



— Township of —  
**SEVERN**

Wastewater Treatment and Collection System

# **Washago Lagoon**

## **2024 Annual Report**

# Table of Contents

<b>Executive Summary .....</b>	<b>4</b>
<b>Introduction.....</b>	<b>4</b>
<b>Facility Technical Information .....</b>	<b>4</b>
<b>Performance Criteria.....</b>	<b>5</b>
<b>Monitoring and Treatment Protocol .....</b>	<b>6</b>
<b>Raw Sewage Monitoring.....</b>	<b>6</b>
<b>Sewage Flow Monitoring .....</b>	<b>6</b>
<b>Treatment and Sampling Protocol.....</b>	<b>7</b>
<b>Treatment / Discharge .....</b>	<b>8</b>
<b>Spring Discharge.....</b>	<b>8</b>
<b>Fall Discharge.....</b>	<b>10</b>
<b>Efforts and Results in Meeting Effluent Objectives of Certificate of Approval .....</b>	<b>12</b>
<b>2024 Operating Year Summary .....</b>	<b>12</b>
<b>Conclusions and Recommendations.....</b>	<b>12</b>
<b>Appendix A.....</b>	<b>13</b>
<b>    Certificate of Approval .....</b>	<b>13</b>

<b>Appendix B .....</b>	<b>14</b>
<b>Municipality Monitoring Program Mechanical Plants Forms.....</b>	<b>14</b>
<b>Appendix C .....</b>	<b>15</b>
<b>Sewage Pump Station Draw Down Tests.....</b>	<b>15</b>
<b>Appendix D.....</b>	<b>16</b>
<b>Laboratory Analysis Reports .....</b>	<b>16</b>

# Executive Summary

Washago utilizes a dual-cell facultative lagoon system for sewage treatment. The effluent quality is monitored before, during and after treatment to verify compliance with the Ministry of the Environment, Conservation and Parks (MECP) Certificate of Approval (C of A). Only Cell No. 1 is equipped to discharge into the Green River. Cell No. 2 is used for the retention of incoming sewage while Cell No. 1 is for discharging. River samples are taken before and during discharge to monitor the effects of the discharge on water quality.

Cell No. 1 was discharged in the spring and the fall of 2024. The mean concentrations and total loadings of all parameters were below their respective C of A compliance limits.

There was no impact on the quality of the Green River due to the spring and fall discharges. The total volume of effluent discharged was 51,897 m<sup>3</sup> - approximately 63% of the facility's operating capacity of 81,900 m<sup>3</sup>/year.

No bypass occurred during the 2024 operating year.

## Introduction

Washago is situated approximately 20 km north of Orillia near the intersection of Highway No. 11 and County Road No. 169. The lagoon is located approximately 1.5 km northwest of the village core. Treated effluent from the facility is discharged to the Green River.

## Facility Technical Information

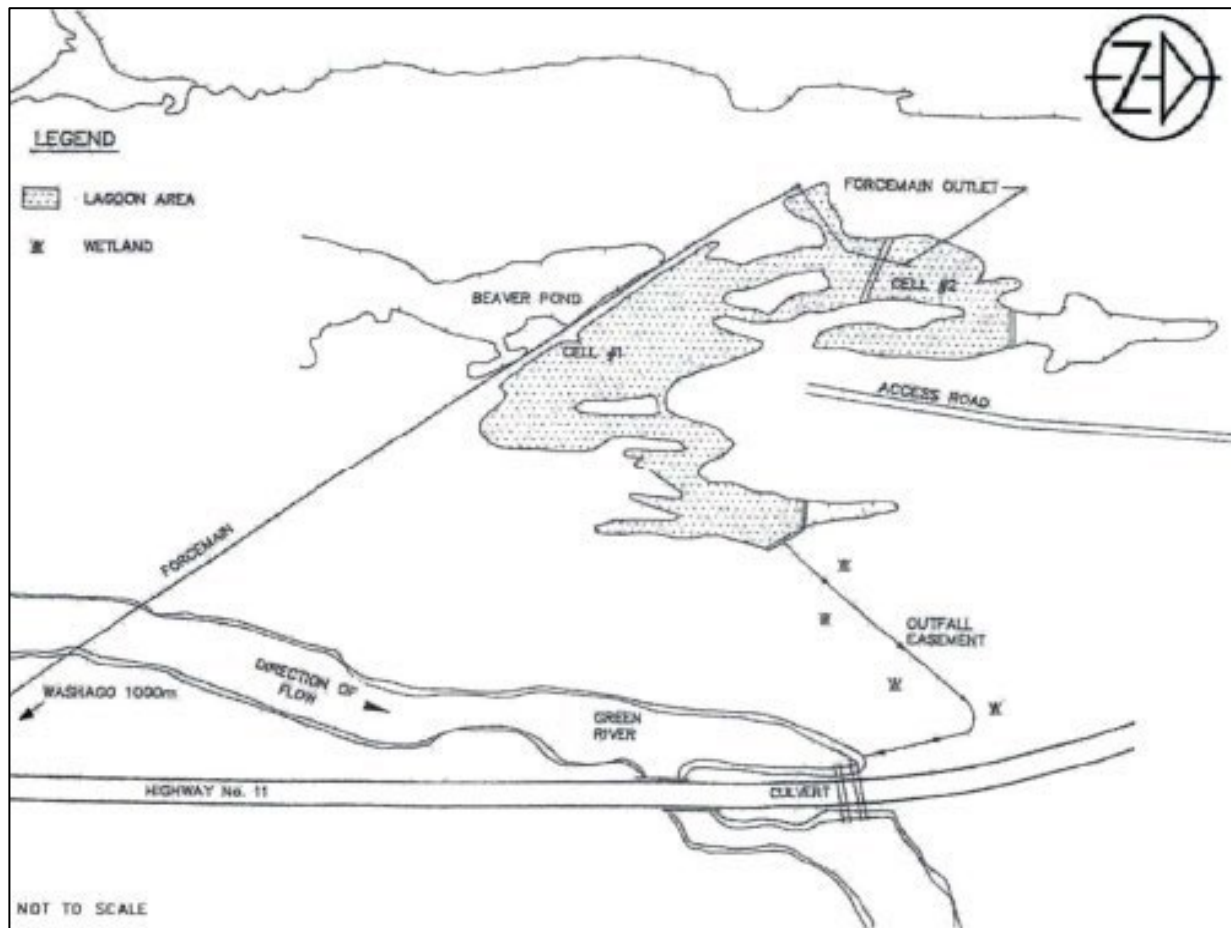
The lagoon is operated under C of A No. 3-1081-83-006. A copy of the C of A is enclosed in Appendix A.

