

ANNUAL REPORT

ENVIRONMENTAL COMPLIANCE APPROVAL No. 0990-AR5LMB

ROYAL OAKS WASTEWATER TREATMENT PLANT

FOR THE PERIOD:
JANUARY 1, 2025 – DECEMBER 31, 2025

*Prepared for the Corporation of the Township of Springwater
by the Ontario Clean Water Agency*



REQUIREMENTS FOR ANNUAL PERFORMANCE REPORT

This annual performance report was prepared in accordance with Amended Environmental Compliance Approval No. 0990-AR5LMB for the Royal Oaks Wastewater Treatment Plant as per Section 9.(2).

9.(2) REPORTING

The Owner shall prepare and submit to the Water Compliance Supervisor a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

- (a) A summary and interpretation of all monitoring data and a comparison to the effluent objectives and effluent limits outlined in Conditions 6 and 7, including an overview of the success and adequacy of the Works;
- (b) A tabulation of the weekly volumes of effluent disposed through the subsurface disposal system during the reporting period;
- (c) A summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works; and
- (d) A description of impact of the effluent from the Works on the receiving groundwater.

Table of Contents

1. System Description	3
2. Monitoring Data Influent	4
2.1 Influent ECA Monitoring Program.....	4
2.2 Influent (Raw Sewage) Characteristics: Summary and Interpretation of Reporting Year	5
2.3 Influent Flow Data: Summary and Interpretation of Reporting Year	5
3. Effluent Monitoring Data	8
3.1 Effluent ECA Monitoring Program	8
3.2 Effluent Characteristics: Summary and Interpretation of Reporting Year.....	10
3.3 Effluent Flow: Summary and Interpretation of Reporting Year.....	12
4. Repair and Maintenance Activities	15
4.1 Work Management System	15
4.2 Preventative Maintenance.....	15
4.3 Repairs and Improvements.....	16
4.4 Operational Issues and Corrective Actions	16
5. Groundwater Impacts	16
6. Quality Assurance & Control Measures	17
6.1 Adherence to Provincial Regulations	17
6.2 Use of Accredited Laboratories.....	17
6.3 Operation by Licensed Operators	17
6.4 Sampling and Analysis.....	18
6.5 In-house Analysis	18
6.6 Calibrations	18
7. Calibration & Maintenance – Monitoring Equipment	18

List of Appendices

Appendix A – Performance Assessment Report
Appendix B – Calibration Reports

This report was prepared in accordance with its Amended Environmental Compliance Approval (ECA) No. 0990-AR5LMB (issued on November 14, 2017) as per Section 9.2 elements a. through d. during the 'Reporting Period' of January 1, 2025 to December 31, 2025.

1. System Description

The Royal Oaks Wastewater Treatment System was designed for the sewage treatment and subsurface disposal for the collection, transmission, treatment and disposal of domestic sewage with a Rated Capacity of 260 m³/d, to service the Royal Oak Subdivision, Vespra Valley Estate development, and Black Creek Estates development within the Snow Valley Lowlands, Township of Springwater. The works is owned by the Corporation of the Township of Springwater and operated on behalf of the Owner by the Ontario Clean Water Agency (OCWA). Influent is collected via forcemains into four pumping stations that receive raw sewage from the surrounding subdivisions, directing collections towards the Royal Oaks Wastewater Treatment Plant (WWTP) for processing.

The raw sewage enters into a flow balancing tank that discharges into the inlet works. The inlet channel contains a screw-type screen and a manual bar screen for bypass events. Two grit channels (one stand-by) feed into the anaerobic chamber of the treatment plant.

Influent is then directed towards two Sequence Batch Reactors (SBRs) running in parallel consisting of the following:

- A Side Water Depth (SWD) anaerobic primary settling/sludge storage chamber equipped with a submersible mixer and surface overflow pipes discharging into the SAM chamber, while providing digested sludge storage;
- A SWD integrated surge anoxic mix (ISAM) chamber equipped with two (2) jet pumps for filling the main sequencing batch reactor chamber, activated sludge recirculation to the anaerobic chamber, and an emergency overflow pipe to the main sequencing batch reactor chamber;
- A SWD sequencing batch reactor chamber equipped with a jet aeration system comprising of a jet mixer, jet nozzle assembly, a jet mixing pump and a fixed solids excluding decanter discharging to the discharge tank.

Processed effluent is then directed towards an SBR Discharge Tank equipped with two (2) submersible pumps to a common discharge header to the continuous contact sand filter with a bypass line to the final effluent tank. The sand filter has an associated compressed air system to provide pressurized air.

The treated effluent is then directed towards the final effluent tank that discharges via two (2) submersible pumps, which directs the flow to three (3) branch forcemains feeding into the final effluent subsurface disposal beds. The subsurface disposal beds are classified as Bed A – Royal Oaks Subdivision, Bed B - Vespra Valley Estates, and Bed C – Black Creek Estates.

Chemical storage and feed facilities include an alum storage tank and a bulk carbon storage tank, and all associated metering pumps for dosing during influent processing.

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

Table 1. Royal Oaks Wastewater Treatment Plant System Overview

Facility Name:	Royal Oaks Wastewater Treatment Plant
Facility Type:	SBR Treatment System with Sand Filtration, Chemical Phosphorus Removal, and Micro C Supplementary Carbon Dosing
Plant Classification:	N/A
Works Number:	110004174
Rated Capacity:	260 m ³ /d
Discharge Point:	Subsurface Disposal Beds
Environmental Compliance Approval:	0990-AR5LMB
ECA Issue Date:	November 14, 2017

2. Monitoring Data Influent

Where ECA 0990-AR5LMB, Section 9(2)(a) requires:

“A summary and interpretation of all monitoring data and a comparison to the effluent objectives and effluent limits outlined in Conditions 6 and 7, including an overview of the success and adequacy of the Works;”

2.1 Influent ECA Monitoring Program

The following table outlines the influent monitoring program and sampling points at the Royal Oaks WWTP as per its ECA. Samples are collected and analyzed by an accredited analytical laboratory (SGS Canada Inc., Lakefield, Ontario).

Table 2. Influent Water Quality Monitoring Program and Sampling Points- as per ECA 0990-AR5LMB, Schedule B

Influent Monitoring ^{2A}		
Parameters	Sample Type	Minimum Frequency
Biochemical Oxygen Demand (BOD ₅) ^{2B}	Grab	Monthly
Total Suspended Solids ^{2B}	Grab	Monthly
Total Kjeldahl Nitrogen ^{2B}	Grab	Monthly
Total Phosphorus ^{2B}	Grab	Monthly

^{2A} Samples to be collected at the Influent Grit Channel

^{2B} Refer to Appendix A 2025 Annual Performance Report for monthly sample results.

