
EGANVILLE SEWAGE SYSTEM

2023 PERFORMANCE REPORT

Township of Bonnechere Valley
Water and Sewage Department
February 2024



Eganville Sewage System – 2023 Performance Report

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2 Executive Summary

The Eganville Sewage System continues to operate in a manner that provides for the collection, transmission and treatment of sewage that meets all Municipal, Provincial and Federal standards.

The Eganville Sewage Collection System was operated in accordance with the new Environmental Compliance Approval and the reporting requirements are included in this report.

The Eganville Sewage Treatment Plant processed 203,573 cubic metres of sewage in 2023 and the treated effluent discharged to the Bonnechere River met the Provincial and Federal Effluent Limits 100% of the time. The average daily flow was 558 cubic metres.

The Biosolids Dewatering Facility processed 876 cubic metres of digested sludge in 2023 and 149 cubic metres of dewatered sludge was transported to the Snodrifters Road Landfill Site for utilization as a soil amendment to the final cover.

All reports required by applicable Acts, Regulations, Certificate of Approvals and Environmental Compliance Approvals have been prepared and submitted.

All operational and process monitoring has been conducted in accordance with the Certificate of Approval, Environmental Compliance Approval and the internal Process and Compliance Monitoring Procedure.



3 Introduction

The collection, transmission, treatment and disposal of sewage in Ontario is regulated by the Ministry of the Environment, Conservation and Parks (MECP) under the Environmental Protection Act (EPA), the Ontario Water Resources Act (OWRA) and associated Regulations, Policy and Guidelines.

The current Certificate of Approval for the Eganville Sewage Works #9566-85BHJK issued on June 1, 2010 under Section 53 of the OWRA prescribes specific operational 'Terms and Conditions'.

Condition 10 requires the preparation of an annual performance report for submission to the District Manager on or before March 31st of each year. The report must include, but not limited to, the following information:

- ✦ A summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;
- ✦ A description of any operating problems encountered, and corrective actions taken;
- ✦ A summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
- ✦ A summary of any effluent quality assurance or control measures undertaken in the reporting period;
- ✦ A summary of the calibration and maintenance carried out on all effluent monitoring equipment;
- ✦ A description of efforts made, and results achieved in meeting Effluent Objectives of Condition 6;
- ✦ A tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and an outline of the proposed sludge handling methods;
- ✦ A summary of any complaints received during the reporting period and any steps taken to address the complaints;
- ✦ A summary of all By-pass, spill or abnormal discharge events; and
- ✦ Any other information the District Manager requires from time to time.



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The Environmental Compliance Approval (ECA) for the Eganville Sewage Collection System #171-W601 issued on November 2, 2022 under Section 20.3 of Part II.1 of the EPA prescribes specific Operating Conditions in Schedule E.

Condition 4.6 of Schedule E requires the preparation of an annual performance report for submission to the District Manager on or before March 31st of each year. The report must include, but not limited to, the following information:

- ✚ A summary of all required monitoring data.
- ✚ A summary of any operating problems encountered and corrective action taken.
- ✚ A summary of all calibration, maintenance, and repairs carried out.
- ✚ A summary of any complaints received during the reporting period and any steps taken to address the complaints.
- ✚ A summary of all Alterations authorized by the ECA.
- ✚ A summary of all Collection System Overflows and Spills of Sewage.
- ✚ A summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows and/or STP Bypasses.

4 Report Availability

A copy of this report shall be given, without charge, to every person who requests a copy from the Township of Bonnechere Valley Municipal Office at 49 Bonnechere St. E., Eganville, Ontario.

Users of the Eganville Sewage System shall be advised of the availability of the report on their monthly utility bill.

The report shall also be available on the Township of Bonnechere Valley website at www.bonnecherevalleytwp.com

5 Eganville Sewage System

The Eganville Sewage System provides for the collection, transmission, treatment and disposal of sewage from the residents and businesses of the Village of Eganville. It is owned and operated by the Township of Bonnechere Valley, with the Water and Sewage Department responsible for the overall operation.



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The system generally consists of a piped collection system, four sewage pumping stations and a sewage treatment plant including a Biosolids dewatering facility. The treated effluent is discharged into the Bonnechere River adjacent to the Eganville Sewage Treatment Plant located at 131 John Street, Eganville.

