Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Espanola Hub
148 Fleming St, Suite 5
Espanola, ON P5E 1R8

Tel: 705 869 5578
Fax: 705-869-4374
www.ocwa.com

March 3, 2024

Alton Hobbs, Chief Administrative Officer
The Corporation of the Township of Assiginack
156 Arthur St. P.O. Box 238
Manitowaning, Ontario
P0P 1N0

Re: Manitowaning Lagoon 2024 Annual Report

Dear Mr. Hobbs,

Attached is the 2024 Annual Report for the Manitowaning Lagoon. This report was prepared using the information we have in our records in accordance with the Certificate of Approval.

As per Section 10(6) of the C of A, a copy of the report has been submitted to the Ministry of the Environment for their records.

If you have any questions or concerns please do not hesitate to reach out.

Sincerely,

Keith Stringer
Senior Operations Manager
Ontario Clean Water Agency
(705)626-5557

Manitowaning Lagoons

Annual Operating Report

ECA 4826-9ALL3Q Issued August 30, 2013

January 1, 2024 – December 31, 2024

Prepared by the Ontario Clean Water Agency
For Corporation of the Township of Assiginack

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

SECTION 1: INTRODUCTION

The Ontario Clean Water Agency (OCWA) acts as the operating authority for the Manitowaning wastewater treatment. This document is prepared by OCWA in accordance with Environmental Compliance Approval (ECA) #4826-9ALL3Q. The report is required to include the following information:

(a) A summary of all monitoring data, including an overview of the success and adequacy of the works;
(b) A description of any operating problems encountered and corrective actions taken;
(c) A summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the works;
(d) A description of efforts made and results achieved in meeting the effluent objectives of condition no.6;
(e) A summary of any complaints received during the reporting period and any steps taken to address the complaints;
(f) A summary of all bypass, spill or abnormal discharge events

SECTION 2: Description of Facility

Capacity of Facility:	495 m^3/d
Service Area:	Manitowaning
Service Population:	
Effluent Receiver:	Manitowaning Bay
Major Process:	Continuous Discharge Lagoons – 2 cells
Facility Classification:	Wastewater Treatment Class 1
Collection Classification:	

SECTION 3: Executive Summary

The Manitowaning Lagoon is a continuous flow-through lagoon. Three proprietary baffle walls are utilized to extend retention time to provide effective treatment. Nine floating mechanical aerators are also located in the lagoon

The total raw sewage flow into the lagoons for the year was calculated to be 114,783m^3.

The total effluent discharge from the lagoons for the year was 80,516m^3.

The sampling parameters for TP and CBOD **were exceeded** during the 2024 reporting period.

SECTION 4: Process Data

The facility operator collects grab samples of raw sewage and sends them to an accredited laboratory for analysis. Raw flows are calculated using a weir type flow meter.

Raw (Influent) Sampling					
Parameter	Frequency	Method	Results		
			Min	Avg	Max
$CBOD_5$ (mg/L)	Monthly	Grab – External Analysis (Lab)	51	195.08	434
TSS (mg/L)	Monthly	Grab – External Analysis (Lab)	65	345.83	1590
TP (mg/L)	Monthly	Grab – External Analysis (Lab)	1.2	4.61	20.60
Flow (m^3/d)	Daily	Engineered Calculation – Weir Flow Meter	177	313.61	789

The facility operator collects effluent samples and sends them to an accredited laboratory for analysis each month. A V-Notch flow meter measures effluent flows from the lagoon.

Treated (Effluent) Sampling		
Parameter	Frequency	Method
$CBOD_5$	Monthly	Grab – External Analysis (Lab)
TSS	Monthly	Grab – External Analysis (Lab)
TP	Twice Per Month	Grab – External Analysis (Lab)
TAN	Monthly	Grab – External Analysis (Lab)
TKN	Monthly	Grab – External Analysis (Lab)
Nitrate	Monthly	Grab – External Analysis (Lab)
Nitrite	Monthly	Grab – External Analysis (Lab)
E.coli	Monthly	Grab – External Analysis (Lab)
Flow	Daily During Discharge	V-Notch Flow Meter