2.2 Influent (Raw Sewage) 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 as required by the ECA and used to characterize the contents of incoming sewage flow.

Table 3 summarizes the influent monitoring data for the reporting period. Laboratory analysis throughout the year indicated an average of 364.42 mg/L of Biochemical Oxygen Demand (BOD₅), 179.08 mg/L of Total Suspended Solids (TSS), 8.81 mg/L of Total Phosphorus, and 59.54 mg/L of Total Kjeldahl Nitrogen (TKN).

Table 3. Influent Quality Analysis for 2025

Timeframe	Monthly Influent Concentrations (mg/L)			
	BOD ₅	Total Suspended Solids	Total Phosphorus	Total Kjeldahl Nitrogen
January	355.00	162.00	8.01	54.70
February	428.00	112.00	8.73	62.20
March	343.00	258.00	8.71	55.80
April	233.00	118.00	6.96	45.70
May	391.00	170.00	9.41	66.90
June	292.00	152.00	9.24	72.30
July	402.00	138.00	7.99	54.10
August	430.00	141.00	8.96	61.70
September	416.00	227.00	9.92	53.00
October	440.00	250.00	9.25	64.30
November	281.00	95.00	9.58	60.60
December	362.00	326.00	8.92	63.20
2025 Average	364.42	179.08	8.81	59.54

2.3 Influent Flow Data: Summary and Interpretation of Reporting Year

The Rated Capacity listed in the most current ECA for Royal Oaks WWTP is 260 m³/day, which is the Average Daily Flow for which the Works is approved to handle.

Table 4. Total Monthly Maximum and Average Raw Flows and Total Monthly Volume – Royal Oak Subdivision: Tile Beds A

Timeframe	Average Daily Volume (m ³ /day)	Maximum Daily Volume (m ³ /day)
January	20.24	24.73
February	19.33	21.56

Timeframe	Average Daily Volume (m³/day)	Maximum Daily Volume (m³/day)
March	21.38	28.09
April	23.04	27.26
May	21.16	24.66
June	20.64	23.46
July	21.16	26.20
August	19.58	23.14
September	18.58	24.97
October	19.78	25.76
November	19.09	22.82
December	28.61	42.68
2025	21.05	42.68

Table 5. Total Monthly Maximum and Average Raw Flows and Total Monthly Volume – Orchardview (Vespra Valley Estates): Tile Beds B

Timeframe	Average Day Volume (m³/day)	Maximum Day Volume (m³/day)
January	27.35	31.25
February	28.06	33.30
March	27.15	32.17
April	27.18	32.57
May	27.90	35.71
June	27.68	31.48
July	27.82	33.75
August	26.85	32.24
September	26.56	34.78
October	27.29	32.51
November	26.93	29.56
December	29.52	33.73
2025	27.52	35.71

Table 6. Total Monthly Maximum and Average Raw Flows and Total Monthly Volume – Black Creek: Tile Beds C

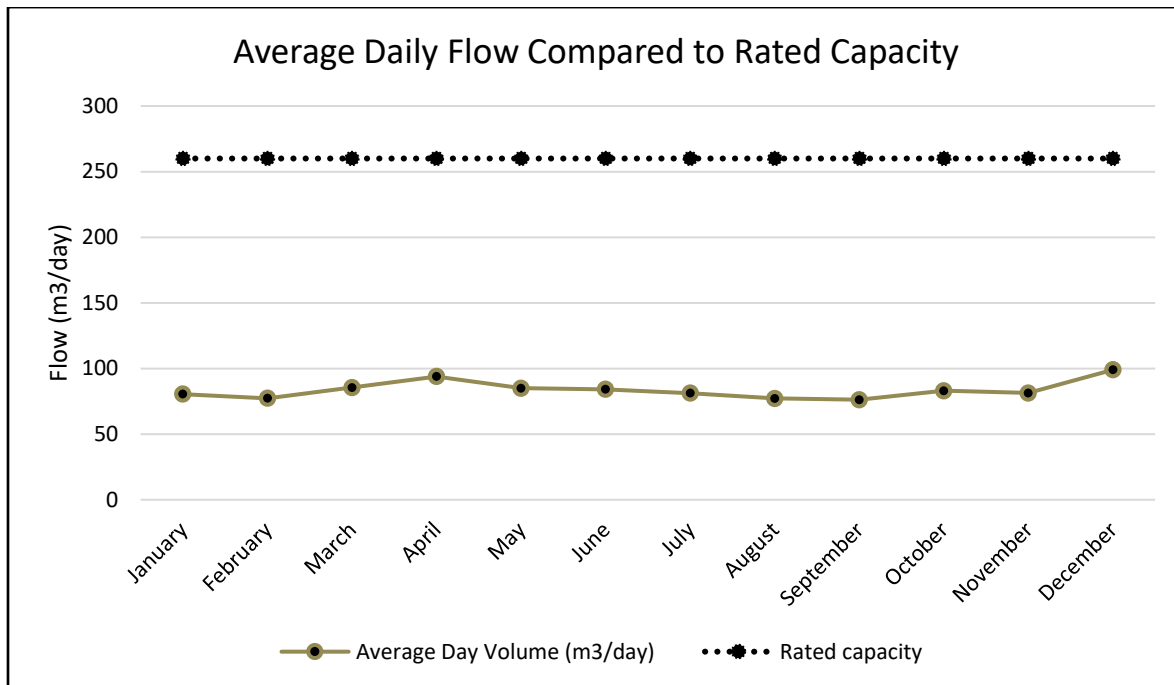
Timeframe	Average Day Volume (m³/day)	Maximum Day Volume (m³/day)
January	32.84	37.31
February	29.87	39.72
March	36.98	80.68
April	43.70	73.89

Timeframe	Average Day Volume (m³/day)	Maximum Day Volume (m³/day)
May	35.89	57.12
June	35.78	46.93
July	32.29	38.05
August	30.73	37.25
September	31.09	37.09
October	35.98	42.37
November	35.39	41.39
December	40.87	55.99
2025	35.12	80.68

Table 7. Total Monthly Maximum and Average Raw Flows and Total Monthly Volume – Total from all Sources

