2023 ANNUAL SEWAGE REPORT

GRAND VALLEY WASTEWATER TREATMENT PLANT

For the period of
January 1st, 2023 to December 31st, 2023

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: inlet works, preliminary treatment consisting of screening and grit removal, influent flow measurement, secondary treatment systems consisting of biological treatment in aerations tanks, secondary sedimentation in 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 tanks 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) outlines 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	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 2023 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	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 2023

Parameter	Average (mg/L)	Minimum (mg/L)	Maximum (mg/L)
BOD_5[4A]	150.61	84.25	186.80
Total Suspended Solids[4A]	169.81	105.50	235.75
Total Phosphorous[4A]	2.41	1.38	3.13
Total Kjeldahl Nitrogen[4A]	22.56	13.85	32.60

[4A]Refer to Appendix A 2023 PAR for monthly sample results.

Influent Laboratory analysis for the reporting year averaged a Biochemical Oxygen Demand (BOD_5) annual concentration average of 150.61 mg/L, a Total Suspended Solids (TSS) concentration of 169.81 mg/L, a Total Phosphorus (TP) concentration of 2.41 mg/L and a Total Kjeldahl Nitrogen concentration of 22.56 mg/L. When comparing the data to 2022 trends all parameter concentrations are lower in 2023 than in 2022. The average concentration of BOD_5 in 2022 was 179.59 mg/L (28.98 mg/L lower in 2022). In 2022 TSS annual average concentration was 188.29 mg/L (18.48 mg/L lower in 2023). In 2022 TP annual average concentration was 3.30 mg/L (0.89 mg/L lower in 2023) and TKN annual average concentration was 30.66 mg/L (8.4 mg/L lower in 2023).

Imported Sewage Quality:

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 2023

Parameter	Average (mg/L)	Minimum (mg/L)	Maximum (mg/L)
BOD_5	4260.00	650.00	8230.00

Total Suspended Solids	13795.45	2550.00	43000.00
Total Phosphorous	81.12	15.40	280.00
Total Kjeldahl Nitrogen	478.77	94.50	1470.00

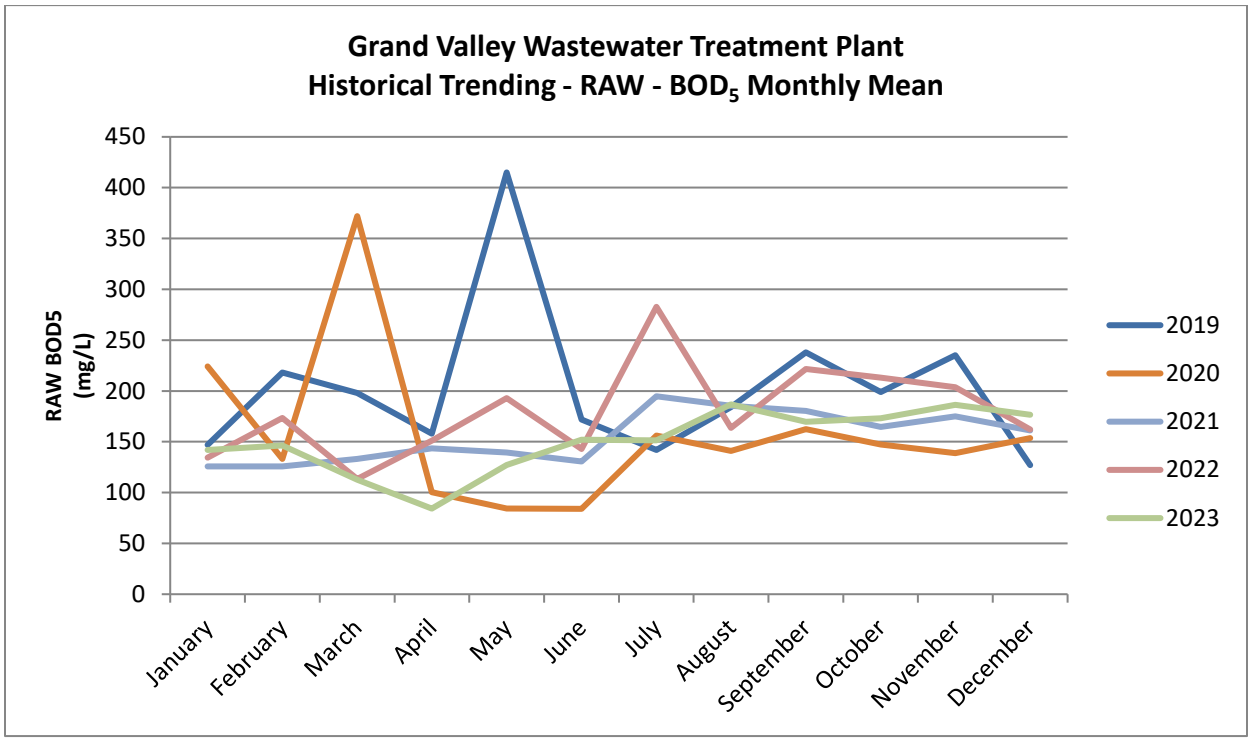
Laboratory analysis for the reporting year for imported sewage averaged a Biochemical Oxygen Demand (BOD_5) annual concentration average of 14260.00 mg/L, a Total Suspended Solids (TSS) concentration of 13795.45 mg/L, a Total Phosphorus (TP) concentration of 81.12 mg/L and a Total Kjeldahl Nitrogen concentration of 478.77 mg/L. When comparing the data to 2022 trends all parameter concentrations are higher in 2023 than in 2022. The average concentration of BOD_5 in 2022 was 2408.75 mg/L (1851.25 mg/L higher in 2023). In 2022 TSS annual average concentration was 7641.00 mg/L (6154.45 mg/L higher than in 2023). In 2022 TP annual average concentration was 36.32 mg/L (44.80 mg/L higher than in 2023) and TKN annual average concentration was 207.60 mg/L (271.17 mg/L higher in 2023).

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

Sewage Characteristics

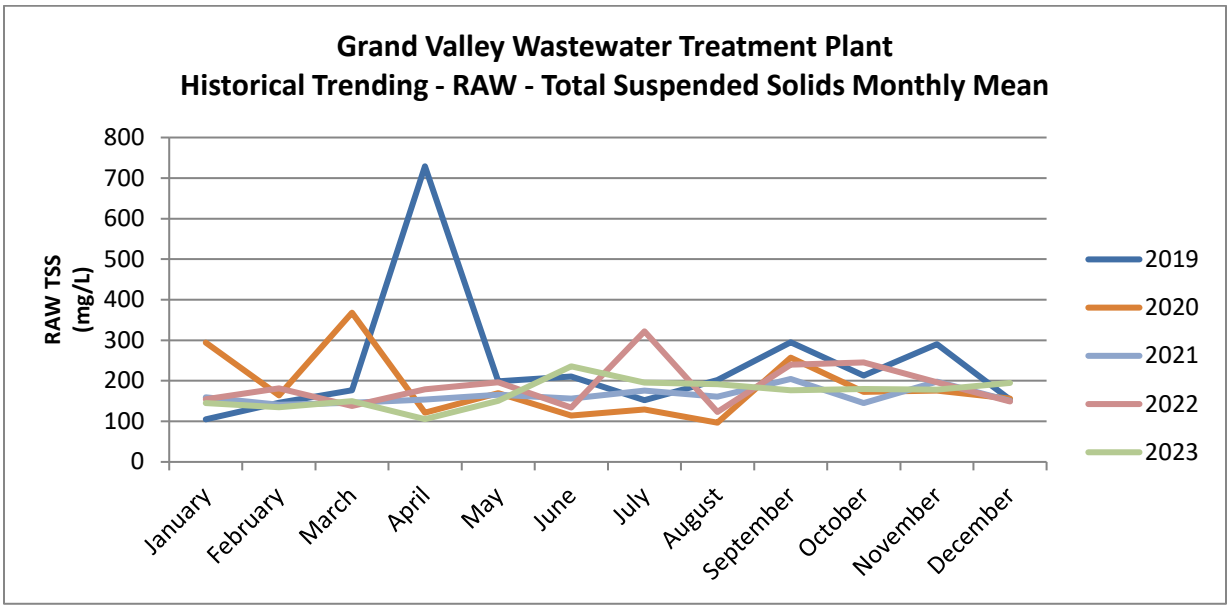
The below graph shows historical raw Biochemical Oxygen Demand (BOD_5) trending from 2019 to 2023. A review of the trends from the last 5 years for BOD_5 shows that the average BOD_5 concentration in the raw sewage has fluctuated year per year. A slightly lower BOD_5 loading was observed in 2023 comparatively to previous years.

Figure 1. Historical Raw Biochemical Oxygen Demand (BOD_5) trending from 2019 to 2023



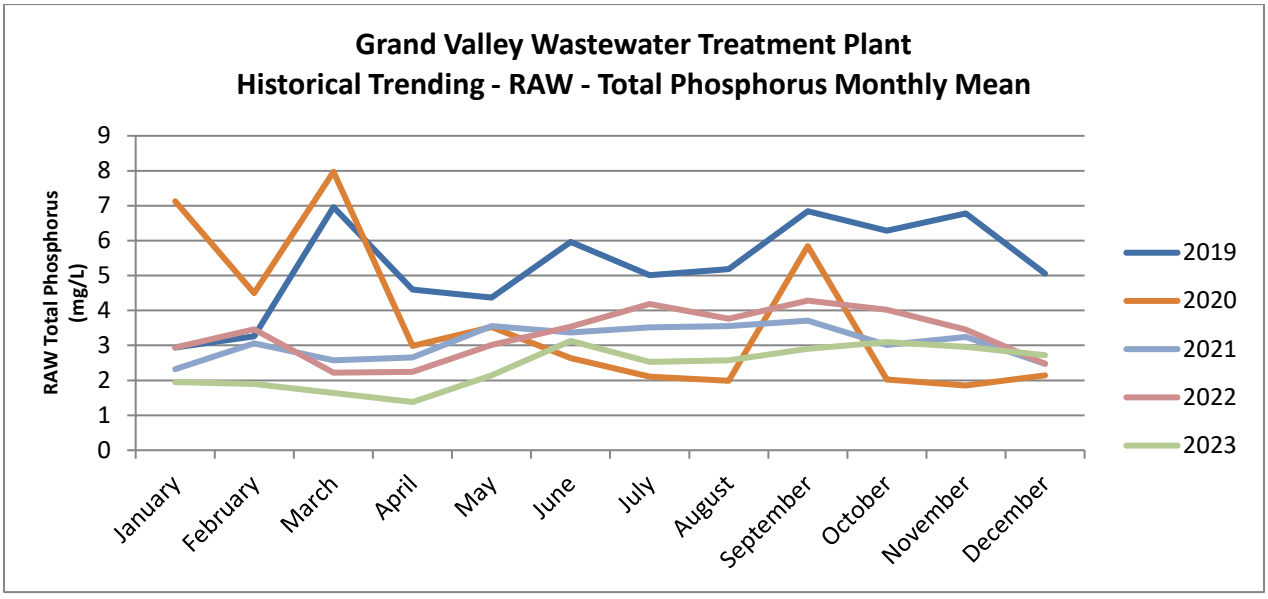
The below graph shows the historical raw Total Suspended Solids trending from 2019 to 2023. A review of the current 2023 trends versus the last 5 years has shown consistency in loadings of Total Suspended Solids for the majority of the year.