The Eganville Sewage Collection System operates under an Environmental Compliance Approval (ECA) issued on November 2, 2022 Number: 171-W601.

The Eganville Sewage Collection System consists of works for the collection and transmission of sewage, consisting of approximately 11 Km of separate sewers, ranging in diameter from 200mm to 400mm and four sub-area pumping stations, all discharging into the Eganville Sewage Treatment Plant.

The Eganville Sewage Treatment Plant operates under an Amended Certificate of Approval issued on June 1, 2010, Number: 9566-85BHJK.

The Sewage Treatment Plant (STP) is an extended aeration secondary treatment process consisting of two circular package treatment units with a Rated Capacity of 1,080 cubic metres per day and a Peak Flow Rate of 2,700 cubic metres per day.

The Biosolids Dewatering Facility utilizes Geotubes to dewater, stabilize and store the sludge generated by the STP. The resultant dewatered Biosolids are removed and transported to one of the waste disposal sites within the Township of Bonnechere Valley to be utilized as a soil amendment to the final cover.

6 Sewage Collection System Operations

The requirement to report specifically on the Eganville Sewage Collection System Operations was initiated in 2023 under the requirements of the new Environmental Compliance Approval.

6.1 Summary of all required monitoring data

- No monitoring was required in 2023.

6.2 Summary of any operating problems encountered and corrective action taken

- There were no operating problems with the Sewage Collection System or Pumping Stations.



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6.3 Summary of all calibration, maintenance, and repairs carried out

- There is no equipment in the collection system that requires calibration.
- Routine maintenance was carried out on all 4 Sewage Pumping Stations. This included a visual inspection, wash down and bar screens cleaning.
- Maintenance and repair was carried out on 6 Sewage Manholes. This included riser ring adjustment and repaving.
- 1.5 km of Sewer line was flushed and cleaned.

6.4 Summary of any complaints received

- During 2023 no formal public complaints were submitted to the Water and Sewage Department.

6.5 Summary of all Alterations authorized by the ECA

- No alterations were made to the system that required authorization.

6.6 Summary of all Collection System Overflows and Spills of Sewage

- During 2023 the collection system did not have any overflows or spills of sewage

6.7 Summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows and/or STP Bypasses

- The capacity of the collection system and STP adequately handles the wet weather maximum flows resulting in no spills, overflows or bypasses.

7 Sewage Treatment Plant Operations

7.1 Summary and interpretation of all monitoring data

- The following table outlines the effluent objectives and limits:

Effluent Parameter	Effluent Objectives		Effluent Limits	
	Concentration mg/l	Loading kg/day	Concentration mg/l	Loading kg/day
CBOD ₅	15	16.2	25	27
Total Suspended Solids	15	16.2	25	27
Total Phosphorus	1.0	1.1	1.0	1.1



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Total Ammonia Nitrogen	5.0	5.4	5.0	5.4
E. coli	200 CFU/100ml		200 CFU/100ml	
pH	6.5 to 8.5 at all times		6.0 to 8.5 at all times	

- The following table provides an overview of the effluent monitoring results:

Effluent Parameter	Concentration mg/l	Loading kg/day
CBOD ₅	<3.0	0.93 – 3.76
Total Suspended Solids	5 – 9	2.18 – 8.78
Total Phosphorus	0.15 - 0.69	0.08 – 0.70
Total Ammonia Nitrogen	0.01 – 0.35	0.00 – 0.23
Un-ionized Ammonia	0.00 – 0.34 ug/l	
E. coli	0 - 16 CFU/100ml	
pH	6.55 - 7.36	

- During 2023 all effluent parameter ‘Objectives’ and ‘Limits’ were achieved 100% of the time.
- The efficiency of the sewage treatment process can be shown by the % removal of the following indicator parameters.

PARAMETER	AVERAGE % REMOVAL
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	97
Total Suspended Solids (TSS)	90
Total Phosphorus (TP)	90

- Detailed operational monitoring information was maintained on ‘Monthly Sewage Record’ spreadsheets and then summarized in the annual ‘Eganville Sewage & Sludge Monitoring Summary Report’ (Appendix 1).
- Municipal Utility Monitoring Program (MUMP) reports were completed monthly and submitted to MECF.
- Effluent Regulatory Reporting Information System (ERRIS) reports were completed quarterly and submitted to Environment Canada.