Timeframe	Average Day Volume (m³/day)	% of Rated Capacity (260 m³/d)	Maximum Day Volume (m³/day)	% of Rated Capacity (260 m³/d)	Total Monthly Volume (m³)
January	80.43	30.94%	93.16	35.83%	2,493.48
February	77.27	29.72%	89.87	34.57%	2,163.43
March	85.50	32.89%	121.10	46.58%	2,650.55
April	93.91	36.12%	126.69	48.73%	2,817.41
May	84.95	32.67%	105.62	40.62%	2,633.51
June	84.11	32.35%	98.17	37.76%	2,523.20
July	81.28	31.26%	90.70	34.88%	2,519.61
August	77.16	29.68%	85.62	32.93%	2,392.04
September	76.24	29.32%	86.96	33.45%	2,287.13
October	83.05	31.94%	96.97	37.30%	2,574.67
November	81.40	31.31%	92.31	35.50%	2,442.10
December	99.00	38.08%	122.73	47.20%	3,068.89
2025	83.74	32.19%	126.69	48.58%	30,566.02

Figure 1. Average Daily Flow (All Sources) Compared to Rated Capacity



During the reporting period, the annual average total daily flow from all sources (Black Creek, Orchardview and Royal Oaks) was 83.74 m³/day, which was 32.19% of the Rated Capacity (260 m³/day).

3. Effluent Monitoring Data

Where ECA 0990-AR5LMB, Section 9(2)(a) requires:

“A summary and interpretation of all monitoring data and a comparison to the effluent objectives and effluent limits outlined in Conditions 6 and 7, including an overview of the success and adequacy of the Works;”

3.1 Effluent ECA Monitoring Program

The following table outlines the effluent monitoring program and sampling points at the Royal Oaks WWTP as per its most current ECA. Samples are collected and analyzed by an accredited analytical laboratory (SGS Canada Inc., Lakefield, Ontario).

Table 8. Effluent Water Quality Monitoring Program and Sampling Points- as per ECA 0990-AR5LMB- Schedule B

Final Effluent Monitoring^{8A}		
Parameters	Sample Type	Minimum Frequency
Carbonaceous Biochemical Oxygen Demand (CBOD ₅) ^{8B}	Grab	Weekly
Total Suspended Solids ^{8B}	Grab	Weekly
Total Phosphorus ^{8B}	Grab	Weekly
Nitrate-Nitrogen ^{8B}	Grab	Weekly
Ammonia-Nitrogen ^{8B}	Grab	Weekly
Total Kjeldahl Nitrogen ^{8B}	Grab	Weekly
Chloride ^{8B}	Grab	Weekly
Sodium ^{8B}	Grab	Weekly

^{8A} Samples to be collected at the Final Effluent Tank

^{8B} Refer to Appendix A 2025 Annual Performance Report for monthly sample results.

The following table outlines the effluent water quality compliance objectives and limits at the Royal Oaks WWTP as per its most current ECA.

Table 9. Final Effluent Water Quality ECA Compliance Objectives and Limits- as per ECA 0990-AR5LMB- Schedule B

Final Effluent Water Quality Compliance Limits and Objective (mg/L)		
Parameter	Monthly Average Objective	Monthly Average Concentration Limit
Carbonaceous Biochemical Oxygen Demand (CBOD ₅) ^{9C}	12.0	15.0
Total Suspended Solids ^{9C}	12.0	15.0
Ammonia-Nitrogen + Nitrate Nitrogen ^{9A,9C}	-- ^{9A}	7.0 ^{9B}
Total Phosphorus ^{9C}	0.7	1.0

^{9A} ECA 0990-AR5LMB Schedule B does not contain objective limits for Ammonia-Nitrogen + Nitrate Nitrogen, only compliance limits

Note: The final effluent water quality limits are based on a monthly average concentration expressed in mg/L, with the exception of: ^{9B}Ammonia-Nitrogen + Nitrate Nitrogen effluent water quality limits are based on a twelve (12) month average.

^{9C}Refer to Appendix A 2025 Annual Performance Report for monthly sample results.

3.2 Effluent Characteristics: Summary and Interpretation of Reporting Year

The following table summarizes the final effluent water quality for the reporting period compared with the ECA compliance limits.

Table 10. Effluent Quality Data during the Reporting Period: CBOD₅ & TSS

Timeframe	CBOD ₅			Total Suspended Solids		
	Monthly Average (mg/L)	Within Objectives? (12.0 mg/L)	Within Limits? (15.0 mg/L)	Monthly Average (mg/L)	Within Objectives? (12.0 mg/L)	Within Limits? (15.0 mg/L)
January	2.75	Yes	Yes	6.25	Yes	Yes
February	7.75	Yes	Yes	12.00	Yes	Yes
March	4.25	Yes	Yes	7.00	Yes	Yes
April	6.60	Yes	Yes	15.80 ^{10A}	No	No
May	4.75	Yes	Yes	17.00 ^{10B}	No	No
June	11.25	Yes	Yes	16.75 ^{10C}	No	No
July	3.00	Yes	Yes	17.00 ^{10D}	No	No
August	4.25	Yes	Yes	27.25 ^{10E}	No	No
September	3.25	Yes	Yes	6.75	Yes	Yes
October	3.40	Yes	Yes	9.60	Yes	Yes
November	4.00	Yes	Yes	8.00	Yes	Yes
December	3.80	Yes	Yes	6.40	Yes	Yes
2025 Avg.	4.87	--	--	12.46	--	--

Note: ECA averaging calculator for CBOD₅ and TSS is based on a monthly average concentration

^{10A}Notification of non-compliance with ECA limit exceedances for TSS for April 2025 were made to the Ministry on May 15, 2025

^{10B}Notification of non-compliance with ECA limit exceedances for TSS for May 2025 were made to the Ministry on June 18, 2025

^{10C}Notification of non-compliance with ECA limit exceedances for TSS for June 2025 were made to the Ministry on July 14, 2025

^{10D}Notification of non-compliance with ECA limit exceedances for TSS for July 2025 were made to the Ministry on August 20, 2025

^{10E}Notification of non-compliance with ECA limit exceedances for TSS for August 2025 were made to the Ministry on September 11, 2025

Table 11. Effluent Quality Data during the Reporting Period: Ammonia-Nitrogen (TAN) + Nitrate-Nitrogen & Total Phosphorus