The lagoon consists of two cells operated in series. Sewage is pumped from the main pumping station in Washago into Cell No. 2. Sewage then flows into Cell No. 1 through a valved transfer pipe located in the berm separating the cells.

Storage and treatment of raw sewage are provided in Cell No. 2 during the treatment of Cell No.1. Cell No. 1 discharges to the Green River via an outfall that runs through the adjacent wetland. According to the C of A, the seasonal operating capacity of the facility is 40,950 m<sup>3</sup> based on an average day flow of 227.5 m<sup>3</sup>/day over 180 days. The configuration of the lagoon and outfall easement are shown on Figure 1.



Figure 1: Sewage Treatment Facility Site Plan



## Performance Criteria

The C of A objective and compliance limits for effluent quality and the waste loading limits are summarized in Table 1.

Table 1: Performance Criteria

Parameter	Objective Limits Concentration (mg/L)	Objective Limits Semi-Annual Loading (kg)	Compliance Limits Concentration (mg/L)	Compliance Limits Semi-Annual Loading (kg)
BOD <sub>5</sub>	15	614	25	1024
TSS	20	815	25	1024
P <sub>t</sub>	1	41	1	41

## Monitoring and Treatment Protocol

Raw sewage samples were collected from Washago Sewage Pumping Station #1 monthly and analyzed for TSS, BOD<sub>5</sub>, P<sub>t</sub> and TKN. Results of the analysis are shown on the Municipality Monitoring Program Mechanical Plants forms enclosed in Appendix B and summarized in Table 2.

### Raw Sewage Monitoring

*Table 2: Raw Sewage Monitoring Results*

Date	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	P <sub>t</sub>	TKN (mg/L)
January 3, 2024	263	468	3.19	25.8
February 7, 2024	128	422	4.40	34.6
March 6, 2024	98	132	2.75	26.5
April 3, 2024	197	235	3.40	57.0
May 7, 2024	125	56	1.26	12.9
June 4, 2024	196	218	4.84	44.7
July 3, 2024	134	215	5.54	53.5
August 7, 2024	94	391	5.01	47.9
September 17, 2024	246	250	5.60	39.5
October 16, 2024	102	189	5.29	51.5
November 5, 2024	105	193	5.65	54.4
December 4, 2024	73	142	3.93	47.0

### Sewage Flow Monitoring

The volume of sewage pumped from Washago Sewage Pumping Station #1 to the lagoon is estimated monthly by multiplying the elapsed run time of each pump in the station by the capacity of the pump. Draw down tests are completed by Township staff in the spring and the fall to confirm pump capacity. Draw down test calculations are enclosed in Appendix C. Raw sewage flows are shown on the Municipality Monitoring Program Mechanical Plants forms enclosed in Appendix B.

Based on the influent volumes reported in the Municipal Utility Monitoring Report, the total estimated volume of sewage transferred to the lagoon during the December 11, 2023, to May 29, 2024, operating season was 22,471 m<sup>3</sup>. The total estimated volume of sewage transferred to the lagoon during the May 29, 2024, to December 5, 2024, operating season was 14,426 m<sup>3</sup>. The total volume of sewage transferred to the lagoon

during the winter and summer operating seasons was 36,897 m<sup>3</sup>. Sewage flows are summarized in Table 3 and 4.