Figure 2. Historical Raw Total Suspended Solids trending from 2019 to 2023



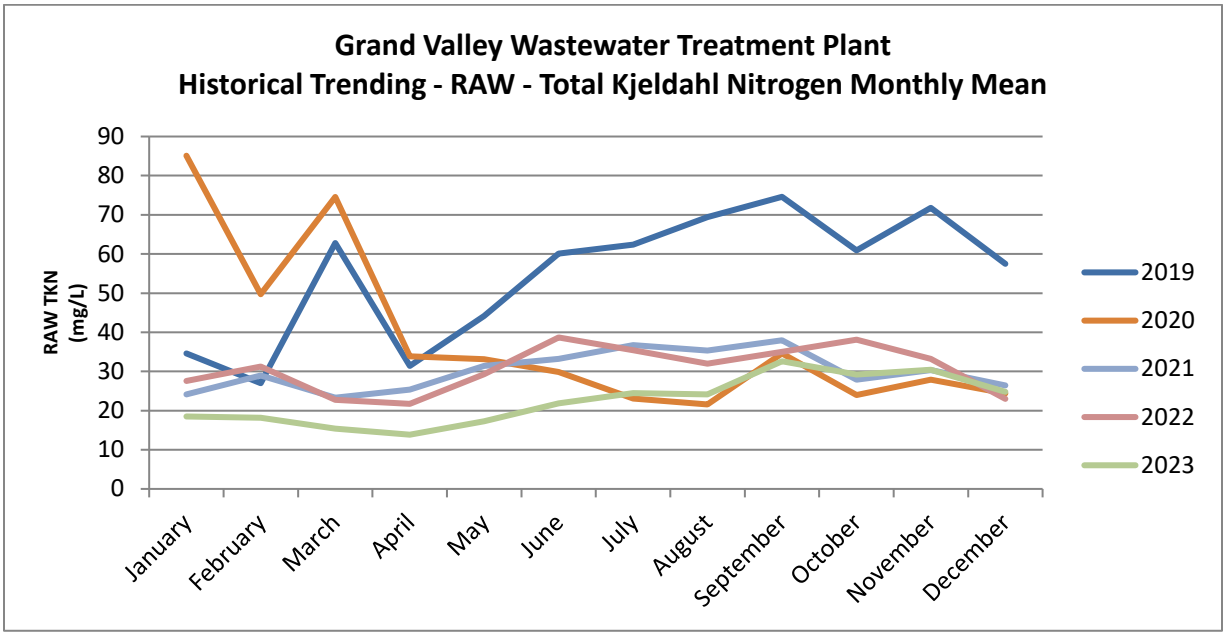
The below graph shows the historical raw Total Phosphorus trending from 2019 to 2023. A review of the current 2023 trends versus the last 5 years has shown a continued slight decrease in loadings of total phosphorus for the majority of the year.

Figure 3. Historical Raw Total Phosphorus trending from 2019 to 2023



The below graph shows the historical raw Total Kjeldahl Nitrogen trending from 2019 to 2023. A review of the current 2023 trends versus the last 5 years TKN has shown a continued decrease concentrations to previous years.

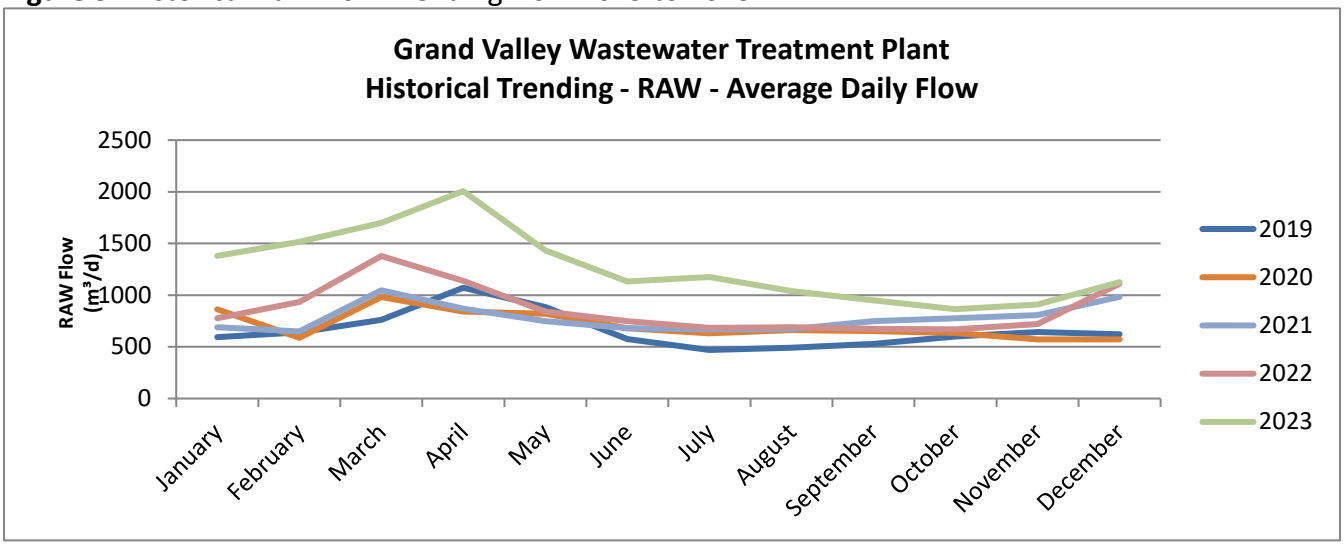
Figure 4. Historical Raw Total Kjeldahl Nitrogen trending from 2019 to 2023



Influent Flow:

The below graph shows historical raw flow trending from 2019 to 2023. The graph shows that the average flows have increased in 2023. There is a consistent peak in the months of March-April which would represent warmer temperatures resulting in snow melt and seasonal precipitation.

Figure 5. Historical Raw Flow Trending from 2019 to 2023



The total raw sewage volume of wastewater treated in 2023 was 462,535.90 m^3. The annual average daily flow of raw sewage was 1,267.22 m^3/day was 81.49 % of the design flow (1,555 m^3/day). The maximum peak flow of 4,070.30 m^3/day occurred in March due to higher precipitation and snow melt which is under the designed peak flow of 5,300 m^3/day. This represents a peak flow of 2.6 times the rated capacity. The wastewater treatment plant operated within the rated capacity 82.20% of the time. (300 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;

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

Effluent is sampled on a regular basis. The following table outlines the monitoring programs 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	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	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/100mL
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/100mL	-
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)/100mL

[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 9-17.

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 2023 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 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.

A review of the effluent monitoring data shows that the following parameters were within the limits set out in the most current ECA for the majority of the reporting period with the exception of:

- TAN monthly effluent concentration - for September 2023
- pH single sample result – December 5, 2023

The TAN monthly average concentrations exceeded the limit of 0.70 mg/L in September 2023. See *Section 4.0 Operational Issues and Corrective Actions* for more details.

The pH single sample result of the effluent sample taken December 5, 2023 was below the minimum of 6.5. See *Section 4.0 Operational Issues and Corrective Actions* for more details.

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* 2023 Annual Performance Report for a more detailed description of monthly sample results.

Table 9. 2023 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	<2.20	Yes	Yes	<3.01	n/a	Yes
February	<2.00	Yes	Yes	<2.97	n/a	Yes
March	<2.00	Yes	Yes	<3.37	n/a	Yes
April	<2.00	Yes	Yes	<4.57	n/a	Yes
May	<2.20	Yes	Yes	<3.18	n/a	Yes
June	<2.25	Yes	Yes	<2.40	n/a	Yes
July	<2.00	Yes	Yes	<2.26	n/a	Yes
August	<2.00	Yes	Yes	<1.92	n/a	Yes
September	<2.75	Yes	Yes	<2.36	n/a	Yes

	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)
October	<2.00	Yes	Yes	<1.71	n/a	Yes
November	<2.00	Yes	Yes	<1.82	n/a	Yes
December	<2.00	Yes	Yes	<2.25	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. 2023 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	2.20	Yes	Yes	3.01	n/a	Yes
February	<2.00	Yes	Yes	<2.97	n/a	Yes
March	<2.25	Yes	Yes	<3.79	n/a	Yes
April	<3.00	Yes	Yes	<6.86	n/a	Yes
May	<4.20	Yes	Yes	<6.06	n/a	Yes
June	3.25	Yes	Yes	3.47	n/a	Yes
July	<2.50	Yes	Yes	<2.82	n/a	Yes
August	<2.40	Yes	Yes	<2.31	n/a	Yes
September	<2.75	Yes	Yes	<2.36	n/a	Yes
October	<2.00	Yes	Yes	<1.71	n/a	Yes
November	3.75	Yes	Yes	3.42	n/a	Yes
December	2.25	Yes	Yes	2.53	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. 2023 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	<0.04	Yes	Yes	<0.05	n/a	Yes
February	<0.03	Yes	Yes	<0.05	n/a	Yes
March	<0.03	Yes	Yes	<0.06	n/a	Yes
April	0.04	Yes	Yes	0.09	n/a	Yes
May	<0.06	Yes	Yes	<0.08	n/a	Yes

	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)
June	0.07	Yes	Yes	0.08	n/a	Yes
July	0.05	Yes	Yes	0.06	n/a	Yes
August	<0.04	Yes	Yes	<0.04	n/a	Yes
September	<0.07	Yes	Yes	<0.06	n/a	Yes
October	0.05	Yes	Yes	0.04	n/a	Yes
November	<0.05	Yes	Yes	<0.04	n/a	Yes
December	0.05	Yes	Yes	0.05	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. 2023 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	<0.14	Yes
February	<0.10	Yes	Yes	<0.15	Yes
March	<0.10	Yes	Yes	<0.17	Yes
April	<0.10	Yes	Yes	<0.23	Yes
May	<0.10	Yes	Yes	<0.14	Yes
June	<0.10	Yes	Yes	<0.11	Yes
July	<0.10	Yes	Yes	<0.11	Yes
August	<0.10	Yes	Yes	<0.10	Yes
September	**<0.98**	**No**	**No**	<0.84	Yes
October	<0.10	Yes	Yes	<0.09	Yes
November	<0.10	Yes	Yes	<0.09	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. 2023 Effluent Sampling Results: *E.Coli* Concentrations[13A]