Timeframe	TAN + Nitrate-Nitrogen			Total Phosphorus ^{11B}		
	Monthly Average (mg/L)	Within Objectives? (N/A) ^{11A}	Within Limits? (7.0 mg/L) ^{11A}	Monthly Average (mg/L)	Within Objectives? (0.7mg/L)	Within Limits? (1.0 mg/L)
January	1.28	--	--	0.27	Yes	Yes
February	7.62	--	--	1.82 ^{11C}	No	No
March	10.98	--	--	1.51 ^{11D}	No	No
April	7.86	--	--	1.00	No	Yes
May	7.68	--	--	0.40	Yes	Yes
June	12.15	--	--	0.34	Yes	Yes
July	1.50	--	--	0.44	Yes	Yes
August	4.11	--	--	0.25	Yes	Yes
September	3.85	--	--	0.34	Yes	Yes
October	2.55	--	--	0.25	Yes	Yes
November	0.89	--	--	0.31	Yes	Yes
December	2.06	--	--	0.30	Yes	Yes
2025 Avg.	5.13	--	Yes	0.59	--	--

^{11A}The ECA does not list objective limits for Total Ammonia Nitrogen (defined as ammonia nitrogen + nitrate nitrogen) only compliance limits, which is based on an annual average (twelve months).

^{11B}ECA averaging calculator for TP is based on a monthly average concentration

^{11C}Notification of non-compliance with the ECA limit exceedances for TP for February, 2025 was made to the Ministry on March, 2026

^{11D}Notification of non-compliance with the ECA limit exceedances for TP for March, 2025 was made to the Ministry on April 10, 2025

The following parameters in table 12 do not have final effluent objective or compliance limits but are required to be monitored as per the most recent ECA.

Table 12. Effluent Quality Data during the Reporting Period: Ammonia-Nitrogen, Nitrate-Nitrogen, Chlorides, Sodium and TKN

Timeframe	Monthly Average Ammonia Nitrogen- (mg/L)	Monthly Average- Nitrate- Nitrogen (mg/L)	Monthly Average- Chlorides (mg/L)	Monthly Average- Sodium (mg/L)	Monthly Average- TKN (mg/L)
January	0.55	0.73	457.50	298.25	1.48
February	6.93	0.69	437.50	300.00	8.35
March	8.25	2.73	420.00	290.25	9.30
April	7.06	0.80	317.20	195.22	7.82
May	6.80	0.88	417.50	214.53	7.38
June	7.98	4.17	442.50	279.00	8.73

July	1.10	0.40	468.00	300.40	2.28
August	1.83	2.28	452.50	301.75	3.00
September	3.68	0.17	467.50	317.00	4.58
October	2.10	0.45	428.00	292.60	3.28
November	0.43	0.46	415.00	282.00	1.93
December	1.54	0.52	420.00	291.20	2.56
2025 Annual Average	3.94	1.14	427.04	279.39	4.97

During the reporting period, the Ammonia Nitrogen annual average was 3.94 mg/L, Nitrate annual average was 1.14 mg/L, Chloride annual average was 427.04 mg/L, Sodium annual average was 279.39 mg/L and TKN annual average was 4.97 mg/L.

Based on the monitoring results, the Royal Oaks WWTP met all effluent compliance limits for CBOD₅ and achieved compliance for Total Suspended Solids and Total Phosphorus for the majority of the reporting period. However, several operational issues contributed to effluent quality exceedances for Total Phosphorus in February and March 2025, and for Total Suspended Solids from April through August 2025. The operational issues and corrective actions taken are summarized below:

- February 2025: The alum/carbon dosing line became clogged, preventing proper chemical addition to the secondary effluent tank and resulting in elevated Total Phosphorus.
- March 2025: The alum/carbon dosing system continued to not function as intended, again affecting phosphorus removal performance.
- April 2025: Elevated solids in the SBR system contributed to a TSS exceedance. Corrective actions included cleaning the secondary effluent tanks and pumping down the ISAM tanks to reduce solids loading.
- May to July 2025: The jet motive pump was removed for inspection and determined to require replacement. Reduced mixing and aeration performance contributed to elevated TSS. A new jet motive unit was installed on December 12, 2025.
- August 2025: A leaking alum expansion valve caused inconsistent alum dosing, contributing to effluent quality variability. The valve was replaced on August 29, 2025. The jet motive remained out of service during this period.

3.3 Effluent Flow: Summary and Interpretation of Reporting Year

Where ECA 0990-AR5LMB, Section 9.2(b) requires:

“A tabulation of the weekly volumes of effluent disposed through the subsurface disposal system during the reporting period;”

The following tables summarizes the final effluent volume that is directed to absorption trench type subsurface effluent disposal beds, and the comparison to the rated capacity for each location. The rated disposal for the Royal Oak Subdivision is 65 m³/day, Orchardview is 69 m³/day, and Black Creek is 152 m³/day. The rated disposal was not exceeded for Royal Oak Subdivision, Orchardview or Black Creek.

Table 13. Total Monthly Maximum and Average Final Effluent Flows and Total Monthly Volume – Royal Oak Subdivision

Timeframe	Average Daily Volume (m³/day)	% of Rated Disposal (65 m³/d)	Maximum Daily Volume (m³/day)	Total Flow Volume (m³)
January	25.28	38.90%	33.55	783.81
February	23.94	36.82%	34.71	670.18
March	26.42	40.65%	35.25	819.10
April	28.80	44.31%	51.15	864.03
May	27.30	42.00%	38.35	846.36
June	25.61	39.41%	34.08	768.44
July	25.56	39.33%	36.60	792.44
August	23.81	36.62%	36.53	737.99
September	23.46	36.09%	38.18	703.85
October	23.55	36.23%	34.36	730.10
November	21.48	33.05%	29.41	644.40
December	31.29	48.14%	47.27	970.10
2025	25.54	39.30%	51.15	9,330.80

Table 14. Total Monthly Maximum and Average Final Effluent Flows and Total Monthly Volume – Orchardview

Timeframe	Average Day Volume (m³/day)	% of Rated Disposal (69 m³/d)	Maximum Day Volume (m³/day)	Total Monthly Volume (m³)
January	32.71	47.41%	45.90	1,014.16
February	33.68	48.82%	41.88	943.16
March	32.06	46.46%	38.84	993.85
April	33.54	48.62%	52.17	1,006.34
May	34.49	49.98%	46.04	1,069.08
June	32.50	47.10%	42.65	974.88
July	32.47	47.05%	42.21	1,006.44
August	31.12	45.10%	41.19	964.65

