

**THE CORPORATION OF THE MUNICIPALITY OF CHATHAM-KENT
CLEARVILLE PARK WASTEWATER TREATMENT PLANT**

2020 PERFORMANCE REPORT

January 1 to December 31, 2020

Amended Certificate of Approval # 7957-762JAZ

Plant Description

The Clearville Park Wastewater Treatment Plant provides treatment of wastewater for Clearville Park. Wastewater is collected by a separate sanitary sewer system and conveyed to two Waterloo Bio-filter treatment units. The treated wastewater is subsequently discharged to Clear Creek.

During April 2005, the PUC was contracted by the Municipal Parks and Recreation Department to operate the plant.

This tertiary wastewater treatment system has a rated capacity of 30 m³/ day, and services a seasonal campground.

The present treatment system consists of:

- Two septic tanks
- One bio-filter dosing tank and submersible pumps
- Two Waterloo Bio-filter treatment units
- UV disinfection

The effluent outfall pipe discharges to the Clear Creek.

REPORTING REQUIREMENTS UNDER CERTIFICATE OF APPROVAL # 7957-762JAZ

Summary and Interpretation of Monitoring and Comparison to the Effluent Limits & Objectives: Condition 9 (2) (a) (b)

Tables 1 and 2 on the following pages outlines monthly average results of parameters tested compared to the limits outlined in the Certificate of Approval Tables 3 – Effluent Objectives and Table 2 - Effluent Limits.

The following criteria exceeded the effluent limits outlined in the Certificate of Approval Table 2 Effluent Limits: None.

The following criteria exceeded the effluent objectives outlined in the Certificate of Approval Table 3 Effluent Objectives:

Total Phosphorus concentration: September and October.

Total Ammonia concentration: August and October.

Continuing optimization of chemical feed was practiced throughout the year with the goal of achieving effluent objectives.

Success and Adequacy of the Works

During the reporting period, the annual average daily flow was 9.03 m³/day, which represents approximately 30% of the rated capacity of 30 m³/day. The maximum daily flow was 37.0 m³/day, which is 123% of the rated capacity.

There were no flow exceedances based on the Average Daily Flow during this reporting period.

Overall, the Clearville Park Wastewater Treatment Plant performed well for this reporting period.

Table 1: Summary of Monitoring Data and Comparison to Effluent Limits & Objectives – Concentrations
as well as rated capacity to the sewage works

Plant Rated Capacity (m³/day): 30

Total flow during calendar year divided by the number of days during which sewage was flowing (measured on the effluent pipe discharging to the outfall)

Month	Total Monthly Flow m ³	Avg Daily Flow /Month m ³ /day	Avg Daily Flow /Year m ³ /day	% of Plant Capacity	CBOD ₅ mg/l	Total S.S. mg/l	Total Ammonia mg/l	Total P mg/l	pH	E.Coli /100ml CFU
Limits	None	None	30	100	15	15	5.0	0.7	6.0 – 9.5	200
Objectives	None	None	30	100	10	10	3.0	0.3	6.0 – 9.5	100
Jan										
Feb										
Mar										
Apr										
May										
Jun	465.3	15.5			5	1.75	1.26	0.22	8.03	10
Jul	266.6	8.6			2	1.75	1.32	0.22	8.00	10
Aug	172.1	5.6			2	2.20	3.20	0.20	7.99	10
Sept	237.4	7.9			2	1.75	2.91	0.34	8.04	10
Oct	68.5	2.5			3	3.00	4.20	0.43	8.24	10
Nov										
Dec										
Year			9.03	30%						
	Yearly Total Flow m ³	Yearly Maximums								
	1209.9	15.5			5	3.00	4.20	0.43	8.24	10

Table 2: Summary of Monitoring Data and Comparison to Effluent Limits – Loadings

Date	Avg Daily Effluent Flow /Month m³/day	CBOD₅ kg/day	Total S.S. kg/day	Total Ammonia kg/day	Total P kg/day
Limits	30	0.45	0.45	0.15	0.021
Jan					
Feb					
Mar					
Apr					
May					
Jun	15.5	0.07	0.03	0.02	0.003
Jul	8.6	0.02	0.02	0.01	0.002
Aug	5.6	0.01	0.01	0.018	0.001
Sep	7.9	0.02	0.01	0.023	0.003
Oct	2.5	0.008	0.01	0.011	0.001
Nov					
Dec					
		Yearly Maximums			
		0.07	0.03	0.02	0.003

**Summary of Maintenance Activities:
Condition 9 (2)(c)**

Routine maintenance was performed throughout the reporting period. Chatham-Kent PUC utilises an electronic preventative maintenance program to track preventative maintenance. In addition to the routine maintenance, the following additional maintenance activities and equipment replacement was completed for the reporting period:

No significant expenditures incurred for additional maintenance activities and equipment replacement during the reporting period.

**Operating Problems and Corrective Action:
Condition 9 (2)(d)**

There were no significant operating problems encountered during this reporting period.

Quality Assurance and Control Measures:

The Chatham-Kent Public Utilities Commission followed a sampling schedule developed in accordance with the Certificate of Approval and applicable regulations for this reporting period.

Composite chemistry samples of the effluent were collected using an auto sampler. Chemistry samples were submitted weekly to an accredited laboratory for analysis of CBOD₅, Total Suspended Solids, Total Kjeldhal Nitrogen, Total Phosphorus and Total Ammonia Nitrogen, Alkalinity, pH, Nitrite and Nitrate.

Bacteriological samples of the effluent were collected weekly according to the Sampling Program. Bacteriological samples were submitted weekly to an accredited laboratory for analysis.

Calibration and Maintenance on Effluent Monitoring Equipment

Monitoring equipment calibration/verification report(s) included for the following:

- Effluent flow meter

Community Complaints:

There were no Customer Complaints received during the reporting period.

By-pass, Spill, or Abnormal Discharge Events:

There were no by-pass, spill, or abnormal discharge events for the reporting period.

Other Information the District Manager Requires:

No other information was required from the District Manager during this reporting period.

APPENDIX A

Monthly and Yearly Operational Data Summary for the Reporting Period

APPENDIX B

Calibration Reports for the Reporting Period