	Monthly Geometric Mean Density (CFU/100mL)	Within Objectives (100 CFU/100mL)	Within Limits (200 CFU/100mL)
January	1.74	Yes	Yes
February	2.00	Yes	Yes
March	2.00	Yes	Yes
April	2.00	Yes	Yes
May	3.15	Yes	Yes
June	9.85	Yes	Yes
July	2.63	Yes	Yes
August	1.52	Yes	Yes
September	1.41	Yes	Yes
October	2.00	Yes	Yes
November	1.68	Yes	Yes
December	2.00	Yes	Yes

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

Table 14. 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	7.04	7.23	Yes	Yes
February	7.15	7.29	Yes	Yes
March	7.19	7.34	Yes	Yes
April	7.26	7.39	Yes	Yes
May	7.21	7.51	Yes	Yes
June	7.24	7.31	Yes	Yes
July	7.32	7.39	Yes	Yes
August	7.29	7.39	Yes	Yes
September	7.29	7.54	Yes	Yes
October	7.20	7.32	Yes	Yes
November	7.08	7.26	Yes	Yes
December	5.08	7.27	No	No

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

Table 15. 2023 Effluent Sampling: Minimum and Maximum of Temperature

	Temperature[15A]	
	Monthly Minimum (°C)	Monthly Maximum (°C)
January	11.70	12.30
February	9.00	11.70
March	6.40	12.90
April	10.70	12.20
May	12.10	15.10
June	15.40	17.60
July	17.70	18.00
August	18.30	18.80
September	17.70	19.90
October	6.30	19.10
November	12.90	15.80
December	12.80	19.20

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

Table 16. 2023 Effluent Sampling: Minimum and Maximum of Un-Ionized Ammonia

	Un-Ionized Ammonia[16A]		
	Monthly Average	Monthly Minimum	Monthly Maximum
January	<0.002	<0.001	<0.003
February	<0.002	<0.001	<0.002
March	<0.002	<0.001	<0.003
April	0.001	0.001	0.002
May	<0.002	<0.001	<0.003
June	<0.001	<0.001	<0.001
July	<0.001	<0.001	<0.001
August	<0.001	<0.001	<0.001
September	<0.007	<0.001	<0.026
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. 2023 Annual Effluent Results Summary

Parameters	Average mg/L	Minimum mg/L	Maximum mg/L	Average Annual Loading kg/d
$CBOD_5$	<2.12	<2.00	<2.75	<2.67
Total Suspended Solids	2.71	<2.00	4.20	3.42
Total Phosphorus	<0.05	<0.03	<0.07	<0.06
Total Ammonia Nitrogen	<0.17	<0.10	<0.98	<0.21
E.Coli	-	1.41	9.85	-
pH	-	5.80	7.54	-
Temperature (°C)	-	6.30	19.90	-
Un-Ionized Ammonia	-	<0.001	<0.026	-

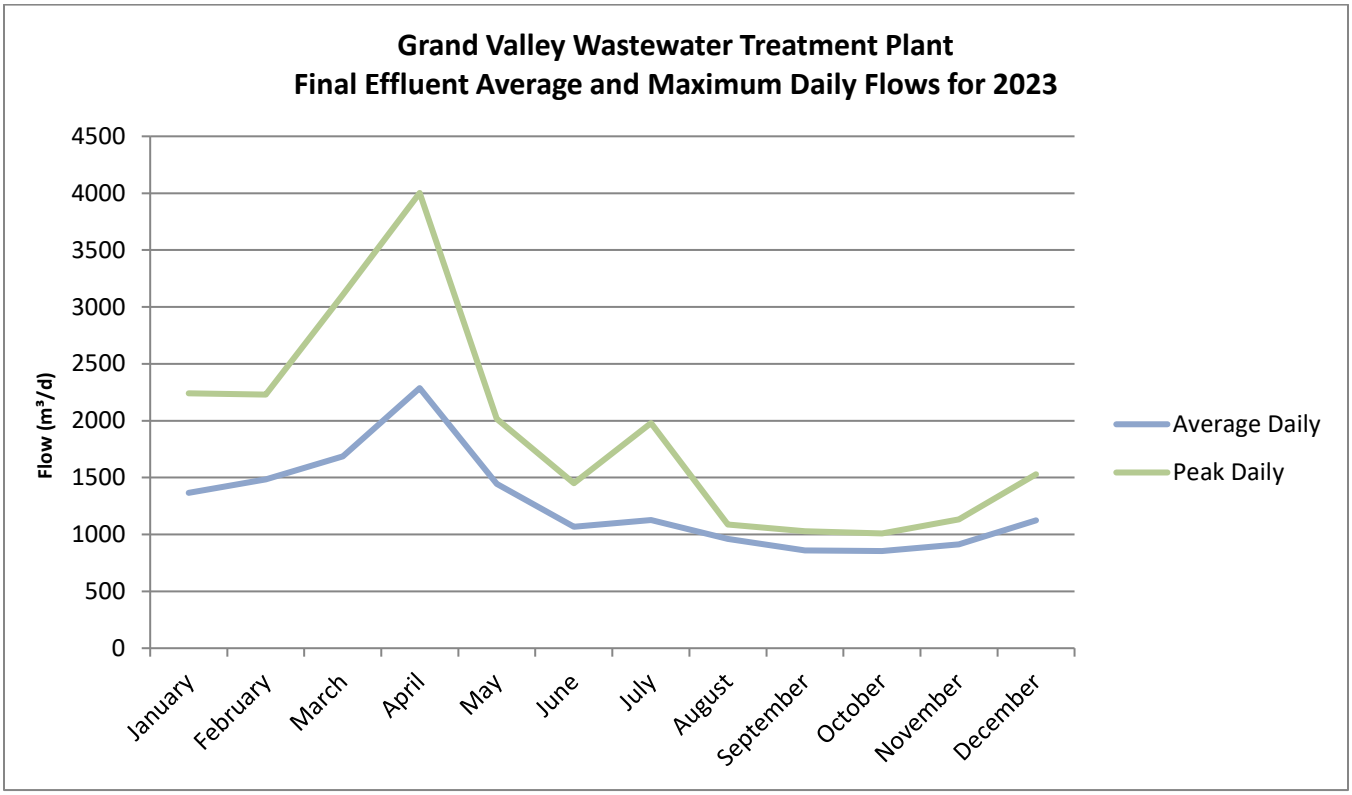
3.4 Effluent Flow: Summary and Interpretation of Reporting Year

The following table (Table 18) outlines the final effluent average daily flow data in 2023 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 2023

Month	Average Daily (m^3/day)	Peak Daily (m^3/day)	Total (m^3/day)
January	1366.44	2241.60	42359.60
February	1483.36	2228.20	41534.10
March	1685.31	3108.10	52244.50
April	2286.55	4002.30	68596.60
May	1443.43	2015.70	44746.20
June	1066.49	1450.60	31994.70
July	1127.66	1979.10	34957.40
August	962.06	1086.90	29823.80
September	859.48	1028.00	25784.50
October	854.15	1008.90	26478.60
November	912.10	1131.70	27362.90
December	1123.15	1527.70	34817.60
2023 Average	1262.19	4002.30	460700.50

Figure 6: 2023 Average Daily and Peak Daily Final Effluent Flow by Month for 2023



During the reporting period, the average annual daily flow for final effluent to outfall (Grand River) was 1,262.19 m^3/day. The maximum peak final effluent daily flow was 4,002.30 m^3/day, which occurred in April 2023 corresponding with the maximum peak daily influent flows within April 2023.

3.5 Overview of Success and Adequacy of the Works

The annual average effluent TSS concentration was 2.71 mg/L with an average removal efficiency of >97.16%. The annual average effluent Total Phosphorus concentration was <0.05 mg/L with an average removal efficiency of >97.10%. The annual average effluent concentration for Total Ammonium Nitrogen was <0.17 mg/L.

The bacteriological quality of the effluent complied with the certificate of approval requirement of <200 organisms per 100 mL sample. The maximum geometric mean density of organisms for 2023 was 9.85 CFU per 100 mL, indicating extremely effective effluent disinfection.

The total raw sewage volume of wastewater treated in 2023 was 462,535.87 m^3. The annual average daily flow of raw sewage was 1,267.22 m^3/day was 81.49 % of the design flow (1,555 m^3/day). The maximum peak flow of 4,070.30 m^3/day occurred in April due to higher precipitation and snow melt. This represents a peak flow of 2.6 times the rated capacity. The wastewater treatment plant operated within the rated capacity 82.2% of the time. (300 out of 365 days of the year).

The sewage treatment operations for 2023 provided effluent quality that met all of the effluent requirements/limits of the ECA except for one instance in September with the Total Ammonia Nitrogen exceeding the limit. This demonstrates percentages of removal efficiency (>97%) for the effluent parameters of the ECA. Based on this evidence, the current sewage treatment program is deemed adequate. OCWA will continue to aim to meet effluent objectives and limits during each reporting period.

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 two (2) reported issues of non-compliance, which are summarized below and include any corrective actions taken:

1. September, 2023: For the month of September, Grand Valley WWTP exceeded ECA 9611-CFVLRG concentration limits for Total Ammonia Nitrogen. As per Schedule C: Final Effluent Compliance Limits, TAN monthly effluent average concentration limit is 0.70 mg/L. The weekly final effluent samples take in September produced a monthly average of 0.98 mg/L. Exceedances were a result of The International Plowing Match that was held and the septage from the event was organized to be dropped off at the plant for receiving. During the timeframe of September 20-September 25 loads of septage was received at the plant. It was observed by OCWA that the septage was heavy loaded and had started to increase the total ammonia nitrogen. It was discussed that in future years, procedures will be in place to dose large loads of septage receiving with soda ash to reduce the effects on the plant. Verbal and written notification of non-compliance was made to the MECP- Guelph District Office on October 12, 2023.

2. December 5, 2023: Single sample pH result at the Grand Valley WWTP exceeded ECA 9611-CFVLRG single sample result minimum limit for pH. As per Schedule C: Final Effluent Compliance Limits, pH single sample result is to be maintained between 6.0 and 9.5, inclusive at all times. This is believed to be an operational error/handheld unit error. At the time of sampling and testing for pH, when this value was the result operations should have re-sampled. If result was still outside of limit values then calibration of hand held unit should have been completed and re-sampling completed. Remaining ECA parameters sampled and analyzed for this sample were within all other objectives and limits.

Apart from these instances there were no other operating problems encountered or corrective actions required at the Grand Valley Wastewater Plant during 2023 that affected the quality of the effluent leaving the plant. All major repairs/maintenance can be found in Section 5 of this report.