7.2 Description of any operating problems encountered, and corrective actions taken

- No operating problems

7.3 Summary of all maintenance carried out

- Routine maintenance of all equipment including pumps, blowers, clarifiers, etc.
- Replacement of 4" sludge transfer line and valve.

7.4 Summary of any effluent quality assurance or control measures undertaken

- General QA/QC aspects are built into the daily operations and monitoring of the effluent quality.
- Only certified Operators make process control changes, collect samples and undertake lab analysis.
- Detailed Standard Operating Procedures (SOP's) are available for sampling, analysis and record keeping activities.
- All lab equipment is maintained and calibrated when needed by the Operator with annual maintenance and certification by Hach Sales and Service Canada.
- Detailed daily records and log books are maintained by the Operator.

7.5 Summary of the calibration and maintenance carried out on all effluent monitoring equipment

- The final effluent flow measuring devices for Plant #1 and Plant #2 were calibrated on October 16, 2023 by Franklin Empire. The calibration report indicates that the flow measuring devices passed the required accuracy of plus or minus 5% of actual rate of flow.
- All lab instrumentation was serviced, calibrated and verified with standards on November 29, 2023 by Hach Sales & Service Canada Ltd.
- The biosolids filtrate flowmeter was calibrated by SCG Flowmetrix on October 4, 2023 and has passed its internal continuous verification and automatic self calibration. It is working within +/-1% of its original factory calibration.
- All calibration and maintenance activities were done by qualified Technicians using industry standards and calibrated equipment as detailed in the Eganville STP Calibration Reports for 2023 (Appendix 2)



7.6 Description of efforts made, and results achieved in meeting Effluent Objectives

- Diligent daily process observations, monitoring and management ensure that the effluent quality is well within the Effluent Objectives 100% of the time.

7.7 Summary of sludge management

- 876 m³ of aerobically digested sludge was transferred from the digesters to the Biosolids Dewatering Facility for processing. The sludge was mixed with a polymer and pumped into Geotubes for dewatering. The resultant filtrate was returned to the inlet of the Sewage Treatment Plant. Once the solids capacity of the Geotubes were reached they were allowed to sit for several months before the contents were removed and transported to the Snodrifter Road WDS. The Township waste disposal sites are approved for the receipt and utilization of dewatered sludge (Biosolids) as a final cover soil amendment.
- The 'Eganville Sewage and Sludge Monitoring Report 2023 (Appendix 1) provides the volumes, analysis and disposition of the sludge.
- It is anticipated that sludge generation and processing operations will be similar in 2024.

7.8 Summary of any complaints received

- During 2023 no formal public complaints were submitted to the Water and Sewage Department.

7.9 Summary of all by-pass, spill or abnormal discharge events

- During 2023 the Eganville STP did not have any by-passes, upsets or abnormal discharge events.

8 Capacity Assessment

- The Eganville Sewage Treatment Plant has an approved 'Rated Capacity' of 1,080 m³/day which is calculated as the 'Average Daily Flow' (total sewage flow for year / 365). During 2023 the 'Average Daily Flow' was 558 m³/day.
- The Eganville Sewage Treatment Plant has a 'Peak Flow Rate' of 2,700 m³/day which is the maximum rate of sewage flow for which the plant was designed. During 2023 the maximum 'Peak Flow Rate' was 1,807 m³/day in April.



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MONTH	SEWAGE FLOWS (M ³)		
	TOTAL	AVG.DAY	MAX DAY
2023			
JAN.	16,146	521	666
FEB.	13,086	467	627
MAR.	19,220	828	1,080
APR.	38,808	1,254	1,807
MAY	31,238	1,027	1,740
JUN.	17,713	590	681
JUL.	15,660	505	565
AUG.	11,800	381	496
SEP.	9,602	320	391
OCT.	9,613	310	427
NOV.	9,671	322	376
DEC.	11,016	363	514
TOTAL	203,573		
AVERAGE	16,964	574	781
MAX	38,808	1,254	1,807
LIMITS		1,080	2,700

9 Appendices

Appendix 1 - Eganville Sewage & Sludge Monitoring Summary Report 2023

Appendix 2 - Eganville STP Calibrations Reports 2023