



**LANCASTER SEWAGE TREATMENT
Annual Report
2018**

**Prepared by Shawn Killoran
Director of Water/Wastewater Operations**

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**The Corporation of the Township of South Glengarry
Lancaster Sewage Treatment
(Sewage Plant)
2018 Annual Performance Report**

In accordance with the Certificate of Approval, Number 8124-4L9KB9, Issue date July 17, 2000 the Water Pollution Control Plant (WPCP) is required to prepare an annual performance report. This document covers the reporting year January 01 to December 31, 2018; the facility performance report summarizes important information regarding the quality of the effluent wastewater, analytical test results, maintenance operations, and relevant activities of the WPCP.

DESCRIPTION OF WORKS

| | |
|--------------------|---|
| Capacity of Works | 1,490 m ³ /day (average daily flow) |
| Service Area | Village of Lancaster & South Lancaster |
| Service Population | approximately 775 |
| Effluent Receiver | Lake St. Francis |
| Major Process | Facultative Lagoon treatment facility complete with a phosphorus removal system |

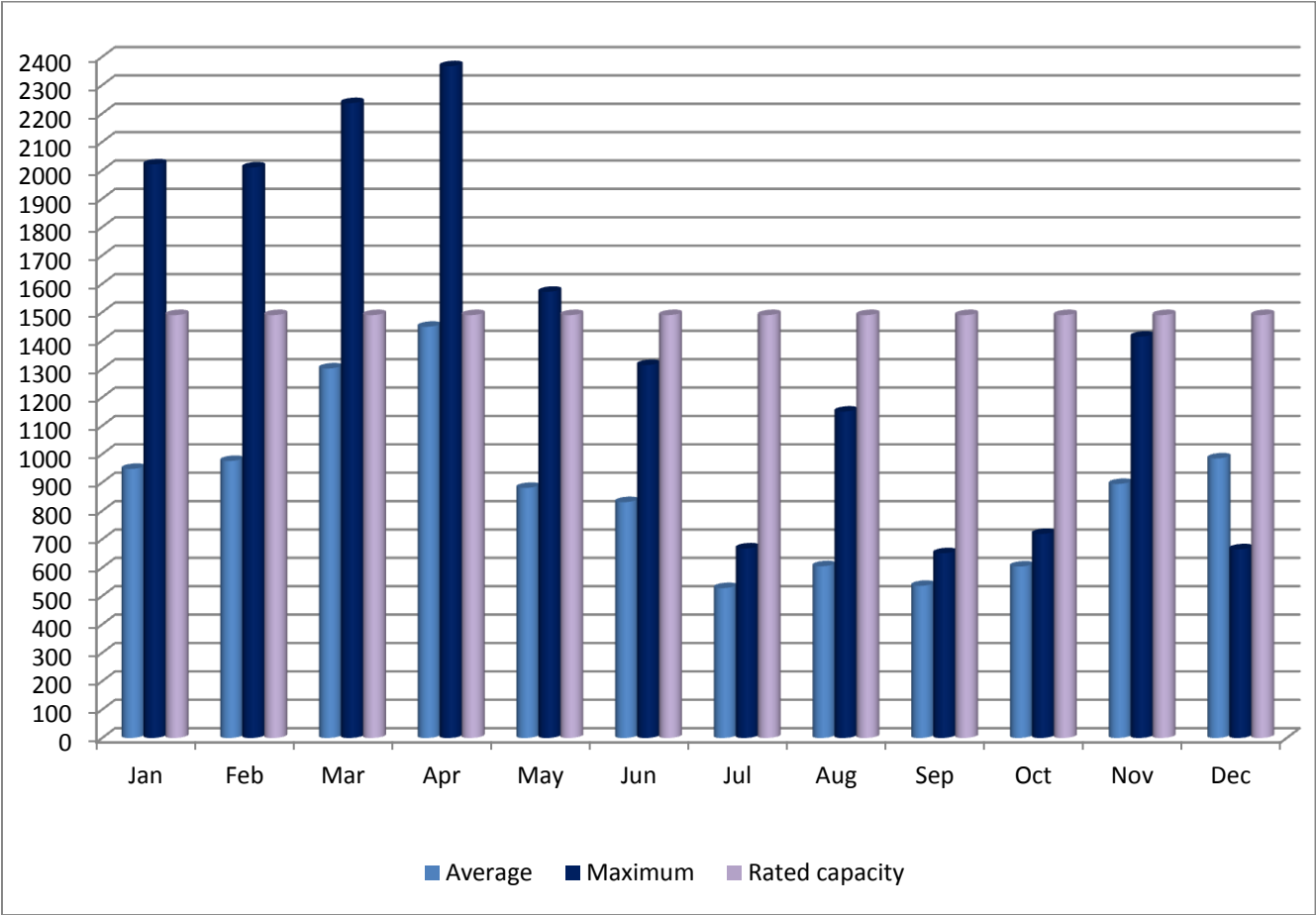
The Lancaster WPCP received and operates its operation under *Certificates of Approval (now referred to as Environmental Compliance Approval [ECA]) Number 8124-4L9KB9*, in accordance with Section 53 of the Ontario Water Resources Act. The Certificate of Approval outlines the terms and conditions, and, the report captures these terms and conditions in the following sections.

