 which then the filters were unable to handle all flows and partial flowstream directed over filters and sent to the UV banks before entering the effluent channel.

What actions have been taken to remediate the incident?

Equalization tank and storm tank content will be returned through the plant and processed as designed to be able to continue to provide storage for future high flow events. This event was a significant weather event that caused localized high flows and flooding.

Was this a reportable spill or discharge?: ● Yes ○ No

If "Yes", at what time was it first reported to the MOE?

March 17, 2025 at 0014 Alex Solomonv (OCWA) notified Brenda Capicciotti (SAC).

Was it reported to the MOE district office?: ○ Yes ● No

If "Yes", which office/location and who was the contact?:

Was it reported to MOE SAC?: ● Yes ○ No

If "Yes", at what time was it reported to MOE SAC?:

March 17, 2025 at 0014 Alex Solomonv (OCWA) notified Brenda Capicciotti (SAC).

Was it reported to Municipality?: ● Yes ○ No

If "Yes", at what time was it reported to Municipality?:

March 17, 2025 at 0810 Jenna Porter (OCWA) notified Meghan Townsend (Owner)

External Assistance/Involvement

Was corporate or area office assistance requested?: ○ Yes ● No

If "Yes", was it received?: ○ Yes ○ No

Was external emergency assistance requested?: ○ Yes ● No

If "Yes", from who?: ☐ Fire Department ☐ Equipment Suppliers ☐ Canutec
☐ Ambulance or Hospital ☐ MOE ☐ Coast Guard
☐ Police ☐ Municipality

Other: _____

Was there any media involvment?: ○ Yes ● No

If "Yes", who?: _____

Was the public affected?: ○ Yes ● No

If "Yes", how?: _____

Updated By: Melissa Cortes 03/21/2025 02:28:47 PM

Comments:

SAC Reference Number: 1-2L1U9
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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000301
Project : PO#017844

24-March-2025

OCWA-Highlands North (Grand Valley WPCP)
Attn : Jenna Porter

136 Main St. E.
Shelburne, ON
L9V 3K5, Canada

Phone: 519-925-1938 Ext. 225
Fax:

Date Rec. : 17 March 2025
LR Report: **CA14515-MAR25**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	7: TeBy TeBy-Tertiary Treatment Bypass (00:05)	8: TeBy TeBy-Tertiary Treatment Bypass (07:55)
Sample Date & Time					17-Mar-25 00:05	17-Mar-25 07:55
Temperature Upon Receipt [°C]	---	---	---	---	4.0	4.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	18-Mar-25	16:44	24-Mar-25	10:46	7	< 4
Total Suspended Solids [mg/L]	18-Mar-25	08:06	18-Mar-25	15:14	16	11
Phosphorus (total) [mg/L]	18-Mar-25	16:02	19-Mar-25	10:56	0.15	0.16
Ammonia+Ammonium (N) [as N mg/L]	18-Mar-25	21:29	19-Mar-25	10:21	0.3	0.4

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004054781

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000301
Project : PO#017844

24-March-2025

OCWA-Highlands North (Grand Valley WPCP)
Attn : Jenna Porter

136 Main St. E.
Shelburne, ON
L9V 3K5, Canada

Phone: 519-925-1938 Ext. 225
Fax:

Date Rec. : 18 March 2025
LR Report: **CA14540-MAR25**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	7: TeBy TeBy-Tertiary Treatment Bypass
Sample Date & Time					18-Mar-25 08:35
Temperature Upon Receipt [°C]	---	---	---	---	6.0
Field pH [no unit]					7.68
Field Temperature [celcius]					9.5
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	19-Mar-25	15:50	24-Mar-25	13:27	< 4
Total Suspended Solids [mg/L]	19-Mar-25	12:39	20-Mar-25	14:12	8
Phosphorus (total) [mg/L]	19-Mar-25	15:42	20-Mar-25	13:41	0.05
Ammonia+Ammonium (N) [as N mg/L]	19-Mar-25	17:41	20-Mar-25	11:43	< 0.1