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 scheduled using a computerized Work Management System (WMS) that allows user to:

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

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

5.2 Preventative Maintenance Activities

In 2023, there were a number of preventative maintenance tasks completed throughout the reporting period. They are as follows:

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

5.3 Repairs and Improvement

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

- Aeration cell clean out and repairs
- Back flow valve replacement
- Traveling screen gear box repair
- Head Works gas sensor replacement
- Head Works lighting repairs
- Septage tank clean out
- Head Works grit removal system clean out

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 (Lakefield) 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 make 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.

Indus Control was contracted to calibrate flow measuring equipment on September 18-19, 2023. Copies of these 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 instances were Grand Valley WWTP exceeded the ECA objective and compliances limits, however none of the design objectives were exceeded more than 50% of the time during the reporting year. In fact, Grand Valley WWTP was able to achieve final effluent parameter design objectives (refer to Table 7) the majority of the time during the year. Based on the data, the final effluent was within the majority of the Effluent Objectives and there appears to be no increased trend in deterioration of final effluent quality.

During the reporting period, operations staff regularly completed visual inspections of final effluent samples and found the effluent to be essentially free of floating and settleable solids. The final effluent did not appear to contain oil and no visible film, sheen, foam or discolouration were observed.

During the reporting period, the annual average daily influent flow did exceed 80% of the rated capacity of the system. The annual average daily flow of raw sewage in 2023 was 81.49% (1,267.22 m^3/day) of the rated capacity (1,555 m^3/day). Increased flows can be attributed to the construction of new gravity sewers that occurred on Emma St from late 2022 to 2023. During the construction on Emma St, the old overflow from the old WWTP was connected to the SPS which caused water from the Grand River to backflow into the SPS. This connection was plugged in July 2023. There is also evidence of infiltration

and inflow into the new gravity sewers installed on Emma St and this also contributed to the increased flows which the Town is proactively working to address.

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 2023, sludge sample analysis were carried out by SGS (Lakefield) 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 B** of this report, as well as total septage received for the reporting year.

Saugeen Agri. Service was contracted to haul and spread sludge from the Grand Valley plant in 2023. (Certificate of Approval - Waste Management System #9566-6HYKC3)

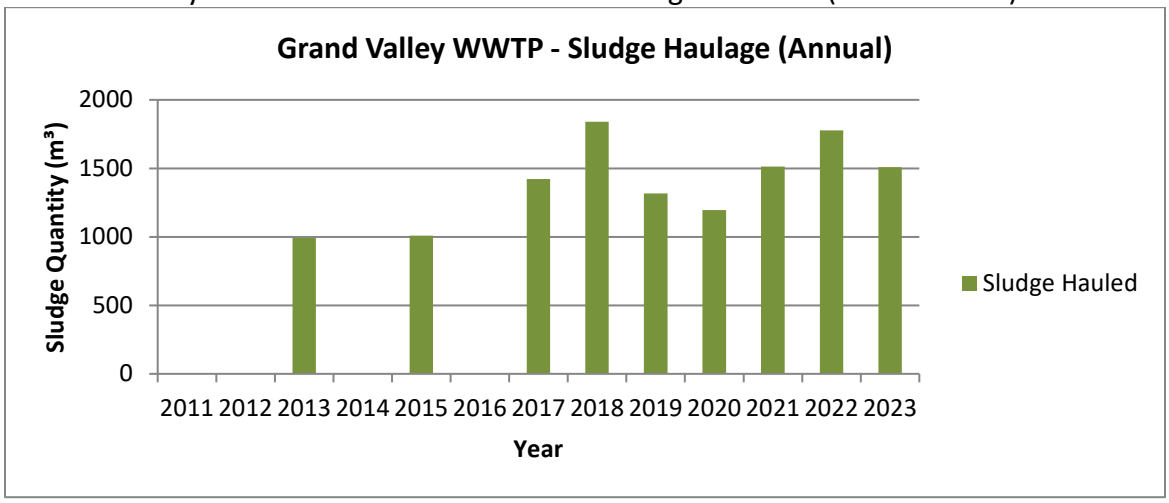
Based on the design flow and average wastewater quantity, the anticipated volume of sludge generated for 2024 would be similar to previous years where sludge was hauled. In previous years the hauled sludge volume ranged between ~1,000 to ~1,800 m^3.

The following certified sites were utilized in 2023 with a total of 1,508.90m^3 of sludge was hauled from the Grand Valley Wastewater Treatment Plant:

Table 19. Volume of Sludge Generated from Grand Valley Wastewater Treatment Plant in 2023

Site	Site Location	Volume of Biosolids (m^3)	Hauler
NASM Submission ID: 25079	LeRoy May Farm	1,508.90	Saugeen Agri Service

Figure 7. Grand Valley Wastewater Treatment Plant Haulage Volumes (2011 to 2023)



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 reported 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 were no bypass, spill or abnormal discharge events that occurred during the reporting period.

ECA 9611-CFVLRG requires that Quarterly bypass/overflow reports are to be submitted to the Water Supervisor. All 2023 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 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 Pollution Control Plant had no bypass/overflow occurrences during this reporting period, therefore this doesn't propose any future occurrences which don't require a project/expenditure to eliminate bypass/overflows.

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 of 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 rarely deviated from the 2023 sampling plan. Only one deviation in the year occurred:

Date	Reason for Deviation
March 6, 2023	Effluent sample taken 1 days later than scheduled due to composite auto sampler being reset

Refer to Appendix E the schedule for the next reporting year (2024). The sampling calendar was issued on November 7, 2023 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. 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, 2023 to December 31, 2023

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
- http://www.townof grandvalley.ca

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.

17.1 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 three 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.
- Southeast SPS – is not currently constructed, will be located on Watson Road in Grand Valley, the SPS 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.
- 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 (man hole) via a forcemain.

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

17.2 Summary of Monitoring Data and Interpretation

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

17.3 Summary of Operating Problems Encountered and Corrective Actions Taken

There were no operating problems encountered within the municipal sewage collection system.

17.4 Summary of Calibration, Maintenance, and Repairs

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 sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system Maximo, upon completion, Operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

Indus Control was contracted to calibrate flow measuring equipment within the Sewage Pump Stations on September 18-19, 2023. Copies of these calibration reports can be found in **Appendix C** 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 and life cycle replacements
- 3rd Party generator inspection and load testing
- Annual Wet Well Inspection and Clean out

Amaranth Street Sewage Pumping Station:

- Annual pump inspections and life cycle replacements
- Annual Wet Well Inspection and Clean out

Southeast Sewage Pumping Station:

- is not currently constructed

17.5 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 entered in OCWA's WMS database system "Maximo". This system contains all the required information and history of all complaints.

There were no complaints reported during the reporting period.

17.6 Alterations to the Authorized System

The following alteration to the authorized system occurred during the reporting period:

- New gravity sewers that occurred on Emma St from late 2022 to 2023

17.7 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

17.8 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
- Annual Wet Well Inspection and Clean outs

2023 Annual Performance Report
Grand Valley Wastewater Treatment Plant
ECA 9611-CFVLRG

Appendix A

Performance Assessment Report

2023

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report

From 1/1/2023 to 12/31/2023 11:59:59 PM

5762 GRAND VALLEY WASTEWATER TREATMENT FACILITY 110000301

	1 / 2023	2/ 2023	3/ 2023	4/ 2023	5/ 2023	6/ 2023	7/ 2023	8/ 2023	9/ 2023	10/ 2023	11/ 2023	12/ 2023	<--Total-->	<--Avg-->	<--Max-->	<-Criteria->
Flows																
Raw Flow: Total - Raw Sewage m³/d	42,744.90	42,496.70	52,636.30	60,195.30	44,438.67	33,930.40	36,463.20	32,198.30	28,454.90	26,803.40	27,294.90	34,878.90	462,535.87			0.00
Raw Flow: Avg - Raw Sewage m³/d	1,378.87	1,517.74	1,697.95	2,006.51	1,433.51	1,131.01	1,176.23	1,038.65	948.50	864.63	909.83	1,125.13		1,267.22		1,244.00
Raw Flow: Max - Raw Sewage m³/d	2,143.30	2,187.10	2,997.30	4,070.30	1,978.80	1,485.80	1,968.50	1,178.60	1,072.10	963.80	1,117.10	1,524.70			4,070.30	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	42,359.60	41,534.10	52,244.50	68,596.60	44,746.20	31,994.70	34,957.40	29,823.80	25,784.50	26,478.60	27,362.90	34,817.60	460,700.50			0.00
Eff. Flow: Avg - Final Effluent m³/d	1,366.44	1,483.36	1,685.31	2,286.55	1,443.43	1,066.49	1,127.66	962.06	859.48	854.15	912.10	1,123.15		1,262.19		
Eff. Flow: Max - Final Effluent m³/d	2,241.60	2,228.20	3,108.10	4,002.30	2,015.70	1,450.60	1,979.10	1,086.90	1,028.00	1,008.90	1,131.70	1,527.70			4,002.30	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
Carbonaceous Biochemical Oxygen Demand: CBOD																
Eff: Avg cBOD5 - Final Effluent mg/L	< 2.20	< 2.00	< 2.00	< 2.00	< 2.20	< 2.25	< 2.00	< 2.00	< 2.75	< 2.00	< 2.00	< 2.00		< 2.12	< 2.75	10.00
Eff: # of samples of cBOD5 - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Loading: cBOD5 - Final Effluent kg/d	< 3.006	< 2.967	< 3.371	< 4.573	< 3.176	< 2.400	< 2.255	< 1.924	< 2.364	< 1.708	< 1.824	< 2.246		< 2.67	< 4.57	
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw Sewage mg/L	141.80	146.25	112.75	84.25	127.00	152.00	151.25	186.80	169.50	173.00	186.25	176.50		150.61	186.80	0.00
Raw: # of samples of BOD5 - Raw Sewage	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage mg/L	145.00	134.50	149.50	105.50	150.40	235.75	196.00	191.60	176.75	180.00	178.25	194.50		169.81	235.75	0.00
Raw: # of samples of TSS - Raw Sewage	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Eff: Avg TSS - Final Effluent mg/L	2.20	< 2.00	< 2.25	< 3.00	< 4.20	3.25	< 2.50	< 2.40	< 2.75	< 2.00	3.75	2.25		2.71	4.20	10.00
Eff: # of samples of TSS - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Loading: TSS - Final Effluent kg/d	3.006	< 2.967	< 3.792	< 6.860	< 6.062	3.466	< 2.819	< 2.309	< 2.364	< 1.708	3.420	2.527		3.42	6.86	
Percent Removal: TSS - Final Effluent %	98.48	98.51	98.49	97.16	97.21	98.62	98.72	98.75	98.44	98.89	97.90	98.84			98.89	0.00
Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage mg/L	1.95	1.90	1.64	1.38	2.14	3.13	2.53	2.57	2.90	3.10	2.96	2.72		2.41	3.13	0.00
Raw: # of samples of TP - Raw Sewage	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Eff: Avg TP - Final Effluent mg/L	< 0.04	< 0.03	< 0.03	0.04	< 0.06	0.07	0.05	< 0.04	< 0.07	0.05	< 0.05	0.05		< 0.05	< 0.07	0.15
Eff: # of samples of TP - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Loading: TP - Final Effluent kg/d	< 0.052	< 0.045	< 0.055	0.091	< 0.084	0.077	0.056	< 0.035	< 0.058	0.039	< 0.041	0.053		< 0.06	< 0.09	
Percent Removal: TP - Final Effluent %	98.05	98.42	98.02	97.10	97.28	97.68	98.03	98.60	97.67	98.52	98.48	98.26			98.60	0.00