*Table 3: Sewage Flow to Lagoon Summer Operating Season*

Date	Volume (m <sup>3</sup> )
December 11 to 31, 2023	3195
January 2024	3015
February 2024	3197
March 2024	4164
April 2024	5289
May 1 to May 29, 2024	3611
<b>Total</b>	<b>22,471</b>

*Table 4: Sewage Flow to Lagoon Winter Operating Season*

Date	Volume (m <sup>3</sup> )
May 29 to May 31, 2024	248
June 2024	2407
July 2024	2672
August 2024	2174
September 2024	1870
October 2024	2240
November 2024	2100
December 1 to December 5, 2024	715
<b>Total</b>	<b>14,426</b>

## Treatment and Sampling Protocol

Final treatment of the sewage begins by isolating Cell No. 1 for a period of approximately 30 days. depending on operational constraints. During this period, all sewage received at the lagoon is retained in Cell No. 2. To ensure adequate storage volume in Cell No. 2 during the treatment period, the operator transfers as much of the volume of Cell No. 2 to Cell No. 1 by pump.

During the treatment period, composite samples are collected to determine the quality

of the effluent. If the effluent quality is below the C of A compliance limits, the cell is discharged without further treatment. If treatment is required, it is accomplished by batch chemical treatment with liquid aluminum sulphate (alum). Alum is added to the lagoon contents to initiate precipitation of the suspended matter. Although the treatment is essential to reduce  $P_t$  levels, a significant reduction of  $BOD_5$  and TSS is also achieved. The addition of liquid alum is carried out using the procedure outlined and recommended by the MECP in a technical report issued January 16, 1974.

Pre- and post-treatment samples are obtained from representative locations in Cell No. 1 and analyzed for  $BOD_5$ ,  $P_t$ , TSS, pH, TA, TKN and Alkalinity. Discharge samples are collected from the downstream end of the Cell No. 1 discharge pipe and analyzed for the same parameters.

Grab samples are obtained from the Green River, upstream and downstream of the lagoon discharge point to monitor impacts of the discharge on the river. Samples are analyzed for  $BOD_5$ ,  $P_t$ , TSS, pH, TA, TKN and Alkalinity.

Laboratory analysis reports for effluent and river samples are enclosed in Appendix D.

## Treatment / Discharge

### Spring Discharge

Three pre-discharge samples were taken from Cell No.1 for the spring discharge and three more during discharge to confirm effluent quality. The concentrations of  $P_t$ , TSS and  $BOD_5$  reported in the pre-discharge samples were below the compliance limit. Based on the results of the pre-discharge samples, the discharge of Cell No. 1 commenced without batch chemical treatment. Results of the analysis are outlined in Table 5.

*Table 5: Pre-Discharge Sampling – Spring Discharge*

	Date	TSS (mg/L)	$BOD_5$ (mg/L)	$P_t$ (mg/L)
Sample 1	April 22, 2024	3	<4	0.15
Sample 2	April 29, 2024	<2	<4	0.12
Sample 3	May 7, 2024	<2	<4	0.16
C of A Objective		20	15	1
C of A Compliance		25	25	1

The spring discharge commenced on May 21, 2024. The total volume of effluent discharged was 22,471 m<sup>3</sup> at a mean discharge rate of 2723 m<sup>3</sup>/day. During the discharge, the mean concentrations of TSS, BOD<sub>5</sub> and P<sub>t</sub> were below compliance limits. A summary of the effluent quality and waste loadings is illustrated in Table 6.

*Table 6: Effluent Discharge Summary – Spring Discharge*

	<b>Date</b>	<b>TSS (mg/L)</b>	<b>BOD<sub>5</sub> (mg/L)</b>	<b>P<sub>t</sub> (mg/L)</b>
Start Discharge	May 21, 2024	2	<4	0.20
Mid Discharge	May 23, 2024	3	<4	0.23
Mid Discharge	May 27, 2024	3	4	0.20
End Discharge	May 29, 2024	2	<4	0.21
Mean Concentration		2.5	4.0	0.21
C of A Objective		20	15	1
C of A Compliance		25	25	1
Effluent Waste Loading(kg)		56	90	4.71

Samples were obtained from the Green River, upstream and downstream of the lagoon discharge point, at the start, middle and end of the discharge. Results of the analysis are illustrated in Table 7. Analysis of the receiving stream samples showed no impact on the Green River due to the discharge of Cell No.1.

