MUNICIPALITY OF SOUTH HURON

Performance Assessment Report - Wastewater Treatment Plant

Year: 2021

Project: Exeter Lagoons

Receiver: Ausable River

Project Number:

Design Avg Day Flow(m3): 7051

Works Number: 110000221

Raw Flow Group Selected:

Description:

Effluent Group Selected:

	<<<--- Flows --- <----------Raw---------->			--->>>	<<<--- BioChemical 02 Demand --->>>				<<<--- Suspended Solids --- >>>				<<<--- Phosphorus --- >>>				<<<--- Nitrogen Series --- >>>					<-E.Coli ->
MAR	Total Flow m3	Avg Day m3	Max Day m3	Final Effluent m3	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 Un-ion NH3 mg/L	Avg Eff Nitrate mg/L	Avg Eff Nitrite mg/L	Ave Eff Geo. Mean per 100ml
JAN	71,761	2,314	2,773	212,845	156.0	11.0	180.09	93%	123.0	13.0	212.84	89%	1.6	0.28	4.58	83%	7.5	122.79	0.070	0.25	0.03	532.91
FEB	54,481	1,945	4,264		146.0				156.0				3.3									
MAR	136,872	4,415	7,005		124.0				77.0				2.6									
APR	86,820	2,894	4,994		151.0				85.0				3.7									
MAY	61,863	1,995	2,507		40.0				33.0				1.3									
JUN	62,287	2,076	5,834	129,028	284.0	2.0	17.20	99%	150.0	2.2	18.92	98%	4.4	0.19	1.63	95%	0.12	1.03	0.002	6.63	0.04	51.65
JUL	90,390	2,915	8,819	233,774	111.0	2.0	15.08	98%	72.0	2.0	15.08	97%	2.7	0.16	1.20	94%	0.12	0.90	0.002	5.88	0.03	23.80
AUG	73,436	2,368	4,602	141,645	121.0	2.0	10.49	98%	136.0	2.0	10.49	98%	3.9	0.16	0.83	96%	0.14	0.73	0.002	4.78	0.03	15.80
SEP	167,732	5,591	20,753		136.0				75.0				1.7									
OCT	138,682	4,473	10,666		74.0				92.0				0.6									
NOV	137,144	4,571	6,503		75.0				68.0				1.4									
DEC	135,474	4,370	7,719	207,267	43.0	7.5	70.65	83%	35.0	16.2	152.62	54%	1.2	0.23	2.16	81%	4.45	41.92	0.082	1.64	0.19	106.53
Total Annual:	1,216,942			924,559																		
Summer Avg	75,371	2,453	6,418	168,149	172.0	2.0	14.26	98%	119.0	2.1	14.83	98%	3.6	0.17	1.22	95%	0.13	0.88	0.002	5.76	0.03	30.41
Winter Avg	103,617	3,342	5,246	210,056	99.5	9.3	125.37	88%	79.0	14.6	182.73	72%	1.4	0.26	3.37	82%	5.97	82.36	0.076	0.95	0.11	319.72
MAX:	167,732	5,591	20,753	233,774	284.0	11.0	180.09	99%	156.0	16.2	212.84	98%	4.4	0.28	4.58	96%	7.5	122.79	0.0822	6.63	0.19	532.91

NOTE:

ECA Limit Exceedance Reported to MECP

Winter Discharge from WWTP : Dec 1 - Mar 31

Summer Discharge From WWTP : Apr 1 - Nov 30

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 0xygen 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, nitrates 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