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004055344

Appendix F

2026 Monitoring Schedule

2026 Sampling Calendar
GRAND VALLEY WWTP (Org #5762)
WWT II, WWC II

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

Stat Holiday/Weekend
Sample Day

W=Weekly Raw & Effluent; **BS**=Bio-Solids; **SR**=Septage Receiving (monthly as received)

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

S:\WestHighlands\08 GRAND VALLEY (Township of)\01 - Operational\1-1 Sampling Schedule\2026 Sampling Calendar_Grand Valley_Waste_2025.12.15.xlsx

Revision #9 - Revised 2025-12-15

2026 Sampling Calendar
GRAND VALLEY WWTP (Org #5762)
WWT II, WWC II

JULY						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
			1	2	3	4
5	6	7	**8 - W/BS/SR**	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	31	

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

SEPTEMBER						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
		1	**2 - W/BS/SR**	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 - W**	30			

OCTOBER						
Su	**M**	**T**	**W**	**TH**	**F**	**Sa**
				1	2	3
4	5	6	**7 - W/BS/SR**	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/BS/SR**	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/BS/SR**	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 Raw & Effluent; **BS**=Bio-Solids; **SR**=Septage Receiving (monthly as received)

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

S:\WestHighlands\08 GRAND VALLEY (Township of)\01 - Operational\1-1 Sampling Schedule\2026 Sampling Calendar_Grand Valley_Waste_2025.12.15.xlsx

Appendix G

Sludge Accountability

2025 Sludge Accountability Analysis

Gray boxes are populated automatically
Fill out the Orange boxes if they apply to you

Projected Sludge Production

Raw Solids Production		kg/d	(if your plant has primary clarifier)
Biological Solids Production	99.5	kg/d	
Chemical Sludge	25.2	kg/d	
Total Projected Sludge	**124.7**	kg/d	

Reported Sludge Production

Intentional wasting	131.3	kg/d	
Unintentional wasting	4.2	kg/d	
Total Reported Sludge	**135.5**	kg/d	