*Table 7: Green River Monitoring – Spring Discharge*

	<b>Date</b>	<b>TSS (mg/L)</b>	<b>BOD<sub>5</sub> (mg/L)</b>	<b>P<sub>t</sub> (mg/L)</b>
Start Discharge	May 21, 2024			
Upstream		3	<4	< 0.03
Downstream		2	< 4	< 0.03
Mid Discharge	May 23, 2024			
Upstream		7	< 4	< 0.03
Downstream		3	< 4	< 0.03
Mid Discharge	May 27, 2024			

	Date	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	P <sub>t</sub> (mg/L)
Upstream	May 29, 2024	4	< 4	<0.03
Downstream		2	< 4	< 0.03
End Discharge				
Upstream		<2	<4	<0.03
Downstream		<2	<4	<0.03

## Fall Discharge

Three pre-discharge samples were taken from Cell No. 1 to confirm effluent quality prior to the fall discharge. All parameters were below the C of A compliance limits. Based on these results, the discharge of Cell No. 1 commenced without batch chemical treatment. Results of the analysis are illustrated in Table 8.

*Table 8: Pre-Discharge Sampling – Fall Discharge*

	Date	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	P <sub>t</sub> (mg/L)
Sample 1	October 28, 2024	<2	6	0.16
Sample 2	November 4, 2024	6	8	0.08
Sample 3	November 11, 2024	8	9	0.13
C of A Objective		20	15	1
C of A Compliance		25	25	1

The discharge of Cell No. 1 commenced on November 25, 2024. The total volume of effluent discharged was 27,085 m<sup>3</sup> at a mean discharge rate of 2,708 m<sup>3</sup>/day.

During the discharge, the mean concentrations of TSS, BOD<sub>5</sub> and P<sub>t</sub> were below compliance limits. A summary of the effluent quality and waste loadings is illustrated in Table 9.

Table 9: Effluent Discharge Summary – Fall Discharge

	Date	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	P <sub>t</sub> (mg/L)
Start Discharge	November 25, 2024	9	12	0.11
Mid Discharge	November 28, 2024	2	<4	0.11
End Discharge	December 5, 2024	5	<4	0.18
Mean Concentration		5.3	6.6	0.13
C of A Objective		20	15	1
C of A Compliance		25	25	1
Effluent Waste loading(kg)		143	178	3.52

Samples were obtained from the Green River, upstream and downstream of the lagoon discharge point, at the start, middle and end of the discharge. Analysis of the receiving stream samples showed no impact on the Green River due to the discharge of Cell No. 1. The results of the analysis are illustrated in Table 10.

Table 10: Green River Monitoring – Fall Discharge

	Date	TSS (mg/L)	BOD <sub>5</sub> (mg/L)	P <sub>t</sub> (mg/L)
Start Discharge	Nov 25, 2024			
Upstream		<2	<4	< 0.03
Downstream		<2	< 4	< 0.03
Mid Discharge	Nov 28, 2024			
Upstream		<2	< 4	< 0.03
Downstream		<2	< 4	< 0.03
End Discharge	Dec. 5, 2024			
Upstream		4	< 4	<0.03
Downstream		<2	< 4	< 0.03

# Efforts and Results in Meeting Effluent Objectives of Certificate of Approval

The lagoon is operated and maintained such that all effluent quality objectives are strived for. Objectives and limits are based on an average. There were no limit exceedance during the 2024 discharges.

## 2024 Operating Year Summary

The volumes of influent received, and effluent discharged from the lagoon during the 2024 operating year are summarized in Table 11.

*Table 11: Influent and Discharge Volume Summary*

Total Influent Volume Sewage	36,897 m <sup>3</sup>
Total Effluent Discharged	49,556 m <sup>3</sup>
Precipitation Value	12,659 m <sup>3</sup>

The waste loadings during the 2024 operating year are summarized in Table 12.

*Table 12: Waste Loading Summary*

	Spring 2024 (kg)	Fall 2024 (kg)	Total Loading (kg)
TSS	56	143	199
BOD <sub>5</sub>	90	178	268
P <sub>t</sub>	0.21	3.52	3.73

## Conclusions and Recommendations

The performance of the Washago Sewage Treatment Works during the 2024 operating year had no objective or limit exceedance. To ensure that the seasonal operating capacity of the lagoon is not exceeded, the spring and fall discharges should continue to be scheduled as early in the spring and as late in the fall as a practical way to reduce the length of the winter operating season, when the volume of precipitation accumulation is the greatest and the rate of evaporation is the lowest.