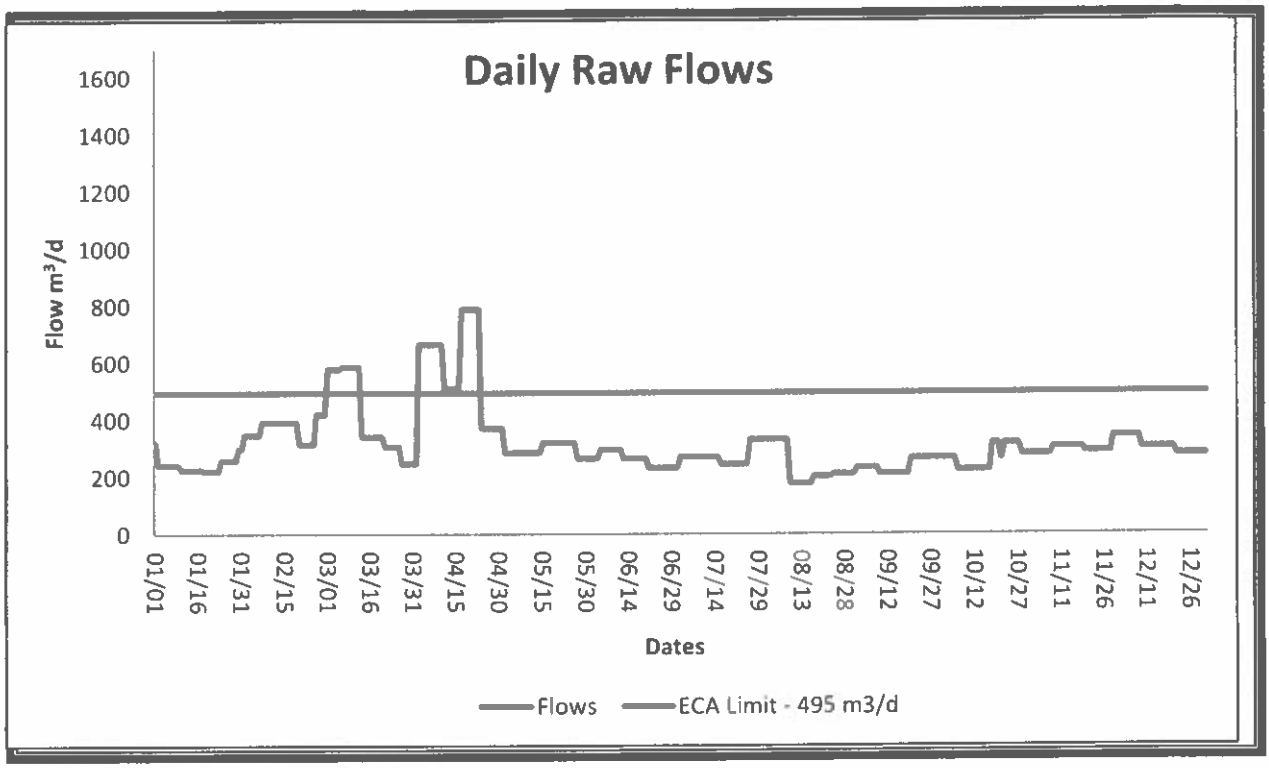
Compliance limits are based on **monthly** averages for effluent concentrations.

Only those monitoring results collected during the corresponding time period shall be used in calculating the seasonal average concentration. In addition, the discharge must be essentially free of floating and settleable solids and cannot contain oil or other substances in amounts sufficient to create a visible film or sheen or foam or discoloration on the receiving waters.

Treated (Effluent Discharge) Sampling											
Month	CBOD Avg	TSS Avg	TP Avg	pH			TAN Avg	TKN Avg	Nitrate Avg	Nitrite Avg	*E.coli Avg
	mg/L	mg/L	mg/L	Min	Avg	Max	mg/L	mg/L	mg/L	mg/L	(CFU/100mL)
January	4	6	0.06	7.38	7.78	8.17	2.30	3.20	0.77	0.05	46.00
February	4	8	0.08	7.73	8.00	8.26	4.10	6.10	0.75	0.03	22.00
March	15	19	0.11	8.30	8.36	8.42	2.80	4.50	0.79	0.03	58.00
April	12	16	0.11	7.88	8.08	8.27	0.40	2.40	0.90	0.03	42.00
May	4	24	0.29	8.39	9.20	9.79	0.20	1.10	0.28	0.06	2.00
June	4	21	0.84	7.34	7.34	7.34	0.20	1.20	0.06	0.03	8.00
July			1.25	8.18	8.18	8.18					
August											
September											
October											
November	38	8	0.13	7.86	7.99	8.15	0.30	0.90	0.66	0.03	132.00
December	4	3	0.06	7.79	7.93	8.06	0.30	1.20	2.53	0.05	204.00
Max	38	24	1.25			9.79	4.10	6.10	2.53	0.06	204
Average	9.89	14.3	0.23		8.19		1.2	2.41	0.78	0.04	64.25
Min	4	3	0.06	7.34			0.20	0.9	0.06	0.03	2
ECA Limit	30	40	1.0								
ECA Objective	25	30	1.0	6.0 – 9.5 at all times							