Timeframe	Average Day Volume (m³/day)	% of Rated Disposal (69 m³/d)	Maximum Day Volume (m³/day)	Total Monthly Volume (m³)
September	30.01	43.49%	39.43	900.16
October	28.12	40.76%	37.10	871.78
November	28.83	41.78%	36.20	864.76
December	30.27	43.88%	44.08	938.50
2025	31.65	45.87%	52.17	11,547.76

Table 15. Total Monthly Maximum and Average Final Effluent Flows and Total Monthly Volume – Black Creek

Timeframe	Average Day Volume (m³/day)	% of Rated Disposal (152 m³/d)	Maximum Day Volume (m³/day)	Total Monthly Volume (m³)
January	39.18	25.78%	56.32	1,214.56
February	36.14	23.78%	50.72	1,011.90
March	42.32	27.84%	69.97	1,312.04
April	51.49	33.87%	90.12	1,544.69
May	41.34	27.20%	55.51	1,281.44
June	40.56	26.68%	55.71	1,216.81
July	36.60	24.08%	52.23	1,134.51
August	34.77	22.88%	49.97	1,077.96
September	33.58	22.09%	45.65	1,007.50
October	35.02	23.04%	48.44	1,085.65
November	37.57	24.72%	50.46	1,127.19
December	41.71	27.44%	60.18	1,293.15
2025	39.19	25.78%	90.12	14,307.40

Table 16. Total Monthly Maximum and Average Final Effluent Flows and Total Monthly Volume – Total of all Sources

Timeframe	Average Day Volume (m³/day)	Maximum Day Volume (m³/day)	Total Monthly Volume (m³)
January	97.18	133.38	3,012.53
February	93.76	118.83	2,625.24
March	100.81	125.69	3,124.99
April	113.84	193.44	3,415.06
May	103.13	128.59	3,196.88
June	98.67	127.22	2,960.13
July	94.63	121.41	2,933.39
August	89.70	123.29	2,780.60
September	87.05	118.52	2,611.51
October	86.69	113.07	2,687.53

Timeframe	Average Day Volume (m3/day)	Maximum Day Volume (m3/day)	Total Monthly Volume (m3)
November	87.88	109.92	2,636.35
December	103.28	138.50	3,201.75
2025	96.38	193.44	35,185.96

See **Appendix A** for a full performance assessment report

4. Repair and Maintenance Activities

Where ECA 0990-AR5LMB, Section 9(2)(c) requires:

“A summary of maintenance carried out on a major structure, equipment, apparatus, mechanism or thing forming part of the Works;”

4.1 Work Management System

A computerized Work Management System (WMS) is utilized to schedule and document maintenance activities. The WMS allows users 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.

4.2 Preventative Maintenance

There were no major maintenance tasks completed throughout the reporting year, only routine maintenance. The preventative maintenance tasks completed throughout the reporting period are as follows:

- Annual EQ tank cleanout/inspection
- Bi-annual tile bed inspections
- Dissolved oxygen analyzer inspection
- Facility valves inspection
- UPS battery bank inspection
- Diesel generator inspection
- Submersible pump inspection/service

4.3 Repairs and Improvements

During the reporting period the following repairs and improvements were completed:

- Jet Motive replacement
- Orchardview PS – pump replacement
- Royal Oaks PS – Float replacement
- Black Creek PS – Flow meter replacement
- Solenoid and seal replacements
- Train 1 gas detector sensor replacement
- Alum tank repairs

4.4 Operational Issues and Corrective Actions

During the reporting period, several components of the treatment system required maintenance to support consistent operation. The related activities and corrective actions are summarized below. Any associated effects on effluent quality are described in Section 3.2.

- February 2025: The alum/carbon dosing line became clogged, which prevented consistent chemical addition to the secondary effluent tank. The line was cleared and dosing restored.
- March 2025: The alum/carbon dosing system was not functioning as intended, resulting in inconsistent dosing. The system was serviced and returned to normal operation.
- April 2025: Elevated solids in the SBR system were observed. Corrective actions included cleaning the secondary effluent tanks and pumping down the ISAM tanks to reduce solids loading.
- May to July 2025: The jet motive pump was removed for inspection and determined to require replacement. Reduced mixing and aeration performance occurred during this period. A new jet motive unit was installed on December 12, 2025.
- August 2025: A leaking alum expansion valve caused inconsistent alum dosing. The valve was replaced on August 29, 2025. The jet motive remained out of service during this period.

5. Groundwater Impacts

Where ECA 0990-AR5LMB, Section 9(2)(d) requires:

“A description of impact of the effluent from the Works on the receiving groundwater.”

Given that the Royal Oaks WWTP was in compliance for the majority of the year, it is expected that there is minimal impact of the effluent from the works on the receiving groundwater. Additionally, the Environmental Monitoring Program (EMP) reporting, provided by Golder

Associates Ltd. in previous years, was concluded as of June 2018. The final report was issued in March of 2019 and included on the 2018 Annual Report. Summary of results of the report include:

- No increase of Nitrate concentration in the sampling conducted between 2008 and 2018 on the surface water quality due to land use activities
- Nitrate and Phosphorus concentrations are higher at upstream locations monitored, compared to downstream sites – phosphorus concentrations are very low
- At the Landings subdivision groundwater quality monitoring indicates that nitrate concentrations in the groundwater are near or at predevelopment conditions
- Monitoring by the subdivision agreement concluded in June 2018.

Based on effluent quality performance and historical EMP findings, there is no evidence to suggest that the Royal Oaks WWTP effluent has caused adverse impacts to the receiving groundwater.

6. Quality Assurance & Control Measures

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

6.1 Adherence to Provincial Regulations

The Ontario Clean Water Agency operates the 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 is conducted by Licensed Operators for monitoring purposes using Standard Methods. The data generated from these tests is used to determine the treatment efficiency while maintaining process control. All in-house monitoring equipment is calibrated based on the manufacturer's recommendations. The Operators of the facility continue to use their expertise in order to meet our objective of no exceedances of the ECA Effluent Compliance Limits and OCWA will continue to make best efforts to meet the ECA Effluent Objectives.

6.6 Calibrations

Third-party and in-house calibrations are completed on various equipment and monitoring and analysis items as required based on manufacturer's recommendations. See below section 7 for more details.

7. Calibration & Maintenance – Monitoring Equipment

The flow meters used to measure the raw sewage and final effluent were successfully calibrated on June 4, 2025 by FLOWMETRIX Technical Services. A portable Hach DR300 unit was calibrated by Indus Control on July 23, 2025.

See **Appendix B** for a copy of the calibration report(s).