# Appendix A

## Certificate of Approval



## Certificate of Approval (Sewage)



Whereas ..... TOWNSHIP OF ORILLIA .....

xx

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:-

the construction of sanitary sewerage works facilities to service the Community of Washago as follows:

### SANITARY SEWERS

<u>STREET</u>	<u>FROM</u>	<u>TO</u>
Quetton Street	Approx. 218 m South of Leith Street	Approx. 29 m North of Leith Street
Quetton Street	Orillia Street (Highway No. 69)	Hamilton Street
Muskoka Street	Approx. 235 m South of Rama Street	Approx. 303 m North of Ramsay Street
Mill Lane	Hamilton Street	Albany Street
Easement	Mill Lane	Approx. 129 m North of Edgar Street
Ramsay Street	Muskoka Street	Approx. 80 m West of Muskoka Street
Edgar Street	Muskoka Street	Approx. 75 m West of Muskoka Street
Edgar Street	Approx. 60 m East of Mill Lane (Easement)	Approx. 100 m East of Mill Lane (Easement)
Albany Street	Muskoka Street	Approx. 75 m West of Muskoka Street
Albany Street	Mill Lane	Approx. 34 m East of Mill Lane (Easement)

...2

**Now therefore** this is to certify that after due enquiry the said proposed works have been approved under Section 24 of the Ontario Water Resources Act.

DATED AT TORONTO this 8th day of December 19 82

Attn:-Mr. J.B. Mather, Clerk, Twp. of Orillia  
cc:-Mr. G. Mierzynski, MOE C. Reg. Dir.  
-Reid & Assoc. Ltd.  
-Mr. W.A.S. Marshall, Project Engrg.  
-Mr. N. Embree, MOE Barrie Office  
-Mr. J. Toth, Design & Equipment  
-Mr. W. Brink, Design & Equipment

.....  
Director



# Certificate of Approval (Sewage)

## Whereas

- 2 -

of

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:-

### SANITARY SEWERS (Cont'd)

<u>STREET</u>	<u>FROM</u>	<u>TO</u>
Orillia Street	Approx. 72 m North of Quetton Street	Muskoka Street
Rama Street	Muskoka Street	Approx. 51 m East of Muskoka Street
Easement	Muskoka Street	Quetton Street
<u>FORCEMAINS</u>		
Muskoka Street	Approx. 303 m North of Ramsay Street (Proposed Sewage Pumping Station No.3)	Ramsay Street
Albany Street	Approx. 103 m East of Muskoka Street (Proposed Sewage Pumping Station No.2)	Muskoka Street
Muskoka Street	Approx. 235 m South of Orillia Street (Proposed Sewage Pumping Station No.1)	Orillia Street
Orillia Street	Muskoka Street	Quetton Street
Quetton Street	Orillia Street	Hamilton Street (Easement)
Easement	Hamilton Street	Approx. 1700 m North and N.W. of Hamilton Street (Proposed Waste Stabilization Pond)

...3

**Now therefore** this is to certify that after due enquiry the said proposed works have been approved under Section 24 of the Ontario Water Resources Act.

DATED AT TORONTO this 8th day of December 19 82

  
Director





## Certificate of Approval (Sewage)

### Whereas

- 3 -

of

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:-

including building sewers from the main sewer to the street line, as shown on the drawing or as may be approved by the operating authority in the future together with three (3) sewage pumping stations as follows:

SEWAGE PUMPING STATION NO.1: to be located on the east side of Muskoka Street approximately 235 m south of Orillia Street and consisting of the construction of a submersible type raw sewage pumping station c/w the installation of two (2) 14.4 L/s @ 15.6 m T.D.H. submersible raw sewage pumps; an emergency forcemain by-pass; an emergency overflow to the Severn River and all necessary appurtenances and controls;

SEWAGE PUMPING STATION NO.2: to be located on the south side of Albany Street approximately 103 m east of Muskoka Street and consisting of a submersible type raw sewage pumping station c/w the installation of two (2) 6.28 L/s @ 8.3 m T.D.H. submersible raw sewage pumps; an emergency forcemain by-pass; an emergency overflow to the Severn River and all necessary appurtenances and controls;

SEWAGE PUMPING STATION NO.3: to be located on the west side of Muskoka Street approximately 303 m north of Ramsay Street and consisting of a submersible type raw sewage pumping station c/w the installation of two (2) 6.76 L/s @ 9.0 m T.D.H. submersible raw sewage pumps; an emergency forcemain by-pass; an emergency overflow sewer to an adjacent watercourse and all necessary appurtenances and controls,

all in accordance with the final plans and specifications prepared by Reid and Associates Limited, Consulting Engineers, at a total estimated cost, including land charges, engineering and contingencies, of NINE HUNDRED FORTY FOUR THOUSAND DOLLARS (\$944,000.00).

**Now therefore** this is to certify that after due enquiry the said proposed works have been approved under Section 24 of the Ontario Water Resources Act.

DATED AT TORONTO this

8th

day of

December

19 82

/ec



## Certificate of Approval (Water)

**Whereas** ..... TOWNSHIP OF ORILLIA .....

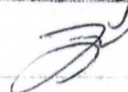
of

has applied in accordance with Section 23 of the Ontario Water Resources Act for approval of:-

the construction of watermains as follows:

<u>STREET</u>	<u>FROM</u>	<u>TO</u>
Quetton Street	Approx. 48 m South of Orillia Street	Orillia Street
Orillia Street	Quetton Street	Approx. 50 m East of Quetton Street (CNR Right-of-Way)
C.N.R. Right-of-Way	Orillia Street	Hamilton Street

including stub watermains and service connections from the distribution main to the street line, as shown on the drawings or as may be approved by the operating authority in the future, all in accordance with the final plans and specifications prepared by Reid and Associates Limited, Consulting Engineers, at a total estimated cost, including engineering and contingencies, of SEVENTEEN THOUSAND DOLLARS (\$17,000.00).