* E.coli average is calculated as a geometric mean

Flow Volumes				
Month	Total Volume (m^3)	Avg Daily Flow (m^3/d)	Peak Daily Flow (m^3/d)	Effluent Volumes (m^3)
January	7,542.00	243.29	320.00	5,666.00
February	10,750.00	370.69	419.00	7,315.00
March	12,805.00	413.06	586.00	10,228.00
April	17,422.00	580.73	789.00	15,288.00
May	9,249.00	298.35	372.00	6,837.00
June	7,849.00	261.63	296.00	4,123.00
July	8,431.00	271.97	330.00	4,670.00
August	7,151.00	230.68	330.00	438.00
September	7,100.00	236.67	266.00	1,339.00
October	8,249.00	266.10	318.00	8,458.00
November	8,848.00	294.93	341.00	6,362.00
December	9,387.00	302.81	341.00	7,820.00
Total	114,783			78,544
Average		313.61		
Maximum			789.00	



Year	Total Raw Sewage Flow m^3/d	Avg Day Sewage Flow m^3/d	Max Day Sewage Flow m^3/d	Avg Day % of rated capacity 495 m^3/d
2024	114,783	313.61	789	64%
2023	119,654	328.72	751	66%
2022	106,209	290.98	680	59%
2021	96,021	263.1	542	53%
2020	110,574	302.11	1,268	61%

The annual average flows measured into the sewage lagoon did not exceed the specified rated capacity of the facility.

The average raw daily sewage flows (313.61 m^3/d) were approximately 64% of the rated capacity. The highest recorded peak flow occurred in April (789 m^3/d) and was approximately 159% of the average rated capacity. Peak flows observed throughout March and April flows are attributed to the spring freshet and infiltration.

The total raw sewage flow into the lagoons for the year was calculated to be 114,783m^3.

In an effort to meet compliance and objective limits, aeration and ferric injection are components of the process.

The calculated monthly average of TP for the month of July was 1.25 mg/L which exceeded the ECA TP monthly average concentration limit of 1.00 mg/l. This exceedance was the result of a single TP sample on July 11, 2024. We normally take two samples per month, which are used to calculate the monthly average as required by the ECA, however the operator indicated that when he went to take the 2nd sample there was no effluent flow and he was unable to complete the sampling.

The November monthly average concentration of CBOD was 38 mg/L, which exceeds the ECA limit of 30 mg/L. The cause of the exceedance is unknown. We will continue to monitor sample results as they come in.

All other compliance limits were met in 2024.

The total effluent discharge from the lagoons for the year was 78,544m3.

The operator did not observe a visible film, sheen, foam or discoloration on the receiving waters nor did he notice floating or settleable solids at any time during discharge of the lagoons.

Based on the above monitoring program and sampling records, the sewage works provided adequate treatment within the required average daily flows while providing a quality effluent.

SECTION 5: Facility Upsets & Non Compliances

The operating authority has submitted the following non compliances to the MECP applicable to this reporting year:

June – Missed Effluent TP Sampling - While completing a review of this facility's sampling we became aware that we only took one set of effluent samples for this facility during the month of June 2024. Based on the sample results we have on file it appears that the operator sampled on May 30, 2024 and then got off track with the sampling schedule for this facility and did not sample again until June 28, 2024. As a result, we do not have two effluent TP samples for the month of June 2024 as required by this facility's ECA. Staffing shortages are a contributing factor and discussions have taken place with the operator regarding the necessity to modify the facility's sampling plan/dates to meet the ECA requirements when samples are taken off schedule.

July – Missed Effluent CBOD, TSS, TAN, TKN, NO2, NO3, E.Coli Sampling - While completing a review of this facility's sampling we became aware that we did not sample for effluent CBOD, TSS, TAN, TKN, NO2, NO3, or E.Coli during the month of July 2024 as required by this facilities ECA. Based on the sample results we have on file it appears that the operator got off track with his sampling schedule and sampled these parameters late in June on June 28, 2024. The next set of effluent samples were taken on July 11, 2024. These parameters were not sampled at that time, as the time between samples would not have met the required minimum 20 days for monthly samples. The operator sampled again on July 26th but on that date was only able to take raw samples as there was no effluent flow. Staffing shortages were a contributing factor and discussions have taken place with the operator regarding the necessity to modify the facility's sampling plan/dates to meet the ECA requirements when samples are taken off schedule.