Nitrogen Series

Raw: Avg TKN - Raw Sewage mg/L	18.54	18.20	15.40	13.85	17.28	21.83	24.43	24.16	32.60	29.24	30.40	24.83		22.56	32.60	0.00
Raw: # of samples of TKN - Raw Sewage	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Eff: Avg TAN - Final Effluent mg/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.98	< 0.10	< 0.10	< 0.10		< 0.17	< 0.98	4.00
Eff: # of samples of TAN - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Loading: TAN - Final Effluent kg/d	< 0.137	< 0.148	< 0.169	< 0.229	< 0.144	< 0.107	< 0.113	< 0.096	< 0.838	< 0.085	< 0.091	< 0.112		< 0.21	< 0.84	
Eff: Avg NO3-N - Final Effluent mg/L	15.88	11.02	12.25	9.86	16.86	19.65	19.70	21.82	26.88	26.22	25.88	21.38		18.95	26.88	0.00
Eff: # of samples of NO3-N - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Eff: Avg NO2-N - Final Effluent mg/L	< 0.03	< 0.09	< 0.04	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.04	< 0.09	0.00
Eff: # of samples of NO2-N - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00

Disinfection

Eff: GMD E. Coli - Final Effluent cfu/100mL	1.74	2.00	2.00	2.00	3.15	9.85	2.63	1.52	1.41	2.00	1.68	2.00				200.00
Eff: # of samples of E. Coli - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00

2023 Annual Performance Report
Grand Valley Wastewater Treatment Plant
ECA 9611-CFVLRG

Appendix B

Sludge Haulage Summary, Sludge Quality & Septage Receiving

2023

Grand Valley WWTP - Daily Haulage Summary			
Date	**Site**	**NASM #**	**Sludge Hauled (m^3)**
October			
3-Oct-23	Leroy May	25079	374.60
4-Oct-23	Leroy May	25079	713.10
5-Oct-23	Leroy May	25079	421.20
		Total	**1508.90**

Ontario Clean Water Agency
Biosolids Quality Report - Liquid
Digestor Type: AEROBIC
Solids and Nutrients

Facility: GRAND VALLEY WASTEWATER TREATMENT FACILITY
Works: 5762
Period: 01/01/2023 to 12/01/2023

Facility Works Number: *1.10000301E8*
Facility Name: *GRAND VALLEY WASTEWATER TREATMENT FACILITY*
Facility Owner: *Municipality: Township of East Luther Grand Valley*
Facility Classification: *Class 2 Wastewater Treatment*
Receiver: *Grand River*
Service Population: *2390.0*
Total Design Capacity: *1555.0 m3/day*
Period Being Reported: 01/01/2023 12/01/2023

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

Month	Total Sludge Hauled (m3)	Avg. Total Solids (mg/L)	Avg. Volatile Solids (mg/L)	Avg. Total Phosphorus (mg/L)	Ammonia (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	TKN (mg/L)	Ammonia + Nitrate (mg/L)	Potassium (mg/L)
Site	GRAND VALLEY WASTEWATER TREATMENT FACILITY									
Station	Bslq Station only									
Parameter Short Name	HauledVol	TS	VS	TP	NH3p_NH4p_N	NO3-N	NO2-N	TKN	calculation in report - no T/S	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	Lab Published Month Mean		Lab Published Month Mean
Jan		38,800.000		1,150.000	395.000	0.300	0.200	2,000.000	197.650	120.000
Feb		36,100.000		870.000	394.000	0.300	1.200	1,980.000	197.150	96.000
Mar		37,200.000		1,100.000	403.000	0.300	0.200	1,440.000	201.650	130.000
Apr		35,400.000		560.000	348.000	0.300	0.600	1,860.000	174.150	68.000
May		33,000.000		1,050.000	417.000	0.300	2.500	1,790.000	208.650	136.000
Jun		25,700.000		688.000	361.000	3.000	3.000	1,050.000	182.000	106.000
Jul		21,000.000		521.000	473.000	3.000	3.000	1,360.000	238.000	97.000
Aug		22,100.000		650.000	591.000	3.000	3.000	1,470.000	297.000	118.000
Sep		21,800.000		570.000	556.000	3.000	3.000	974.000	279.500	96.000
Oct	1,508.900	21,200.000		540.000	642.000	3.000	3.000	1,280.000	322.500	107.000
Nov		52,600.000		1,760.000	598.000	3.000	3.000	1,990.000	300.500	146.000
Dec		43,800.000		1,400.000	478.000	3.000	3.000	1,270.000	240.500	136.000
Average	1,508.900	32,391.667		904.917	471.333	1.875	2.142	1,538.667	236.604	113.000
Total	1,508.900	388,700.000	0.000	10,859.000	5,656.000	22.500	25.700	18,464.000	2,839.250	1,356.000

Ontario Clean Water Agency
Time Series Info Report

Report extracted 03/06/2024 13:16

From: **01/01/2023 to 31/12/2023**

Facility Org Number: **5762**
Facility Works Number: **110000301**
Facility Name: **GRAND VALLEY WASTEWATER TREATMENT FACILITY**
Facility Owner: **Municipality: Township of East Luther Grand Valley**
Facility Classification: **Class 2 Wastewater Treatment**
Receiver: **Grand River**
Service Population: **2390.0**
Total Design Capacity: **1555.0 m3/day**

	01/2023	02/2023	03/2023	04/2023	05/2023	06/2023	07/2023	08/2023	09/2023	10/2023	11/2023	12/2023	Total	Avg	Max	Min
Septage / Septage Received - m^3																
Count IH	2	1	2	6	7	8	6	7	11	6	5	6	67			
Total IH	20.1	4.9	7.4	64.1	55.8	72.9	74	53.1	117.46	57	34.1	47.6	608.46			
Max IH	13.9	4.9	4.5	17.2	11	18.4	22.5	12.6	29.2	13.2	9.4	10.9			29.2	
Mean IH	10.05	4.9	3.7	10.683	7.971	9.113	12.333	7.586	10.678	9.5	6.82	7.933		9.081		
Min IH	6.2	4.9	2.9	4.8	5.7	3.5	4.4	2.5	3.5	3.7	3.7	3.2				2.5

2023 Annual Performance Report
Grand Valley Wastewater Treatment Plant
ECA 9611-CFVLRG

Appendix C

Calibration Reports

2023

Report no. CO1481-2308-13

DTM Version: 3.25.00

Flowmeter Verification Certificate Transmitter

Georgian Highlands Region	Septage PS
Customer	Plant
	FIT-2002
Order code	Tag Name
PROMAG 53 W DN100	1.3208 - 1.3208
Device type	K-Factor
D70A7319000	-1
Serial number	Zero point
V2.02.00	V1.05.02
Software Version Transmitter	Software Version I/O-Module
18.09.2023	10:57
Verification date	Verification time

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.55 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

FieldCheck Details	**Simubox Details**
551032	8714684
Production number	Production number
1.07.10	1.00.01
Software Version	Software Version
04/2023	04/2023
Last Calibration Date	Last Calibration Date

18.09.2023		
Date	Operator's Sign	Inspector's Sign

Overall results:

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

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

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

Endress+Hauser

People for Process Automation

FieldCheck - Result Tab Transmitter

Customer	
Order code	
Device type	**PROMAG 53 W DN100**
Serial number	**D70A7319000**
Software Version Transmitter	**V2.02.00**
Verification date	**18.09.2023**

Plant	
Tag Name	**FIT-2002**
K-Factor	**1.3208 - 1.3208**
Zero point	**-1**
Software Version I/O-Module	**V1.05.02**
Verification time	**10:57**

Verification Flow end value (100 %): 31.416 l/s
Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	1.571 l/s (5%)	1.50 %	0.35 %
✓		3.142 l/s (10.0%)	1.00 %	0.35 %
✓		15.708 l/s (50.0%)	0.60 %	0.05 %
✓		31.416 l/s (100%)	0.55 %	0.02 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.004 mA
✓		4.800 mA (5%)	0.05 mA	-0.005 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.015 mA
✓		12.000 mA (50.0%)	0.05 mA	-0.003 mA
✓		20.000 mA (100%)	0.05 mA	0.004 mA
▬	Pulse Output 1	---	---	---
		Start value	**Limits range**	**Measured value**
	Test Sensor			
✓	Coil Curr. Rise	5.000 ms	0.000..14.250 ms	7.991 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..300.001 mV	0.000 mV

Legend of symbols

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

FieldCheck: Parameters Transmitter

Customer	
Order code	
Device type	**PROMAG 53 W DN100**
Serial number	**D70A7319000**
Software Version Transmitter	**V2.02.00**
Verification date	**18.09.2023**

Plant	
Tag Name	**FIT-2002**
K-Factor	**1.3208 - 1.3208**
Zero point	**-1**
Software Version I/O-Module	**V1.05.02**
Verification time	**10:57**

Curent Output	**Assign**	**Current Range**	**Value 0_4mA**	**Value 20 mA**		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 l/s	30.00 l/s		
Pulse Output	**Assign**	**Pulse Value**	**Output signal**	**Pulse width**		
Terminal 24/25	OFF	---	---	---		

Actual System Ident. 119.0

DTM Version: 3.25.00

Flowmeter Verification Certificate Transmitter

Georgian Highlands Region Customer	WWTP Plant
	FIT-2001 Tag Name
Order code PROMAG 53 W DN100	1.3028 - 1.3028 K-Factor
Device type D70A7219000	14 Zero point
Serial number V2.02.00	V1.05.02 Software Version I/O-Module
Software Version Transmitter 18.09.2023	11:45 Verification time
Verification date	

Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.55 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

FieldCheck Details	**Simubox Details**
551032 Production number	8714684 Production number
1.07.10 Software Version	1.00.01 Software Version
04/2023 Last Calibration Date	04/2023 Last Calibration Date