On May 31/83  


**Now therefore** this is to certify that after due enquiry the said proposed works have been approved under Section 23 of the Ontario Water Resources Act.

DATED AT TORONTO this 29th day of April 19 83

Attn:-Mr. J.B. Mather, Clerk, Twp. of Orillia

cc:-Mr. J. Ferguson, Road Supt.

-Mr. G. Mierzynski, MOE C. Reg. Dir.

-Reid & Assoc. Ltd.

-Mr. W.A.S. Marshall, Proj. Engrg.

-Mr. A.J. Forsyth, Proj. Engrg.

-Mr. J. Toth, Design & Equipment

-Mr. W. Brink, Design & Equipment

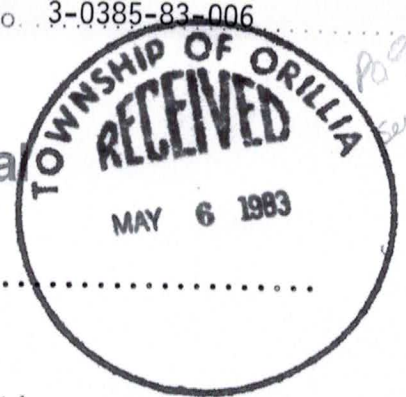
  
Director

MOE 0732 9/81





## Certificate of Approval (Sewage)



Whereas ..... TOWNSHIP OF ORILLIA .....

XX

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:-

the construction of sanitary sewage works facilities as follows:

### SANITARY SEWER

#### STREET

#### FROM

#### TO

C.N.R. Right-of-Way

Hamilton Street

Quetton Street

#### FORCEMAIN

C.N.R. Right-of-Way

Orillia Street

Hamilton Street

including service connections from the main sewer to the street line, as shown on the drawings or as may be approved by the operating authority in the future, all in accordance with the final plans and specifications prepared by Reid and Associates Limited, Consulting Engineers, at a total estimated cost, including engineering and contingencies, of THIRTY THREE THOUSAND EIGHT HUNDRED DOLLARS (\$33,800.00).

**Now therefore** this is to certify that after due enquiry the said proposed works have been approved under Section 24 of the Ontario Water Resources Act.

DATED AT TORONTO this

29th

day of

April

19 83

Attn:-Mr. J.B. Mather, Clerk, Twp. of Orillia

cc:-Mr. J. Ferguson, Road Supt.

-Mr. G. Mierzynski, MOE C. Reg. Dir.

-Reid & Assoc. Ltd.

-Mr. W.A.S. Marshall, Proj. Engrg.

-Mr. A.J. Forsyth, Proj. Engrg.

-Mr. J. Toth, Design & Equipment

-Mr. W. Brink, Design & Equipment

Director



Ministry  
of the  
Environment

Ministère  
de  
l'Environnement

**Certificate of Approval (Sewage)**  
**Certificat d'autorisation (eaux usées)**

Number / Numéro 3-1459-87-006

**Whereas / Attendu que** Hope-Smith Lands Limited

of / d Washago, Ontario

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:

*a fait, conformément à l'article 24 de la loi sur les ressources en eau de l'Ontario, une demande d'autorisation:*

Private sanitary pumping station and forcemain to service a commercial development located on Part of Lot 14 and all of Lots 15, 16, 17 & 18 in the Township of Orillia equipped with 2 submersible grinder pumps each rated at 1.9 l/s at a total dynamic head of 6.8m with float switch controls, associated valves, electrical equipment, interconnecting piping, a natural vent, a forcemain and appurtenances.

Street

From

To

Forcemain

Hamilton St.

Approx. 45m E of  
Cumberland St.

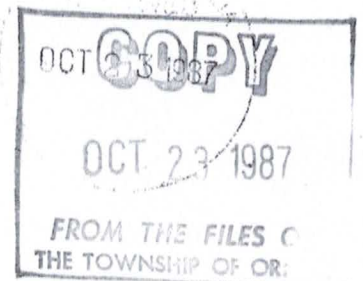
Quetton St

all in accordance with the revised plans received on August 26, 1987 plans and specifications prepared by Marshall Macklin Monaghan Limited, Consulting Engineers, at a total estimated cost, including engineering and contingencies, of FORTY TWO THOUSAND TWO HUNDRED DOLLARS (\$42,200.00).

THIS IS A TRUE COPY OF THE  
ORIGINAL CERTIFICATE MAILED

ON Oct-16/87

(Signed)



**Now therefore** this is to certify that after due enquiry the said proposed works have been approved under Section 24 of the Ontario Water Resources Act.