August, September & October – Missed Effluent CBOD, TSS, TAN, TKN, NO2, NO3, E.Coli Sampling - While completing a review of this facility's sampling we became aware that we did not sample for effluent CBOD, TSS, TAN, TKN, NO2, NO3, or E.Coli during the months of August, September, or October 2024 as required by this facilities ECA. The lack of sampling was a result of there being little to no effluent flow on the days when the operator attended the lagoon. These conditions presented themselves as a result of operations lowering the level in the lagoon, and then for a period of time there was no flow, lack of rain prolonged this no flow period. Additional conversations have been held with the operator to emphasize the requirements of sampling the lagoon when presented with abnormal flow conditions.

The calculated monthly average of TP for the month of July was 1.25 mg/L which exceeded ECA TP monthly average concentration limit of 1.00 mg/l. This exceedance was the result of a single TP sample on July 11, 2024. We normally take two samples per month, which are used to calculate the monthly average as required by the ECA, however the operator indicated that when he went to take the 2nd sample there was no effluent flow and he was unable to complete the sampling.

The November monthly average concentration of CBOD was 38 mg/L, which exceeds the ECA limit of 30 mg/L. The cause of the exceedance is unknown. We will continue to monitor sample results as they come in.

All other compliance limits were met in 2024.

SECTION 6: Maintenance

Plant maintenance is monitored using a Work Management System (WMS). Maintenance reports are attached as Appendix A. Major maintenance is listed in the table below.

Work Order	Completion Date	Comment
4195036	18-Oct-24	Sewage Pump Control/PLC Troubleshooting and Repair – $1,245.65

A flow meter measures raw flows; the raw flow meter was calibrated on June 4, 2024. A V-Notch flow meter measures effluent flows from the lagoon. The flow meter was calibrated on June 4, 2024. Verification records are maintained on site and electronically on the OCWA Hub server.

SECTION 7: Complaints

There were no community complaints for the 2024 reporting period.

ment #	Amount	Date	Batch #	Employee ID	Employee Name	Status	Payment Method
4952		2025-02-24	02/24COMB	122	HOBBS, ALTON	OUTSTANDING	Cheque
4953		2025-02-24	02/24COMB	126	MacDONALD, DEBORAH	OUTSTANDING	Cheque
4954		2025-02-24	02/24COMB	133	BOND, FREDA	OUTSTANDING	Cheque
4955		2025-02-24	02/24COMB	222	ELLIOTT, DWAYNE	OUTSTANDING	Cheque
4956		2025-02-24	02/24COMB	378	MILLETTE, SHELBA	OUTSTANDING	Cheque
4957		2025-02-24	02/24COMB	506	MCCARVILLE, MADISON	OUTSTANDING	Cheque
4958		2025-02-24	02/24COMB	507	GAMMIE, DONNA	OUTSTANDING	Cheque
4		2025-02-24	02/24COMB	118	COOPER, RONALD	OUTSTANDING	Direct Deposit
5		2025-02-24	02/24COMB	168	STRONG, GERRY	OUTSTANDING	Direct Deposit
6		2025-02-24	02/24COMB	216	REID, BRENDA	OUTSTANDING	Direct Deposit
7		2025-02-24	02/24COMB	221	MAGUIRE, ROBERT	OUTSTANDING	Direct Deposit
8		2025-02-24	02/24COMB	223	BOWERMAN, JANICE	OUTSTANDING	Direct Deposit
9		2025-02-24	02/24COMB	224	HOOPER, JENNIFER	OUTSTANDING	Direct Deposit
0		2025-02-24	02/24COMB	323	WHITE, JACQUELINE	OUTSTANDING	Direct Deposit
1		2025-02-24	02/24COMB	365	BOWERMAN, COLE	OUTSTANDING	Direct Deposit
2		2025-02-24	02/24COMB	370	LENTIR, CRYSTAL	OUTSTANDING	Direct Deposit
3		2025-02-24	02/24COMB	386	NEWMAN, PERRY	OUTSTANDING	Direct Deposit
4		2025-02-24	02/24COMB	390	GERHARD, KARI	OUTSTANDING	Direct Deposit
5		2025-02-24	02/24COMB	391	GAMMIE, MURRAY	OUTSTANDING	Direct Deposit
6		2025-02-24	02/24COMB	394	RZADKIEWICZ, RHEAL	OUTSTANDING	Direct Deposit
7		2025-02-24	02/24COMB	399	MASTELKO, JOHN	OUTSTANDING	Direct Deposit
8		2025-02-24	02/24COMB	508	Carr, Stasia	OUTSTANDING	Direct Deposit
9		2025-02-24	02/24COMB	509	GERHARD, ANDREW	OUTSTANDING	Direct Deposit
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Total :	$25,641.81						