2025 Annual Performance Report

Appendix A

Performance Assessment Report

1155 ROYAL OAKS WASTEWATER TREATMENT FACILITY 110004174																	
	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 m³/d	2,493.48	2,163.43	2,650.55	2,817.41	2,633.51	2,523.20	2,519.61	2,392.04	2,287.13	2,574.67	2,442.10	3,068.89	30,566.02				0.00
Raw Flow: Avg - Raw m³/d	80.43	77.27	85.50	93.91	84.95	84.11	81.28	77.16	76.24	83.05	81.40	99.00		83.74			260.00
Raw Flow: Max - Raw m³/d	93.16	89.87	121.10	126.69	105.62	98.17	90.70	85.62	86.96	96.97	92.31	122.73			126.69		0.00
Raw Flow: Count - Raw 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 - Effluent m³/d	3,012.53	2,625.24	3,124.99	3,415.06	3,196.88	2,960.13	2,933.39	2,780.60	2,611.51	2,687.53	2,636.35	3,201.75	35,185.96				0.00
Eff. Flow: Avg - Effluent m³/d	97.18	93.76	100.81	113.84	103.13	98.67	94.63	89.70	87.05	86.69	87.88	103.28		96.40			
Eff. Flow: Max - Effluent m³/d	133.38	118.83	125.69	193.44	128.59	127.22	121.41	123.29	118.52	113.07	109.92	138.50			193.44		0.00
Eff Flow: Count - 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 - Effluent mg/L	2.75	7.75	4.25	6.60	4.75	11.25	3.00	4.25	3.25	3.40	4.00	3.80		4.87	11.25		15.00
Eff: # of samples of cBOD5 - 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
Loading: cBOD5 - Effluent kg/d	0.267	0.727	0.428	0.751	0.490	1.110	0.284	0.381	0.283	0.295	0.352	0.392		0.47	1.11		
Biochemical Oxygen Demand: BOD5																	
Raw: Avg BOD5 - Raw mg/L	355.00	428.00	343.00	233.00	391.00	292.00	402.00	430.00	416.00	440.00	281.00	362.00		364.42	440.00		0.00
Raw: # of samples of BOD5 - Raw	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00				0.00
Total Suspended Solids: TSS																	
Raw: Avg TSS - Raw mg/L	162.00	112.00	258.00	118.00	170.00	152.00	138.00	141.00	227.00	250.00	95.00	326.00		179.08	326.00		0.00
Raw: # of samples of TSS - Raw	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00				0.00
Eff: Avg TSS - Effluent mg/L	6.25	12.00	7.00	15.80	17.00	16.75	17.00	27.25	6.75	9.60	8.00	6.40		12.46	27.25		15.00
Eff: # of samples of TSS - 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
Loading: TSS - Effluent kg/d	0.607	1.125	0.706	1.799	1.753	1.653	1.609	2.444	0.588	0.832	0.703	0.661		1.20	2.44		
Percent Removal: TSS - Raw %	96.14	89.29	97.29	86.61	90.00	88.98	87.68	80.67	97.03	96.16	91.58	98.04		91.62	98.04		0.00
Total Phosphorus: TP																	
Raw: Avg TP - Raw mg/L	8.01	8.73	8.71	6.96	9.41	9.24	7.99	8.96	9.92	9.25	9.58	8.92		8.81	9.92		0.00
Raw: # of samples of TP - Raw	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00				0.00
Eff: Avg TP - Effluent mg/L	0.27	1.82	1.51	1.00	0.40	0.34	0.44	0.25	0.34	0.25	0.31	0.30		0.59	1.82		1.00
Eff: # of samples of TP - 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
Loading: TP - Effluent kg/d	0.026	0.170	0.152	0.114	0.041	0.034	0.041	0.023	0.030	0.022	0.027	0.031		0.06	0.17		
Percent Removal: TP - Raw %	96.63	79.18	82.69	85.57	95.80	96.29	94.52	97.18	96.55	97.25	96.76	96.68		92.93	97.25		0.00
Nitrogen Series																	
Raw: Avg TKN - Raw mg/L	54.70	62.20	55.80	45.70	66.90	72.30	54.10	61.70	53.00	64.30	60.60	63.20		59.54	72.30		0.00
Raw: # of samples of TKN - Raw	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00				0.00
Eff: Avg TAN - Effluent mg/L	0.55	6.93	8.25	7.06	6.80	7.98	1.10	1.83	3.68	2.10	0.43	1.54		3.94	8.25		
Eff: # of samples of TAN - 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
Loading: TAN - Effluent kg/d	0.053	0.649	0.832	0.804	0.701	0.787	0.104	0.164	0.320	0.182	0.037	0.159		0.38	0.83		
Eff: Avg NO3-N - Effluent mg/L	0.73	0.69	2.73	0.80	0.88	4.17	0.40	2.28	0.17	0.45	0.46	0.52		1.19	4.17		0.00
Eff: # of samples of NO3-N - 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
Eff: Avg NO2-N - Effluent mg/L	0.17	0.10	0.38	0.11	0.18	1.06	0.10	0.78	0.23	0.28	0.30	1.14		0.40	1.14		0.00
Eff: # of samples of NO2-N - 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

2025 Annual Performance Report

Appendix B

Calibration Reports



Plant operator: Flowmetrix

Device information

Location	Royal Oaks Effluent
Device tag	Effluent
Module name	K323-00
Nominal diameter	DN100 / 4"
Device name	Promag 400
Order code	5W4C1H-V2F0/0
Serial number	R701D216000
Firmware version	02.01.00



Calibration

Calibration factor	1.3461
Zero point	-0.3

Verification information

Operating time (counter)	1258d19h33m01s
Date/time (manually recorded)	04.06.25 10:43
Verification ID	4
Verification mode	Standard verification