**Le présent document** certifie qu'après vérification en bonne et due forme la construction dudit projet d'ouvrages a été approuvée aux termes de l'article 24 de la loi sur les ressources en eau de l'Ontario.

DATED AT TORONTO this  
DATÉ À TORONTO ce

16

day of  
jour d

October 1987

cc: Mr. J.B. Mather, Clerk, Township of Orillia  
Mr. A.F. Pelletier, Clerk, County of Simcoe  
Mr. N. Embree, Chief Approvals and Planning Unit  
Marshall Macklin Monaghan Limited

*[Signature]*



## Certificate of Approval (Sewage)

### Whereas

..... TOWNSHIP OF ORILLIA .....

xx

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:-  
the construction of a 4.77 ha two celled seasonal discharge waste stabilization pond to be located approximately 1700 m north and northwest of Hamilton Street - Washago (Part of Lots 10 and 11, Concession XV, Township of Orillia) in a natural rock basin and including an influent structure; four (4) berms; inter-connecting piping; and outfall structure and all necessary appurtenances (Total effective storage volume at 1.5 m effective liquid depth = 47,800 m<sup>3</sup>; BOD loading rate = 8.11 kg/ha/d) with effluent discharge via an existing natural drainage coarse to the Severn River,

all in accordance with the final plans prepared by Reid and Associates Limited, Consulting Engineers, at a total estimated cost, including land charges, engineering and contingencies, of ONE HUNDRED THOUSAND DOLLARS (\$100,000.00), subject to the following special terms and conditions which are considered necessary by the undersigned.

### SPECIAL TERMS AND CONDITIONS

- (1) The Township will notify homeowners along the Severn River, in the area immediately east of the Highway No. 11 bridge, prior to the discharge of the waste stabilization pond effluent.

(2) TYPE OF SAMPLE

Grab Sample

- a) The waste stabilization pond shall be operated in such a manner and with such facilities as to maintain the following objectives in terms of effluent concentrations and waste loadings:

<u>Effluent Parameter</u>	<u>Effluent Concentration</u>	<u>Effluent Waste Loading</u>
BOD <sub>5</sub>	15 mg/L	614 kg
Suspended Solids	20 mg/L	815 kg
Total Phosphorus	1.0 mg/L	41 kg

.../2

**Now therefore** this is to certify that after due enquiry the said proposed works have been approved under Section 24 of the Ontario Water Resources Act.

DATED AT TORONTO this 18th day of November 1983

ttt:-Mr. J.B. Mather, Clerk, Twp. of Orillia

cc:-Mr. G. Mierzynski, MOE C, Reg. Dir.

-Reid and Associates Limited

-Mr. W.A.S. Marshall, Project Supervisor

-Mr. J. Toth, Value Engineering

-Mr. C.W. Brink Value Engineering



# Certificate of Approval (Sewage)

## Whereas

- 2 -

of

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:-  
Special Terms and Conditions Cont'd.

- b) Non-compliance is deemed to occur when any of the following effluent concentrations and/or waste loadings is exceeded based on the analytical results of the sampling programme described in paragraph 2c).

<u>Effluent Parameter</u>	<u>Effluent Concentration</u>	<u>Effluent Waste Loading</u>
BOD <sub>5</sub>	25 mg/L	1024 kg
Suspended Solids	25 mg/L	1024 kg
Total Phosphorus	1 mg/L	41 kg

### NOTE:

The foregoing effluent waste loading objectives and effluent waste loading non-compliance values are based upon an average daily inflow to the waste stabilization pond of 227.5 m<sup>3</sup>/d over 180 days and represent the total load discharged to the receiving stream over the discharge period.

- c) The minimum sampling programme to be followed in assessing non-compliance of the BOD<sub>5</sub>, Suspended Solids and Total Phosphorus effluent parameters is as follows:

The waste stabilization pond must be sampled after treatment prior to discharge for checking compliance against the critical parameter (i.e. Total Phosphorus) as noted in Condition 2b).

The waste stabilization pond must be sampled for the effluent parameters noted in Condition 2a) once during discharge and on the final day of discharge.

- d) Non-compliance with respect to effluent concentrations is considered to occur when the arithmetic mean of either BOD<sub>5</sub>, SS or phosphorus concentration of samples collected during the discharge period exceeds the corresponding value as stated in Condition 2b above.

.../3

**Now therefore** this is to certify that after due enquiry the said proposed works have been approved under Section 24 of the Ontario Water Resources Act.

DATED AT TORONTO this 18th

day of

November

19 83

  
.....  
Director

# Certificate of Approval (Sewage)

## Whereas

- 3 -

of

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:-

### Special Terms and Conditions Cont'd.

- e) Non-compliance with respect to effluent waste loadings is considered to occur when the arithmetic mean of either BOD<sub>5</sub>, suspended solids or phosphorus concentration of samples collected during the discharge period incorporated with the total flow over the discharge period exceeds the corresponding value as stated in Condition 2b above.