18.09.2023

Date | Operator's Sign | Inspector's Sign

Overall results:

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

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

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

Endress+Hauser

People for Process Automation

FieldCheck - Result Tab Transmitter

Customer	
Order code	
Device type	**PROMAG 53 W DN100**
Serial number	**D70A7219000**
Software Version Transmitter	**V2.02.00**
Verification date	**18.09.2023**

Plant	
Tag Name	**FIT-2001**
K-Factor	**1.3028 - 1.3028**
Zero point	**14**
Software Version I/O-Module	**V1.05.02**
Verification time	**11:45**

Verification Flow end value (100 %): 31.416 l/s
Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	1.571 l/s (5%)	1.50 %	0.27 %
✓		3.142 l/s (10.0%)	1.00 %	0.34 %
✓		15.708 l/s (50.0%)	0.60 %	0.01 %
✓		31.416 l/s (100%)	0.55 %	0.01 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.003 mA
✓		4.800 mA (5%)	0.05 mA	-0.004 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.018 mA
✓		12.000 mA (50.0%)	0.05 mA	-0.003 mA
✓		20.000 mA (100%)	0.05 mA	0.002 mA
▬	Pulse Output 1	---	---	---
		Start value	**Limits range**	**Measured value**
	Test Sensor			
✓	Coil Curr. Rise	5.000 ms	0.000..14.250 ms	8.159 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..300.001 mV	3.279 mV

Legend of symbols

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

FieldCheck: Parameters Transmitter

Customer	
Order code	
Device type	**PROMAG 53 W DN100**
Serial number	**D70A7219000**
Software Version Transmitter	**V2.02.00**
Verification date	**18.09.2023**

Plant	
Tag Name	**FIT-2001**
K-Factor	**1.3028 - 1.3028**
Zero point	**14**
Software Version I/O-Module	**V1.05.02**
Verification time	**11:45**

Curent Output	**Assign**	**Current Range**	**Value 0_4mA**	**Value 20 mA**		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 l/s	30.00 l/s		
Pulse Output	**Assign**	**Pulse Value**	**Output signal**	**Pulse width**		
Terminal 24/25	OFF	---	---	---		

Actual System Ident. 121.0

Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - **OCM III**
OPEN CHANNEL FLOW MEASUREMENT

Customer Name:	OCWA-Georgian Highlands Region	Site/Plant Address:	1 Industrial Road
Plant Name:	Grand Valley WWTP		Grand Valley, ON

Device Information		Service Information	
Make:	Siemens	Date:	September 18, 2023
Model:	Milltronics OCM III	Report No:	CO1481-2308-15
Tag:	LIT-3001	Job No:	CO1481-2308
Job Location:	Storm Tank Flow		
Serial No:	PBD/A0180523		
Assets ID:	0000275357		

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	00147091	00147091
FLOW (l/sec)	0.00	0.00

Flow Details	
Unit:	l/sec
Flow Range:	0-68.95
Current Output:	4-20 mA
4 mA Set Point	0
20 mA Set Point	68.95

Maintenance Checklist				Remarks
Visual Inspection:	☑	OK	☐ NOT OK	
Electrical Inspection:	☑	OK	☐ NOT OK	

Programming Parameter of Instrument

Parameter	Discription	Value	Parameter	Discription	Value
F0	Access Code	2.71828	P7	Height of Max. Head	13 cm
P1	Dimension Unit (cm)	0	P32	Totalizer Multiplier	6*1000
P3	Exponential Device	0	P42	Head by OCM III	0
P4	Cal. Method -Ratiometric	1	P45	Low Flow Cut-off	0
P5	Flow Unit - l/sec	0	P46	Range at Zero Head	94.1158 cm
P6	Max Flow rate	68.949	P47	Blanking Distance	61.0169 cm

Test Point Report

Reference Distance (cm)	Measured Distance (cm)	Calculated Flow (l/sec)	UUT Flow Display (l/sec)	Calculated (mA)	Measured (mA)	Deviaiton Full Scale (l/sec)
0.00	0.00	0.00	0.00	4.00	4.00	0.00

Calculations

Flow Calculations

$Q = q_{cal} (h/h_{cal})^{Exp}$ Where, Q= Discharge Flow, qcal = max flow, h = head, hcal = max head

Exp = 2.5 , Hence,

Q = 68.949 (0/13)^1.5

Q = 0

Instrument Test Information and Results

Input (%)	Calculated Flow(l/sec)	Calculated Input (mA)	Flow on UUT (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.01	3.99	0.01
25	17.24	8.00	17.21	7.98	-0.03
50	34.47	12.00	34.50	12.02	0.03
75	51.70	16.00	51.65	15.97	-0.05
100	68.95	20.00	65.93	19.99	-3.02

Information of Tools used for Verification of the Instruments

Device Description:	Manufacturer	Model
Electrical Multimeter	Fluke	179

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result:	☑ Passed	☐ Fail	☐ Not Verified

Overall Remarks:	Program parameters verified Single point Verification Done

Service Technician :	Chetan Parekh	Stamp/Signature	
Printed Date:	September 18, 2023		

End of Report

Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - **KHRONE** ELECTRO-MAGNETIC FLOW MEASUREMENT

Customer Name:	OCWA-Georgian Highlands Region	Site/Plant Address:	1 Industrial Road
Plant Name:	Grand Valley WWTP		Grand Valley, ON

Device Information		Service Information	
Make:	Khrone	Date:	September 18, 2023
Model:	IFC 100W	Report No:	CO1481-2308-18
Order Code:	NA	Job No:	CO1481-2308
Serial No.:	C101314		
Tag:	FIT3101		
Job Location:	WAS Flow		
Asset ID:	275511		

Sensor Details		Flow Details	
Line size:	6"	Unit:	l/sec
GKL:	6.4987	Flow Range:	0-50
Mounting:	Remote	Current Output:	4-20 mA
		4 mA Set Point	0
		20 mA Set Point	50

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	13035.38683	13037.36158
FLOW (l/sec)	0.000	0.000

Maintenance Checklist			Remarks
Visual Inspection:	☑ OK	☐ NOT OK	
Electrical Inspection:	☑ OK	☐ NOT OK	
Sensor Installation:	☑ OK	☐ NOT OK	
Transmitter Installation:	☑ OK	☐ NOT OK	

Instrument Test Information and Results

Set-Point as Per Calibration KIT	Calculated Flow (l/sec)	Calculated O/P (mA)	UUT Display (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.020	4.08	0.02
A	8.75	6.80	8.860	6.89	0.11
B	17.50	9.60	17.610	9.65	0.11
C	35.00	15.20	35.120	15.24	0.12

Information of Tools used for Verification of the Instruments

Details	Tool/Kit 1	Tool/Kit 2	Tool/Kit 3
Device Description:	Calibrator	Electrical Multimeter	N/A
Manufacturer:	Khrone	Fluke	N/A
Model No:	GS8B	179	N/A

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result:	☑ Passed	☐ Fail	☐ Not Verified

Overall Remarks:	Measurement Works within Specification.

Service Technician :	Chetan Parekh	Stamp/Signature	
Printed Date:	September 18, 2023		

End of Report

Version: 19-12

Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - **KHRONE**
ELECTRO-MAGNETIC FLOW MEASUREMENT

Customer Name:	OCWA-Georgian Highlands Region	Site/Plant Address:	1 Industrial Road
Plant Name:	Grand Valley WWTP		Grand Valley, ON

Device Information		Service Information	
Make:	Khrone	Date:	September 18, 2023
Model:	IFC 100W	Report No:	CO1481-2308-19
Order Code:	NA	Job No:	CO1481-2308
Serial No.:	C101318		
Tag:	FIT3102		
Job Location:	RAS Flow		
Asset ID:	275513		

Sensor Details		Flow Details	
Line size:	6"	Unit:	l/sec
GKL:	6.4029	Flow Range:	0-70
Mounting:	Remote	Current Output:	4-20 mA
		4 mA Set Point	0
		20 mA Set Point	70

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	2458477.829	2458495.381
FLOW (l/sec)	6.623	4.780

Maintenance Checklist			Remarks
Visual Inspection:	☑ OK	☐ NOT OK	
Electrical Inspection:	☑ OK	☐ NOT OK	
Sensor Installation:	☑ OK	☐ NOT OK	
Transmitter Installation:	☑ OK	☐ NOT OK	

Instrument Test Information and Results

Set-Point as Per Calibration KIT	Calculated Flow (l/sec)	Calculated O/P (mA)	UUT Display (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.0000	3.99	0.00
A	8.62	5.97	8.6920	6.02	0.07
B	17.24	7.94	17.3260	7.98	0.09
C	34.49	11.88	34.5440	11.90	0.05

Information of Tools used for Verification of the Instruments

Details	Tool/Kit 1	Tool/Kit 2	Tool/Kit 3
Device Description:	Calibrator	Electrical Multimeter	N/A
Manufacturer:	Khrone	Fluke	N/A
Model No:	GS8B	179	N/A

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result:	☑ Passed	☐ Fail	☐ Not Verified

Overall Remarks:	Measurement Works within Specification.

Service Technician :	Chetan Parekh	Stamp/Signature	
Printed Date:	September 18, 2023		

End of Report

Version: 19-12

Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - **KHRONE**
ELECTRO-MAGNETIC FLOW MEASUREMENT

Customer Name:	OCWA-Georgian Highlands Region	Site/Plant Address:	1 Industrial Road
Plant Name:	Grand Valley WWTP		Grand Valley, ON

Device Information		Service Information	
Make:	Khrone	Date:	September 18, 2023
Model:	IFC 100W	Report No:	CO1481-2308-20
Order Code:	NA	Job No:	CO1481-2308
Serial No.:	C101339		
Tag:	FE3103		
Job Location:	Truck Loading Flow		
Asset ID:	275508		

Sensor Details		Flow Details	
Line size:	6"	Unit:	l/sec
GKL:	6.4732	Flow Range:	0-50
Mounting:	Remote	Current Output:	4-20 mA
		4 mA Set Point	0
		20 mA Set Point	50

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	17078.67524	17079.44676
FLOW (l/sec)	0.000	0.000

Maintenance Checklist			Remarks
Visual Inspection:	☑ OK	☐ NOT OK	
Electrical Inspection:	☑ OK	☐ NOT OK	
Sensor Installation:	☑ OK	☐ NOT OK	
Transmitter Installation:	☑ OK	☐ NOT OK	

Instrument Test Information and Results

Set-Point as Per Calibration KIT	Calculated Flow (l/sec)	Calculated O/P (mA)	UUT Display (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.010	4.01	0.01
A	8.72	6.79	8.798	6.85	0.08
B	17.43	9.58	17.494	9.60	0.06
C	34.87	15.16	34.893	15.19	0.02

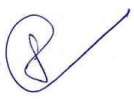
Information of Tools used for Verification of the Instruments

Details	Tool/Kit 1	Tool/Kit 2	Tool/Kit 3
Device Description:	Calibrator	Electrical Multimeter	N/A
Manufacturer:	Khrone	Fluke	N/A
Model No:	GS8B	179	N/A

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result:	☑ Passed	☐ Fail	☐ Not Verified

Overall Remarks:	Measurement Works within Specification.