Overall verification result*

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

*Result of the complete device functionality test via Heartbeat Technology

Confirmation

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

Notes

Date

Operator's signature

Inspector's signature

Plant operator: Flowmetrix

Device identification and verification identification

Serial number	R701D216000
Device tag	Effluent
Verification ID	4



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

Plant operator: Flowmetrix

Device identification and verification identification

Serial number	R701D216000
Device tag	Effluent
Verification ID	4



Test item with value	Unit	Actual	Min.	Max.	Visualization
Sensor					
Shot time symmetry deviation		1.0000	0.9000	1.1000	□□□□■□□□□□
Hold voltage symmetry deviation		1.0000	0.9000	1.1000	□□□□■□□□□□
Coil current loss deviation	%	0.1218	-10.0000	10.0000	□□□□■□□□□□
Coil current offset	%	0.0000	-0.1000	0.1000	□□□□■□□□□□
Coil current deviation	%	0.008123	-0.1000	0.1000	□□□□■□□□□□
Coil resistance value	Ohm	84.0	50.0	240.0	□■□□□□□□□□
E1 electrode impedance	Ohm	271.58			
E2 electrode impedance	Ohm	272.94			
EPD electrode impedance	Ohm	282.85			
E1/E2 electrode impedance on E1	Ohm	287.05			
E1/E2 electrode impedance on E2	Ohm	288.45			
Sensor electronic module (ISEM)					
Supply voltage 30.0V	V	31.20	27.000	35.000	□□□□■□□□□□
Linearity and reference voltage 1		0.9996	0.9900	1.0100	□□□□■□□□□□
Linearity and reference voltage 2		0.9994	0.9900	1.0100	□□□□■□□□□□
Measuring point offset		-11.0536	-100.0000	100.0000	□□□■□□□□□□
Hold voltage feedback value	%	2.60	-10.0	10.0	□□□□□■□□□□
Shot voltage feedback value	%	-0.62	-20.0	20.0	□□□□■□□□□□
Electronic current loss deviation	%	0.37	-10.0000	10.0000	□□□□■□□□□□
Coil circuit value	%	-0.055	-1.0	1.0	□□□□■□□□□□
Shot control circuit value	%	-0.11	-10.0	10.0	□□□□■□□□□□
Electrode signal integrity deviation	%	-0.45	-40.0	40.0	□□□□■□□□□□

Test item with value	Unit	Actual	Min.	Max.	Visualization
I/O module					
Output 1 value 1	mA	4.0251	3.8600	4.1400	□□□□□■□□□□
Output 1 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 2 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 3 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□

Plant operator: Flowmetrix

Device identification and verification identification

Serial number	R701D216000
Device tag	Effluent
Verification ID	4



Test item with value	Unit	Actual
Process conditions		
Volume flow value verification	l/s	0.0000
Conductivity value verification	$\mu\text{S}/\text{cm}$	-nan
Electronic temperature	$^{\circ}\text{C}$	33.2
Current difference potential	V	0.02316
Current potential electrode 1	V	0.1889
Current potential electrode 2	V	0.1673
Current potential electrode Pipe GND	V	0.002789

AS FOUND CERTIFICATION
FORWARD FLOW DIRECTION
PASS

CLIENT DETAIL			EQUIPMENT DETAIL		
CUSTOMER	OCWA-North Simcoe		[MUT] MANUFACTURER	ABB	
CONTACT	Michelle Neal		MODEL	MagMaster	
	Senior Operations Manager		UNIT SERIAL NUMBER	n/a	
	1128 Flos Rd 10 E		SENSOR SERIAL NUMBER	08W019333	
	Elmvale ON L0L 1P0		FUSE	n/a	
	T: 705 715 1411		PLANT ID	Royal Oaks WWTP	
	E:mneal@ocwa.com		METER ID	Raw Sewage Flow PS4	
			FIT ID	n/a	
			CLIENT TAG		

VER. BY - FM Charles Francisco

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.

GPS COORDINATES

VERIFICATION DATE	June 4th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	June 2026

PROGRAMMING PARAMETERS			FORWARD TOTALIZER INFORMATION		
DIAMETER (DN)	mm	80	AS FOUND	n/a	M3
F.S. FLOW - MAG	LPS	47.5	AS LEFT	n/a	M3
F.S. RANGE - O/P	LPS	39.000	DIFFERENCE	n/a	M3
TUBE CAL. FACTOR	1	0.94430	TEST CRITERIA		
ZERO POINT FACTOR	F:	0	AS FOUND CERTIFICATION TEST	Yes	
	R:	0	FORWARD FLOW DIRECTION	Yes	
			ALLOWABLE [%] ERROR	15	
			COMPONENTS TESTED		
			CONVERTER DISPLAY	yes	
			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	0.1	0.2	0.5	1.0	m/s
			0	1	2	5	10	% F.S. Flow
			0.0	1.2	2.4	6.1	12.2	% F.S. Range
REF. FLOW RATE			0.000	0.475	0.949	2.373	4.747	LPS
MUT [Reading]			0.000	0.420	0.840	2.100	4.190	LPS
MUT [Difference]			0.000	-0.055	-0.109	-0.273	-0.557	LPS
MUT [% Error]			n/a	-11.51	-11.51	-11.51	-11.73	%
mA OUTPUT			4.000	4.195	4.389	4.974	5.947	mA
MUT [Reading]			3.985	4.206	4.436	5.103	6.216	mA
MUT [Difference]			-0.015	0.011	0.047	0.129	0.269	mA
MUT [% Error]			-0.38	0.27	1.06	2.60	4.52	%
TOTALIZER - REF. FLOW RATE								
TOTALIZER [MUT]								
TEST TIME								
CALC. TOTALIZER								
ERROR								

COMMENTS

Note: Display showing random characters,
 recommends replacing display/unit.

Note: MOE tolerane is +/- 15% for wastewater
 applications unless client specifies otherwise.

QUALITY MANAGEMENT STANDARDS INFO.

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

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	-11.57	PASS
mA OUTPUT	1.61	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.

AS FOUND CERTIFICATION
FORWARD FLOW DIRECTION
PASS

CLIENT DETAIL			EQUIPMENT DETAIL		
CUSTOMER	OCWA-North Simcoe		[MUT] MANUFACTURER	ABB	
CONTACT	Michelle Neal		MODEL	MagMaster	
	Senior Operations Manager		UNIT SERIAL NUMBER	n/a	
	1128 Flos Rd 10 E		SENSOR SERIAL NUMBER	08W019332	
	Elmvale ON L0L 1P0		FUSE	n/a	
	T: 705 715 1411		PLANT ID	Royal Oaks WWTP	
	E:mneal@ocwa.com		METER ID	Raw Sewage Flow PS1	
			FIT ID	FIT-202	
			CLIENT TAG		

VER. BY - FM Charles Francisco

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.