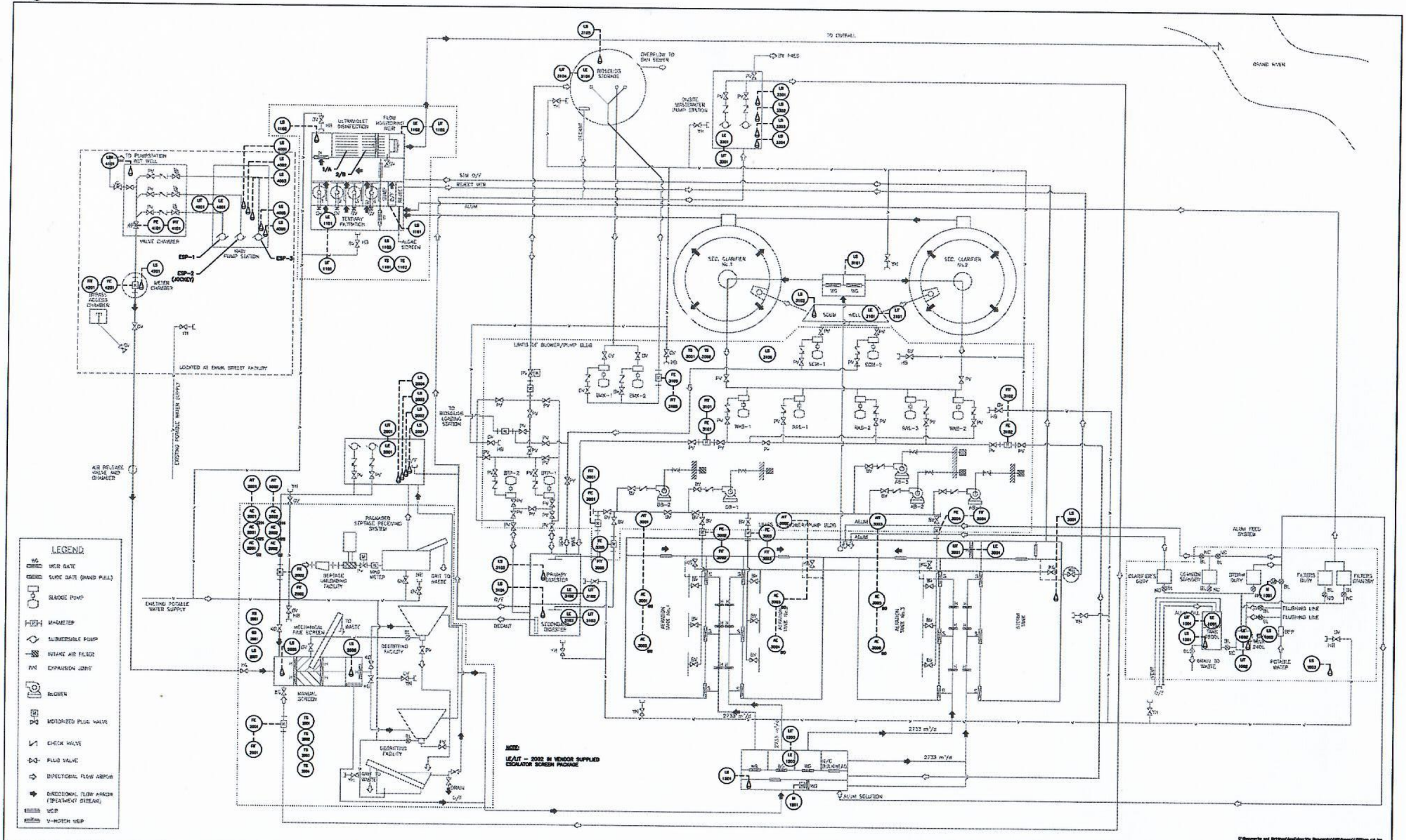
Sludge Accountability

(Projected - Reported) ÷ Projected) x 100%	**-8.7**	**%**	±15% is considered to be "close"

Appendix H

Process Flow Schematic

Figure 3.4



1. This drawing is the exclusive property of R. J. Burnside & Associates Limited and the reproduction of any part without prior written consent of this office is strictly prohibited.

2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.