Service Technician :	Chetan Parekh	Stamp/Signature	
Printed Date:	September 18, 2023		

End of Report

Version: 19-12

Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - **KHRONE** ELECTRO-MAGNETIC FLOW MEASUREMENT

Customer Name:	OCWA-Georgian Highlands Region	Site/Plant Address:	1 Industrial Road
Plant Name:	Grand Valley WWTP		Grand Valley, ON

Device Information		Service Information	
Make:	Khrone	Date:	September 15, 2023
Model:	IFC 300W	Report No:	CO1481-2308-21
Order Code:	NA	Job No:	CO1481-2308
Serial No.:	C102716		
Tag:	FE-3104		
Job Location:	Biosolid		
Asset ID:	275507		

Sensor Details		Flow Details	
Line size:	6"	Unit:	l/sec
GK:	3.1812	Flow Range:	0-60
GKL:	6.3618	Current Output:	4-20 mA
Mounting:	Remote	4 mA Set Point	0
		20 mA Set Point	60

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	24616.65127	24521.67016
FLOW (l/sec)	0.00000	0.00000

Maintenance Checklist			Remarks
Visual Inspection:	☑ OK	☐ NOT OK	
Electrical Inspection:	☑ OK	☐ NOT OK	
Sensor Installation:	☑ OK	☐ NOT OK	
Transmitter Installation:	☑ OK	☑ NOT OK	

Instrument Test Information and Results

Set-Point as Per Calibration KIT	Calculated Flow (l/sec)	Calculated O/P (mA)	UUT Display (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.0000	3.99	0.00
A	8.57	6.28	8.5950	6.31	0.03
B	17.13	8.57	17.1854	9.01	0.06
C	34.27	13.14	34.3136	13.16	0.04

Information of Tools used for Verification of the Instruments

Details	Tool/Kit 1	Tool/Kit 2	Tool/Kit 3
Device Description:	Calibrator	Electrical Multimeter	N/A
Manufacturer:	Khrone	Fluke	N/A
Model No:	GS8B	179	N/A

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result:	☑ Passed	☐ Fail	☐ Not Verified

Overall Remarks:	Measurement Works within Specification.

Service Technician :	Chetan Parekh	Stamp/Signature	
Printed Date:	September 15, 2023		

End of Report

Version: 19-12

Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - **KHRONE**
ELECTRO-MAGNETIC FLOW MEASUREMENT

Customer Name:	OCWA-Georgian Highlands Region	Site/Plant Address:	1 Industrial Road
Plant Name:	Grand Valley WWTP		Grand Valley, ON

Device Information		Service Information	
Make:	Khrone	Date:	September 19, 2023
Model:	IFC 100W	Report No:	CO1481-2308-22
Order Code:	NA	Job No:	CO1481-2308
Serial No.:	C093304		
Tag:	FIT-4201		
Job Location:	Emma street force main flow		
Asset ID:	275431		

Sensor Details		Flow Details	
Line size:	10"	Unit:	l/sec
GKL:	5.102	Flow Range:	0-100
Mounting:	Remote	Current Output:	4-20 mA
		4 mA Set Point	0
		20 mA Set Point	100

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	347275.729	347359.132
FLOW (l/sec)	0.00	28.31

Maintenance Checklist			Remarks
Visual Inspection:	☑ OK	☐ NOT OK	
Electrical Inspection:	☑ OK	☐ NOT OK	
Sensor Installation:	☑ OK	☐ NOT OK	
Transmitter Installation:	☑ OK	☐ NOT OK	

Instrument Test Information and Results

Set-Point as Per Calibration KIT	Calculated Flow (l/sec)	Calculated O/P (mA)	UUT Display (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.03	4.02	0.03
A	19.08	7.05	19.06	7.06	-0.02
B	38.17	10.11	38.20	10.13	0.03
C	76.34	16.21	76.30	16.18	-0.04

Information of Tools used for Verification of the Instruments

Details	Tool/Kit 1	Tool/Kit 2	Tool/Kit 3
Device Description:	Calibrator	Electrical Multimeter	N/A
Manufacturer:	Khrone	Fluke	N/A
Model No:	GS8B	179	N/A

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result:	☑ Passed	☐ Fail	☐ Not Verified

Overall Remarks:	Measurement Works within Specification.

Service Technician :	Chetan Parekh	Stamp/Signature	
Printed Date:	September 19, 2023		

End of Report

Version: 19-12

Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - **OCM III**
OPEN CHANNEL FLOW MEASUREMENT

Customer Name:	OCWA-Georgian Highlands Region	Site/Plant Address:	1 Industrial Road
Plant Name:	Grand Valley WWTP		Grand Valley, ON

Device Information	
Make:	Siemens
Model:	Milltronics OCM III
Tag:	FIT1101
Job Location:	Filter Influent Channel
Serial No:	PBD/A0271007
Assets ID:	0000275543

Service Information	
Date:	September 18, 2023
Report No:	CO1481-2308-23
Job No:	CO1481-2308

Flow Details	
Unit:	l/sec
Flow Range:	0-14.293
Current Output:	4-20 mA
4 mA Set Point	0
20 mA Set Point	14.293

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	17056743	17056793
FLOW (l/sec)	0.00	0.00

Maintenance Checklist				Remarks
Visual Inspection:	☑	OK	☐ NOT OK	
Electrical Inspection:	☑	OK	☐ NOT OK	

Programming Parameter of Instrument

Parameter	Discription	Value	Parameter	Discription	Value
F0	Access Code	2.71828	P7	Height of Max. Head	0.055
P1	Dimension Unit (m)	3	P32	Totalizer Multiplier	3*1
P3	Exponential Device	0	P42	Head by OCM III	0
P4	Cal. Method -Ratiometric	1	P45	Low Flow Cut-off	0 m
P5	Flow Unit - l/sec	0	P46	Range at Zero Head	0.354 m
P6	Max Flow rate	14.22999	P47	Blanking Distance	0.3048 m

Test Point Report

Reference Distance (cm)	Measured Distance (cm)	Calculated Flow (l/sec)	UUT Flow Display (l/sec)	Calculated (mA)	Measured (mA)	Deviaiton Full Scale (l/sec)
0.00	0.00	0.00	0.00	4.00	4.00	0.00

Calculations

Flow Calculations

$Q = q_{cal}\,(h/h_{cal})^{Exp}$ Where, Q= Discharge Flow, qcal = max flow, h = head, hcal = max head

Exp = 2.5 , Hence,

$Q = 14.293\,(0/0.06)^{1.5}$

Q = 0

Instrument Test Information and Results

Input (%)	Calculated Flow(l/sec)	Calculated Input (mA)	Flow on UUT (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.02	4.02	0.02
25	3.57	8.00	3.58	7.99	0.01
50	7.15	12.00	7.18	12.02	0.03
75	10.72	16.00	10.70	15.98	-0.02
100	14.23	20.00	14.20	19.98	-0.03

Information of Tools used for Verification of the Instruments

Device Description:	Manufacturer	Model
Electrical Multimeter	Fluke	179

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result:	☑ Passed	☐ Fail	☐ Not Verified

Overall Remarks:	Program parameters verified. One point verifiaction performed

Service Technician :	Chetan Parekh	Stamp/Signature	
Printed Date:	September 18, 2023		

End of Report

Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - **OCM III**
OPEN CHANNEL FLOW MEASUREMENT

Customer Name:	OCWA-Georgian Highlands Region	Site/Plant Address:	1 Industrial Road
Plant Name:	Grand Valley WWTP		Grand Valley, ON

Device Information		Service Information	
Make:	Siemens	Date:	September 18, 2023
Model:	Milltronics OCM III	Report No:	CO1481-2308-24
Tag:	LIT-1102	Job No:	CO1481-2308
Job Location:	Final Effluent Flow		
Serial No:	PBD/A0271006	**Flow Details**	
Assets ID:	275531	Unit:	l/sec
		Flow Range:	0-124.8
		Current Output:	4-20 mA
		4 mA Set Point	0
		20 mA Set Point	124.8

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	033250077	03325087
FLOW (l/sec)	4.92	0

Maintenance Checklist				Remarks
Visual Inspection:	☑	OK	☐ NOT OK	
Electrical Inspection:	☑	OK	☐ NOT OK	

Programming Parameter of Instrument

Parameter	Discription	Value	Parameter	Discription	Value
F0	Access Code	2.71828	P7	Height of Max. Head	38.00
P1	Dimension Unit (cm)	0	P32	Totalizer Multiplier	6*1000
P3	Exponential Device	0	P42	Head by OCM III	0
P4	Cal. Method -Ratiometric	1	P45	Low Flow Cut-off	0 cm
P5	Flow Unit - l/sec	0	P46	Range at Zero Head	111.099 cm
P6	Max Flow rate	124.8	P47	Blanking Distance	30.48 cm

Test Point Report

Reference Distance (cm)	Measured Distance (cm)	Calculated Flow (l/sec)	UUT Flow Display (l/sec)	Calculated (mA)	Measured (mA)	Deviaiton (l/sec)
7.20	7.16	1.95	0.00	5.15	4.98	-1.95
7.89	7.98	2.45	2.52	5.26	5.12	0.07

Calculations

Flow Calculations

$Q = q_{cal} (h/h_{cal})^{Exp}$ Where, Q= Discharge Flow, qcal = max flow, h = head, hcal = max head

Exp = 2.5 , Hence,

$Q = 124.8 (7.20/38)^{2.5}$

Q = 1.95

Instrument Test Information and Results

Input (%)	Calculated Flow(l/sec)	Calculated Input (mA)	Flow on UUT (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.01	4.02	0.01
25	31.20	8.00	31.25	8.01	0.05
50	62.40	12.00	62.43	12.02	0.03
75	93.60	16.00	93.58	15.99	-0.02
100	124.80	20.00	124.74	19.97	-0.06

Information of Tools used for Verification of the Instruments

Device Description:	Manufacturer	Model
Electrical Multimeter	Fluke	179

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result:	☑ Passed	☐ Fail	☐ Not Verified

Overall Remarks:	Program parameters verified. Single point verification performed

Service Technician :	Chetan Parekh	Stamp/Signature	
Printed Date:	September 18, 2023		

End of Report

Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - **OCM III**
OPEN CHANNEL FLOW MEASUREMENT

Customer Name:	OCWA-Georgian Highlands Region	Site/Plant Address:	1 Industrial Road
Plant Name:	Grand Valley WWTP		Grand Valley, ON

