

MUNICIPALITY OF SOUTH HURON
Performance Assessment Report - Wastewater Treatment Plant

Project: Exeter Lagoons
Project Number:
Works Number: 110000221
Description:

Year: 2017
Receiver: Ausable River
Design Avg Day Flow(m3): 7051
Raw Flow Group Selected:
Effluent Group Selected:

Month	Flows				BioChemical O2 Demand				Suspended Solids				Phosphorus				Nitrogen Series				-<E.Coli -> Ave Eff Geo. Mean per 100ml
	Total Flow m3	Avg Day m3	Max Day m3	Effluent	Avg Raw BOD mg/L	Avg Eff CBOD mg/L	BOD Loading kg/d	Percent Removal	Avg Raw SS mg/L	Avg Eff SS mg/L	SS Loading kg/d	Percent Removal	Avg Raw Phos. mg/L	Avg Eff Phos. mg/L	Phos. Loading kg/d	Percent Removal	Avg Eff NH3+NH4 mg/L	NH3+NH4 Loading kg/d	Avg Eff Nitrate mg/L	Avg Eff Nitrite mg/L	
JAN	180,296	7,839	54,144		52.7				74.3				1.3								
FEB	128,584	4,592	8,781	203,524	116.3	7.5	69.38	94%	73.6	6.3	58.28	91%	2.7	0.24	2.22	91%	8.13	75.21	0.59	0.07	458.00
MAR	133,492	4,603	15,907		123.7				132.0				3.2								
APR	153,285	5,933	14,351	177,992	87.7	4.0	37.47	95%	68.3	2.0	18.74	97%	1.9	0.40	3.74	79%	0.13	1.21	5.75	0.06	2.88
MAY	170,583	5,502	21,312	207,662	60.3	4.0	26.79	93%	17.3	2.0	13.39	88%	0.5	0.28	1.87	44%	0.10	0.67	6.56	0.03	3.17
JUN	72,114	2,403	5,012	188,108	136.0	4.0	25.08	97%	99.0	2.0	12.54	98%	3.7	0.24	1.50	94%	0.10	0.62	4.97	0.03	6.07
JUL	59,913	1,932	9,168	214,983	98.6	4.0	27.74	96%	42.7	2.5	17.33	94%	1.9	0.28	2.01	85%	0.10	0.69	2.52	0.03	2.63
AUG	51,600	1,664	2,718	243,450	221.3	4.0	31.41	98%	211.6	2.0	15.70	99%	5.6	0.27	2.12	95%	0.18	1.41	4.96	0.09	35.93
SEP	55,110	1,837	5,520	185,125	99.7	4.0	25.53	96%	97.3	2.0	12.34	98%	3.4	0.25	1.54	93%	0.58	3.58	2.59	0.09	44.60
OCT	60,791	1,961	3,797		48.0				42.3				1.6								
NOV	114,499	3,816	9,414		130.3				285.7				3.8								
DEC	84,694	2,732	6,206		71.7				46.7				2.2								
Total Annual:	1,264,961	44,814	156,330	1,420,844	1,246.3	31.5	243.40		1,190.8	18.8	148.32		31.80	1.96	15.00		9.32	83.39	28	0.40	553.28
AVG:	105,413	3,735	13,028	202,978	103.86	4.5	34.77	96%	99.2	2.7	21.18	95%	2.65	0.28	2.14	93%	1.33	11.91	3.99	0.06	79.04
MAX:	180,296	7,839	54,144	243,450	221.3	7.5	69.28	98%	285.7	6.3	58.28	99%	5.6	0.40	3.74	95%	8.13	75.21	6.56	0.09	458.00
Criteria:																					

NOTE:

- ECA Limit Exceedance Reported to MOECC**
- Winter Discharge from Feb 1 - Feb 22 2017**
- Summer Discharge From April 11 - Sept 29 2017**
- No Effluent discharge from WWTP**

LEGEND:

- Raw = Untreated raw sewage entering the lagoon
- Total Flow = Total sewage flow in any given month
- Avg Day = Total monthly sewage flow divided by the number of days in the month.
- Max. Day = Maximum sewage flow on any given day during the month.
- Effluent = Treated sewage discharged from the lagoon
- CBOD = Carbonaceous Biochemical Oxygen Demand is the amount of dissolved oxygen needed by aerobic biological organisms in wastewater, necessary to break down organic material.
- Loading = Loading is the contribution of each wastewater constituent measured in units of mass per time (kg/day) and may be calculated as the product of flow times concentration.
- SS = Suspended Solids is the total small particulate matter which remains in suspension in sewage.
- Phos. = Phosphorus is an allotropic nonmetallic element occurring in phosphates and living matter. It is an essential constituent of protoplasm and is commonly used in fertilizers.
- NH3 = Ammonia (NH3) is a compound of nitrogen and hydrogen.
- NH4 = Ammonium (NH4) is derived from ammonia and found in a wide variety of organic and inorganic compounds.
- Nitrate = Nitrate (NO3) is a nitrogen-oxygen chemical unit which combine with various organic and inorganic compounds. The most common use is for plant fertilizer.
- Nitrite = Nitrite (NO2) is a nitrogen-oxygen chemical unit which combine with various organic and inorganic compounds. Once taken into the body, nitrites are converted to nitrites.
- E.Coli = Escherichia coli. A bacterium that is commonly found in the lower intestine of warm-blooded organisms. Most are harmless but some strains can cause serious illness.
- Geo. Mean = Geometric mean is a type of mean or average, which indicates the central tendency or typical value of a set of numbers by using the product of their values (as opposed to the Arithmetic mean which uses their sum).
- mg/L = milligrams per litre
- kg/d = kilograms per day