Rated Capacity

For the purposes of the ECA and the terms and conditions specified, the following definition applies: “*Rated Capacity*” means the *Average Daily Flow* for which the *Works* are approved to handle.

The rated capacity of the Lancaster WPCP is 1,490 cubic meters per day (m³/day); that is raw influent (flow) into the lagoon for treatment. During the reporting year 2018.

Monthly Average and Maximum Daily Flows for 2018
(Rated capacity 1,490 m³/day)



EFFLUENT OBJECTIVES

The owner and/or operating authority shall use *best efforts* to design, construct and operate the *Works* with the objective that the concentrations and loadings of the materials named below (Table 1) as effluent parameters are not exceeded in the effluent from the *Works*.

Effluent Best Efforts Limits as per ECA, condition 3.1 Table 1

| Effluent Parameter | Average Concentration (milligrams per litre unless otherwise indicated) | Average Loading Objective (kilograms per day unless otherwise indicated) |
|--|---|--|
| Column 1 | Column 2 | Column 3 |
| <i>CBOD</i> ₅ | 25 | 37.3 |
| Total Suspended Solids | 30 | 44.7 |
| Total Phosphorus | | |
| Summer – June 1 to November 30 | 0.4 | 0.60 |
| Winter – December 1 to May 31 | 0.8 | 1.2 |
| Total Ammonia Nitrogen: | | |
| Summer – June 1 to November 30 | 11 | 16.4 |
| Winter- December 1 to May 31 | 18 | 26.8 |
| <i>E. Coli</i> – May 1 to September 31 | | - |

EFFLUENT LIMITS

The *Owner* shall operate and maintain the *Works* such that the concentrations and waste loadings of the materials named in Table 2 as effluent parameters are not exceeded in the effluent from the *Works*.

Effluent Limits as per C of A, conditions 1.4 Table 2

| Effluent Parameter | Average Concentration (milligrams per litre unless otherwise indicated) | Average Loading Objective (kilograms per day unless otherwise indicated) |
|--|---|--|
| Column 1 | Column 2 | Column 3 |
| <i>CBOD</i> ₅ | 30 | 44.7 |
| Total Suspended Solids | 40 | 59.6 |
| Total Phosphorus | | |
| Summer – June 1 to November 30 | 0.5 | 0.75 |
| Winter – December 1 to May 31 | 1.0 | 1.5 |
| Total Ammonia Nitrogen: | | |
| Summer – June 1 to November 30 | 13 | 19.4 |
| Winter- December 1 to May 31 | 20 | 30.0 |
| <i>E. Coli</i> – May 1 to September 31 | | - |

MONITORING AND RECORDING

The *Owner* shall, upon commencement of operation of the *Works*, carry out the following the monitoring program.