GPS COORDINATES

VERIFICATION DATE	June 4th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	June 2026

PROGRAMMING PARAMETERS			FORWARD TOTALIZER INFORMATION		
DIAMETER (DN)	mm	80	AS FOUND	n/a	M3
F.S. FLOW - MAG	LPS	50.9	AS LEFT	n/a	M3
F.S. RANGE - O/P	LPS	20.000	DIFFERENCE	n/a	M3
TUBE CAL. FACTOR	1	1.01220	TEST CRITERIA		
ZERO POINT FACTOR	F:	0	AS FOUND CERTIFICATION TEST	Yes	
	R:	0	FORWARD FLOW DIRECTION	Yes	
			ALLOWABLE [%] ERROR	15	
			COMPONENTS TESTED		
			CONVERTER DISPLAY	yes	
			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	0.1	0.2	0.5	1.0	m/s
		0	1	2	5	10	% F.S. Flow
		0.0	2.5	5.1	12.7	25.4	% F.S. Range
REF. FLOW RATE		0.000	0.509	1.018	2.544	5.088	LPS
MUT [Reading]		0.000	0.450	0.900	2.240	4.460	LPS
MUT [Difference]		0.000	-0.059	-0.118	-0.304	-0.628	LPS
MUT [% Error]		n/a	-11.55	-11.55	-11.95	-12.34	%
mA OUTPUT		4.000	4.407	4.814	6.035	8.070	mA
MUT [Reading]	min. 4.000 mA	3.986	4.358	4.713	5.789	7.570	mA
MUT [Difference]	max. 20.000 mA	-0.014	-0.049	-0.101	-0.246	-0.500	mA
MUT [% Error]		-0.35	-1.11	-2.10	-4.08	-6.20	%
TOTALIZER - REF. FLOW RATE							
TOTALIZER [MUT]							
TEST TIME							
CALC. TOTALIZER							
ERROR							

COMMENTS			QUALITY MANAGEMENT STANDARDS INFO.			RESULTS		
Note: Readings taken of SCADA as unit displays random characters. Recommends replacing display/unit.			[QMS] INFORMATION	IDENT.	ID #	TEST	AVG % o.r.	PASS FAIL
			[REFERENCE] FTS	ABBMM	1	DISPLAY	-11.85	PASS
			PROCESS METER	PM	0	mA OUTPUT	-2.77	PASS
			ANALOG METER	AM	N/A	TOTALIZER	N/A	N/A
Note: MOE tolerane is +/- 15% for wastewater applications unless client specifies otherwise.			STOP WATCH	SW	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.

AS FOUND CERTIFICATION
FORWARD FLOW DIRECTION
PASS

CLIENT DETAIL			EQUIPMENT DETAIL		
CUSTOMER	OCWA-North Simcoe		[MUT] MANUFACTURER	ABB	
CONTACT	Michelle Neal		MODEL	MagMaster	
	Senior Operations Manager		UNIT SERIAL NUMBER	n/a	
	1128 Flos Rd 10 E		SENSOR SERIAL NUMBER	08W019331	
	Elmvale ON L0L 1P0		FUSE	n/a	
	T: 705 715 1411		PLANT ID	Royal Oaks WWTP	
	E:mneal@ocwa.com		METER ID	Raw Sewage Flow Orchard View	
			FIT ID	FIT-203	
			CLIENT TAG		

VER. BY - FM Charles Francisco

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.

GPS COORDINATES

VERIFICATION DATE	June 4th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	June 2026

PROGRAMMING PARAMETERS			FORWARD TOTALIZER INFORMATION		
DIAMETER (DN)	mm	80	AS FOUND	n/a	M3
F.S. FLOW - MAG	LPS	47.0	AS LEFT	n/a	M3
F.S. RANGE - O/P	LPS	20.000	DIFFERENCE	n/a	M3
TUBE CAL. FACTOR	1	0.93490	TEST CRITERIA		
ZERO POINT FACTOR	F:	0	AS FOUND CERTIFICATION TEST	Yes	
	R:	0	FORWARD FLOW DIRECTION	Yes	
			ALLOWABLE [%] ERROR	15	
			COMPONENTS TESTED		
			CONVERTER DISPLAY	yes	
			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	0.1	0.2	0.5	1.0	m/s
		0	1	2	5	10	% F.S. Flow
		0.0	2.3	4.7	11.7	23.5	% F.S. Range
REF. FLOW RATE		0.000	0.470	0.940	2.350	4.699	LPS
MUT [Reading]		0.000	0.410	0.830	2.070	4.140	LPS
MUT [Difference]		0.000	-0.060	-0.110	-0.280	-0.559	LPS
MUT [% Error]		n/a	-12.75	-11.69	-11.90	-11.90	%
mA OUTPUT		4.000	4.376	4.752	5.880	7.759	mA
MUT [Reading]	min. 4.000 mA	3.994	4.326	4.659	5.647	7.303	mA
MUT [Difference]	max. 20.000 mA	-0.006	-0.050	-0.093	-0.233	-0.456	mA
MUT [% Error]		-0.15	-1.14	-1.95	-3.96	-5.88	%
TOTALIZER - REF. FLOW RATE							
TOTALIZER [MUT]							
TEST TIME							
CALC. TOTALIZER							
ERROR							

COMMENTS

Note: Readings taken of SCADA as unit displays
 random characters. Recommends replacing
 display/unit.

Note: MOE tolerane is +/- 15% for wastewater
 applications unless client specifies otherwise.

QUALITY MANAGEMENT STANDARDS INFO.

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

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	-12.06	PASS
mA OUTPUT	-2.62	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.



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

PORTABLE COLORIMETER VERIFICATION REPORT

Customer Name	OCWA-Georgian Bay	Address	3168 Dobson Rd, Springwater, ON, L4M 4S4
Plant Name	N/A		
Location	Angela Pauze	Date	July 23, 2025
OCWA ID	345570	Report No	CO1643-2507-23
Device Discription	Pocket Colorimeter	Job No	CO1643-2507

Device Information

Instrument Make:	Hach
Model/Part No:	DR300
Serial No:	24110B001810

Calibration/Verification Test Details

Standard Solution	Calculated Value (ppm)	UUT Display (ppm)	Deviation (ppm)
Blank(0.00)	0.00	0.00	0.00
STD 1(0.23±0.09)	0.23	0.17	-0.06
STD 2(0.94±0.10)	0.94	0.86	-0.08
STD 3(1.64±0.14)	1.64	1.57	-0.07

Information of Device/Instrument use for Verification/Calibration

Device Discription:	DPD-Chlorine LR Spec Check Secondary Standard Kit		
Make:	Hach		
Lot No:	A4205		
Overall Test Result:	☒ Passed	☐ Fail	☐ Not Verified

Notes: Device is working as per specification. Verification Test Passed

Service Technician :	Sanket Trada	Stamp/Signature	
Printed Date:	July 23, 2025		

End of Report

Version: 20-01