3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

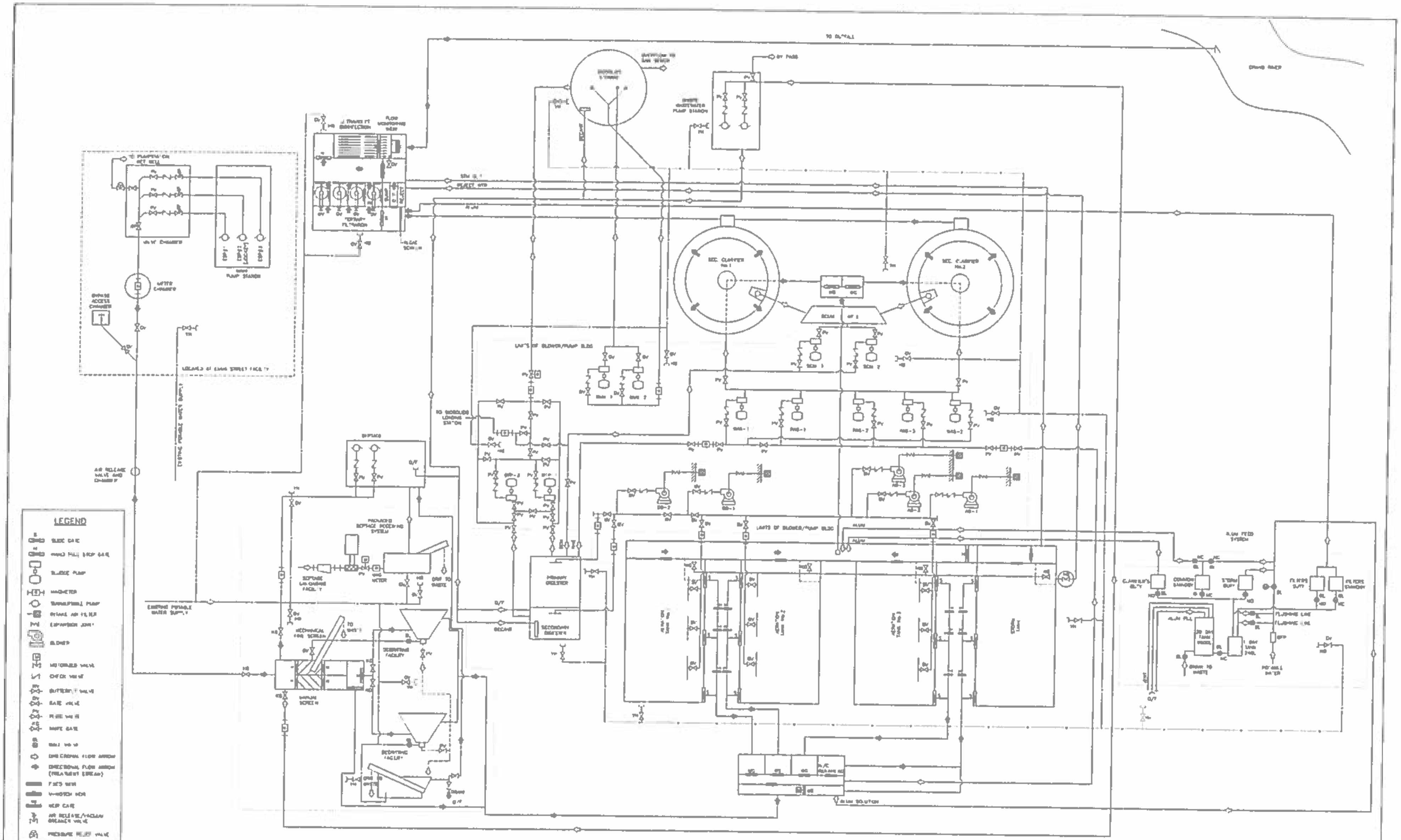
No.	Issue / Revision	Date
1	ISSUED FOR 75% REVIEW	10/22/2008
2	ISSUED FOR CLIENT REVIEW	10/11/2008
3	PRE-TENDER SUBMISSION	28/11/2008
4	ISSUED FOR TENDER	12/12/2008
5	ISSUED FOR RE-TENDER	OCTOBER 2009
6	ISSUED FOR CONSTRUCTION	JANUARY 2010

BURNSIDE
R.J. Burnside & Associates Limited
3 Ronell Crescent, Collingwood, Ontario
telephone (705) 446-0515 fax (705) 446-2399
web www.rjburnside.com

TOWNSHIP OF EAST LUTHER GRAND VALLEY
P.O. BOX 249, 5 MAIN STREET NORTH
GRAND VALLEY, ONTARIO
L0N 1G0

Drawing Title
GRAND VALLEY WATER POLLUTION CONTROL PLANT
GENERAL ELECTRICAL P&ID

Drawn: K.NAFZIGER | Checked: I.DEACONU | Designed: I.DEACONU | Checked: D.CHAMBERLAIN
Scale: N.T.S. | Project No. MSA11544 | Drawing No. I-002



No.	Issue / Revision	Date
1	[illegible] SUBMISSION	[illegible]
2	PRE-TENDER SUBMISSION	11/28/08
3	ISSUED FOR TENDER	[illegible]
4	ISSUED FOR RE-TENDER	[illegible] 2009
5	ISSUED FOR CONSTRUCTION	JANUARY 2010
6	AS-BUILT	

BURNSIDE

TOWNSHIP OF EAST LUTHER GRAND VALLEY
P.O. BOX 249, 5 MAIN STREET NORTH
GRAND VALLEY, ONTARIO
L0N 1G0

GRAND VALLEY WASTEWATER TREATMENT PLANT

PROCESS FLOW SCHEMATIC

G-004