Device Information		Service Information	
Make:	Siemens	Date:	September 19, 2023
Model:	Milltronics OCM III	Report No:	CO1481-2308-25
Tag:	LIT 1203	Job No:	CO1481-2308
Job Location:	Primary Splitter Flow		

Flow Details	
Unit:	l/sec
Flow Range:	0-157
Current Output:	4-20 mA
4 mA Set Point	0
20 mA Set Point	157

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	03727093 X 1000	03727099 X 1000
FLOW (l/sec)	3.74	28.15

Maintenance Checklist				Remarks
Visual Inspection:	☑	OK	☐ NOT OK	
Electrical Inspection:	☑	OK	☐ NOT OK	

Programming Parameter of Instrument

Parameter	Discription	Value	Parameter	Discription	Value
F0	Access Code	2.71828	P7	Height of Max. Head	15.00
P1	Dimension Unit (cm)	0	P32	Totalizer Multiplier	6*1000
P3	Exponential Device	8,Rect weir	P42	Head by OCM III	0
P4	Cal. Method -Ratiometric	0	P45	Low Flow Cut-off	0 cm
P5	Flow Unit - l/sec	0	P46	Range at Zero Head	43.9 cm
P6	Max Flow rate	157	P47	Blanking Distance	30.48 cm

Test Point Report

Reference Distance (cm)	Measured Distance (cm)	Calculated Flow (l/sec)	UUT Flow Display (l/sec)	Calculated (mA)	Measured (mA)	Deviaiton (l/sec)
3.68	3.70	19.08	19.23	7.84	7.87	0.16
15.41	15.40	163.48	163.32	5.93	5.97	-0.16

Calculations

Flow Calculations

$Q = q_{cal} (h/h_{cal})^{Exp}$ Where, Q= Discharge Flow, qcal = max flow, h = head, hcal = max head

Exp = 1.5 , Hence,

$Q = 157 (3.68/15)^{1.5}$

Q = 19.08

Instrument Test Information and Results

Input (%)	Calculated Flow(l/sec)	Calculated Input (mA)	Flow on UUT (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.05	3.98	0.05
25	39.25	8.00	39.28	8.03	0.03
50	78.50	12.00	78.46	11.96	-0.04
75	118.00	16.00	118.05	16.02	0.05
100	157.00	20.00	156.95	19.98	-0.05

Information of Tools used for Verification of the Instruments

Device Description:	Manufacturer	Model
Electrical Multimeter	Fluke	179

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result:	☑ Passed	☐ Fail	☐ Not Verified

Overall Remarks:	Program parameters verified. One point verification done.

Service Technician :	Chetan Parekh	Stamp/Signature	
Printed Date:	September 19, 2023		

End of Report

Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - **KHRONE** ELECTRO-MAGNETIC FLOW MEASUREMENT

Customer Name:	OCWA-Georgian Highlands Region	Site/Plant Address:	1 Industrial Road
Plant Name:	Grand Valley WWTP		Grand Valley, ON

Device Information		Service Information	
Make:	Khrone	Date:	September 19, 2023
Model:	UFC 300W	Report No:	CO1481-2308-26
Order Code:	NA	Job No:	CO1481-2308
Serial No.:	A1072355		
Tag:	FIT3105		
Job Location:	Mixing Pump Circle Flow		
Asset ID:	275516		

Sensor Details		Flow Details	
Line size:	12"	Unit:	l/sec
Mounting:	Remote	Flow Range:	0-250
		Current Output:	4-20 mA
		4 mA Set Point	0
		20 mA Set Point	250

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	2960102.569	2930102.569
FLOW (l/sec)	0.00	0.00

Maintenance Checklist			Remarks
Visual Inspection:	☑ OK	☐ NOT OK	
Electrical Inspection:	☑ OK	☐ NOT OK	
Sensor Installation:	☑ OK	☐ NOT OK	
Transmitter Installation:	☑ OK	☐ NOT OK	

Instrument Test Information and Results

Input(%)	Calculated Flow (l/sec)	Calculated O/P (mA)	UUT Display (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	NA	NA	#VALUE!
25	62.50	8.00	NA	NA	#VALUE!
50	125.00	12.00	NA	NA	#VALUE!
75	187.50	16.00	NA	NA	#VALUE!
700	250.00	20.00	NA	NA	#VALUE!

Information of Tools used for Verification of the Instruments

Details	Tool/Kit 1	Tool/Kit 2	Tool/Kit 3
Device Description:	Calibrator	Electrical Multimeter	N/A
Manufacturer:	Khrone	Fluke	N/A
Model No:	GS8B	179	N/A

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result:	☐ Passed	☑ Fail	☐ Not Verified

Overall Remarks:	Verification test failed.

Service Technician :	Chetan Parekh	Stamp/Signature	
Printed Date:	September 19, 2023		

End of Report

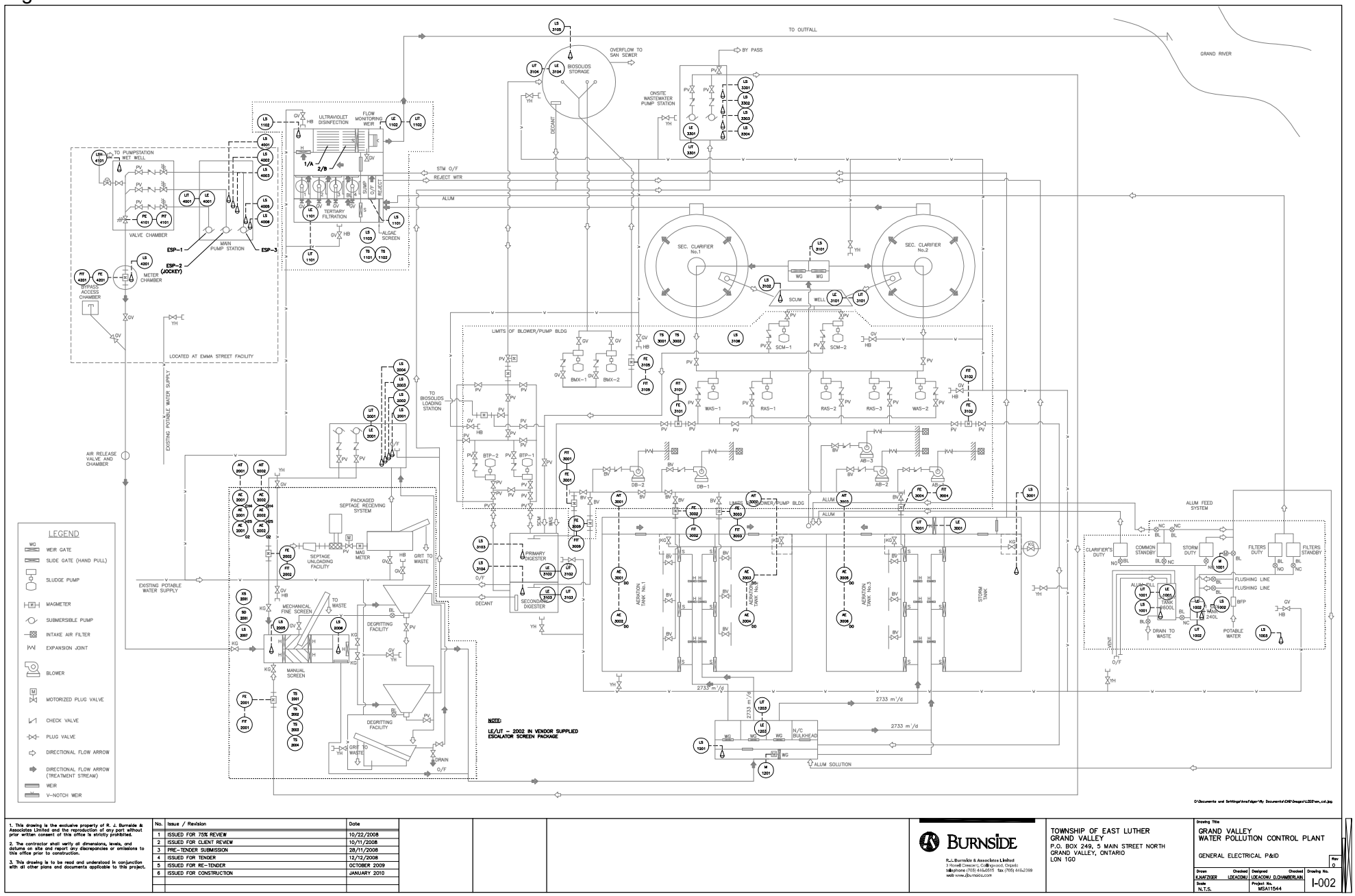
Version: 19-12

2023 Annual Performance Report
Grand Valley Wastewater Treatment Plant
ECA 9611-CFVLRG

Appendix D

Process Flow Schematic

Figure 3.4



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
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web www.rjburnside.com

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

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

Rev 0

Drawn	Checked	Designed	Checked	Drawing No.
K.MATZKER	LDEACONU	LDEACONU	D.CHAMBERLAIN	I-002
Scale: N.T.S.		Project No.: MSA11544		

2023 Annual Performance Report
Grand Valley Wastewater Treatment Plant
ECA 9611-CFVLRG

Appendix E

2024 Monitoring Schedule

2024 Sampling Calendar
GRAND VALLEY WWTP (Org #5762)
WWT II, WWC II

JANUARY						
M	T	W	TH	F	St	Su
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	**31-W**				

FEBRUARY						
M	T	W	TH	F	St	Su
			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			

MARCH						
M	T	W	TH	F	St	Su
				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

APRIL						
M	T	W	TH	F	St	Su
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					

MAY						
M	T	W	TH	F	St	Su
		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	31		

JUNE						
M	T	W	TH	F	St	Su
					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

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\2024 Sampling Calendar_Grand Valley_Waste_2023.11.07.xlsx

Revision # 7 - Revised 2023-11-07

2024 Sampling Calendar
GRAND VALLEY WWTP (Org #5762)
WWT II, WWC II

JULY						
M	T	W	TH	**F**	**St**	**Su**
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	**31-W**				

AUGUST						
M	**T**	**W**	**TH**	**F**	**St**	**Su**
			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	

SEPTEMBER						
M	**T**	**W**	**TH**	**F**	**St**	**Su**
						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						

OCTOBER						
M	**T**	**W**	**TH**	**F**	**St**	**Su**
	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			

NOVEMBER						
M	**T**	**W**	**TH**	**F**	**St**	**Su**
				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	

DECEMBER						
M	**T**	**W**	**TH**	**F**	**St**	**Su**
						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-W	24	25	26	27	28	29
30-W	31	1				

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

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Revision # 7 - Revised 2023-11-07