Effluent Monitoring - (samples to be collected at the outlet of the disinfection facilities or at the outfall sewer as close as possible at the treatment plant)

Effluent Monitoring

| Parameters | Sample Type | Frequency |
|-------------------------|-----------------|------------|
| <i>CBOD₅</i> | 24-hr composite | Bi-monthly |
| Total Suspended Solids | 24-hr composite | Bi-monthly |
| Total Phosphorus | 24-hr composite | Weekly |
| Total Ammonia Nitrogen | 24-hr composite | Weekly |
| <i>E. Coli</i> | Grab | Weekly |

LABORATORY

Caduceon Environmental laboratories is contracted to conduct the required analytical tests of the influent (raw) and effluent samples, as per the ECA.

2018 ANNUAL EFFLUENT QUALITY:

| Parameters | Average Concentration mg/L | Criteria Concentration mg/L | Average Loading, kg/d | Loading Criteria, kg/d |
|--------------------------------|----------------------------|-----------------------------|-----------------------|------------------------|
| <i>CBOD₅</i> | 5.17 | 30 | 4.78 | 44.7 |
| Total Suspended Solids | 11.68 | 40 | 11.71 | 59.6 |
| Total Phosphorus | | | | |
| Summer – June 1 to November 30 | 0.07 | 0.5 | 0.05 | 0.75 |
| Winter – December 1 to May 31 | 0.19 | 1.0 | 0.2 | 1.5 |
| Total Ammonia Nitrogen: | | | | |
| Summer – June 1 to November 30 | 2.84 | 13 | 2.02 | 19.4 |
| Winter- December 1 to May 31 | 7.32 | 20 | 7.5 | 30.0 |
| <i>E. Coli</i> | 55.18 | | - | - |

In the reporting year 2018, the *Works* were operated and maintained such that the concentrations and waste loadings of the materials named in Table 2 as effluent parameters were not exceeded

in the effluent from the *Works*; in compliance with the ECA requirements for the effluent limits parameters.

In addition, *best efforts* were achieved with the objective that the concentrations and loadings of the materials named above in (Table 1) as effluent parameters were not exceeded in the effluent from the *Works*

INVENTORY

| Chemical | Annual Status | Units |
|-----------------|----------------------|--------------|
| Alum | 57 | Cubic meters |

MAINTENANCE

The operators performed the routine operations and maintenance at the treatment plant and pumping stations in accordance with the preventative maintenance program (report on file at plant). The activities are highlighted as follows:

MONTHLY

- Checked operations and performance of sewage pumps.

Treatment Plant:

- Changed oil on blower #1, #2 and #3

Pump Stations:

- Pumps tested

QUARTERLY

- N/A

SEMI-ANNUALLY

- Cleaned filters on blower #1, #2 and #3.

ANNUALLY

- Annual calibration of monitoring equipment – Flowmetrix Technical Services Inc.
- Annual calibration of flow meters – Flowmetrix Technical Services Inc.

OPERATIONAL ISSUES

N/A

BIOSOLID (SLUDGE) SUMMARY

The Glen Walter WPCP has a program in place for the removal of biosolids transferred from the Glen Walter W.P.C.P *Works to the Lancaster lagoons*; volume totaling 446 m³ for the fiscal year 2018. Joseph Romeo René Goulet (Certificate of Approval Hauler # A 920463) is contracted and hauled/transported 446 m³ to the Lancaster Lagoons for disposal.

The *Works* maintains haulage records for biosolids transferred from the Glen Walter WPCP to the Lancaster Lagoons; available upon request.

COMPLAINTS

No complaints were lodged in the fiscal year January 01 – December 31, 2018.

BY-PASS REPORT(S)

N/A

REPORTS

Appendix A – Lancaster Sewage Annual Performance Report 2018 (Attached)

Caduceon Environmental Laboratories Analytical Reports - (on-file at plant)

Lancaster Daily/Monthly Report Summary - (on-file at plant)

Lancaster Bypass Incident Report – (on-file at plant)

APPENDIX – A –
Lancaster Lagoons
2018

