

## **2017 Compliance Report for the Merlin Sewage Lagoons Public Utilities Commission for the Municipality of Chatham-Kent**

The Merlin Sewage Lagoons provide treatment of wastewater for the former Police Village of Merlin. Wastewater is collected by a separate sanitary sewer system and conveyed by one raw pump station to the Sewage Lagoons. The final effluent is subsequently discharged to the Foxton Drain.

Approval was received from the Ministry of the Environment in 1975 for construction of sanitary sewers, a force main, a sewage pumping station, and two waste stabilisation ponds.

According to a capacity assessment prepared by R. V. Anderson Associates Limited for the Municipality of Chatham-Kent, average daily flow of sewage into the treatment plant should not exceed 464m<sup>3</sup>/day.

The present treatment system consists of:

- One raw pumping station
- Two waste stabilisation cells
- Two effluent chambers

The effluent chambers discharge to the Foxton Drain.

### **C of A # 1-0192-69-753576**

The following Ministry Procedures / Guidelines apply:

Procedure F-5-1:	Minimum effluent limits BOD <sub>5</sub> , Suspended Solids
Guideline F-8:	Effluent limits Phosphorus
Procedure F-10-1:	Minimum monitoring program
Table C-1:	Monitoring, recording and reporting bypasses

### **Non-compliance issues in 2017:**

An exceedance of the average concentration effluent limit for Total Phosphorus occurred during the discharge period from April 24<sup>th</sup> to May 4<sup>th</sup>.

The Total Phosphorus Exceedance resulted from Staff discharging the incorrect Lagoon because the valves were not in the 'assumed' positions.

During a Debrief it was determined that inexperienced Staff made assumptions about valve positions that were not correct, and did not follow the sampling requirements. Staff have been trained on the enhanced written Discharge Procedure, including the Sampling Requirements.

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**Rated capacity: 464 m3/day**

**Total sewage flow to the works during a calendar year divided by the number of days during which sewage was flowing to the works that year**

Month	Total Monthly Flow m3	Average Daily Flow /Month m3/day	Avg Daily Flow/Year m3/day	% of Plant Capacity	BOD5 mg/L	Total S.S. mg/L	Total P mg/L
<b>Limits</b>	<b>None</b>	<b>None</b>	<b>464</b>	<b>100</b>	<b>25</b>	<b>25</b>	<b>1.0</b>
<b>Objectives</b>	<b>None</b>	<b>None</b>	<b>464</b>	<b>100</b>	<b>15</b>	<b>20</b>	<b>0.5 - 1.0</b>
<b>Jan</b>	4,115	133					
<b>Feb</b>	3,561	127					
<b>Mar</b>	4,332	140					
<b>Apr</b>	4,075	136					
<b>May</b>	5,181	167			2.7	9.0	2.6
<b>Jun</b>	3,172	106					
<b>Jul</b>	3,970	128					
<b>Aug</b>	2,903	97					
<b>Sept</b>	3,051	102					
<b>Oct</b>	3,246	105					
<b>Nov</b>	4,392	146					
<b>Dec</b>	3,177	102					
<b>Year</b>			124	27			
	<b>Yearly Total Flow m3</b>	<b>Yearly Maximums</b>					
	45,175	167			2.7	9.0	2.6