#### NOTE:

The total flow referred to above shall be the total flow registered by the magnetic flow meter at the Main Sewage Pumping Station between the end of one discharge period and the end of the next discharge period.

- f) Procedures related to the sampling programme shall be in accordance with the attached Appendix A.

- (3) A routine sampling and analysis programme shall be implemented and maintained in accordance with the following:

#### SAMPLE LOCATIONS

- Raw Sewage (Main Sewage Pumping Station Wet Well)
- Final Effluent (Waste Stabilization Pond)

#### ANALYSIS SAMPLING PARAMETERS

- BOD<sub>5</sub>
- Suspended Solids
- Total Phosphorus
- Ammonia plus ammonia nitrogen (effluent stream only)

#### SAMPLING FREQUENCY

Raw Sewage - minimum one (1) grab sample per month  
Final Effluent - as per Condition 2c above.

**Now therefore** this is to certify that after due enquiry the said proposed works have been approved under Section 24 of the Ontario Water Resources Act.

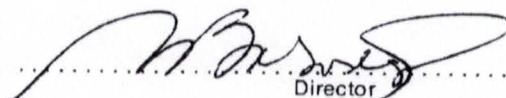
DATED AT TORONTO this

18th

day of

November

1983

  
Director



SAMPLE COLLECTION

- (a) All equipment coming in contact with the sample shall be clean.

SAMPLE PRESERVATION

- (a) If an automatic sampler is used, it should be located in a shaded area, rather than in direct sunlight.
- (b) The sample itself should be refrigerated at 4° C, if at all possible, throughout the collection period and during the time taken to transport the sample. If plant personnel deliver the samples, a styrofoam cooler can be used for this purpose. Small refreezable ice packs can be placed within the cooler. If, however, the samples must be shipped by courier or express service, it is recommended that a one-day delivery period should be requested.

SAMPLE SIZE

- (a) At least one litre of sample from each sampling location should be submitted for the minimum analysis requirements (BOD<sub>5</sub>, SS, Ammonia plus Ammonia Nitrogen and Total Phosphorus). If the effluent sample has less than 1 mm of solid matter when settled, or is almost clear when shaken, provide an extra litre of sample.

SUBMISSION OF ANALYSIS

- (a) Samples should be submitted for analysis as soon as possible following collection. Sample delivery should ideally be made to the laboratory within 24 hours. Allowances should be made to schedule sampling and delivery to coincide with the days on which the analyses are normally performed.

SAMPLE ANALYSIS AND DATA REPORTING

- (a) If the operating authority wishes to use its own analytical equipment or submit samples to commercial laboratories the operating authority shall still submit samples to the Ministry of the Environment Laboratory for purposes of quality control auditing. Until the capability and accuracy of the plant or other laboratory are known, samples shall be submitted as normally required to the Ministry of the Environment Laboratory. As the capability and accuracy of the plant or commercial laboratory become known, the frequency of sample submission to the Ministry Laboratory may be reduced or possibly eliminated entirely. The frequency of such submissions for quality control auditing shall be as determined in writing by the District Officer, Municipal and Private Abatement, Barrie District Office. To allow comparison of analytical results, samples submitted for quality auditing purposes shall be duplicates of the samples analyzed by the plant or commercial laboratory.
- (b) To satisfy all, or a part of, the analytical requirements, operating authorities using their own facilities or commercial laboratories shall submit copies of the analytical results at least once per month to the District Officer, Municipal and Private Abatement, Barrie District Office.

Appendix "A" Cont'd.

- (c) The operating authority shall maintain records of the analysis results for a minimum of five (5) years.



# NOTICE

TO: Mr. J.B. Mather, Clerk  
Township of Orillia  
P.O. Box 159, R.R. #4  
West Street North  
Orillia, Ontario  
L3V 6J3

You are hereby notified that Final Certificate of Approval No. 3-1081-83-006 has been issued to you subject to the conditions outlined therein.

The reasons for the imposition of these conditions are as follows:

Condition 1

Notification of the homeowners is necessary to ensure they are aware of the impending discharge.

Condition 2

The effluent criteria relating BOD<sub>5</sub>, Suspended Solids and Ammonia plus Ammonia Nitrogen are being imposed to prevent discharges of inadequately treated sewage. The concentration parameters are compatible with the proposed treatment system under normal operating and loading conditions.

The effluent criteria relating to Total Phosphorus concentration comply with the policy of the Ministry of the Environment to reduce nutrients loading to the Great Lakes Basin so as to minimize the nuisance growth of aquatic plant and algae.

Condition 3

The condition relating to the routine sampling program and analysis is being imposed to ensure that all pertinent data are available for the evaluation of the performance of the system and the water pollution control plant is operated and maintained at the level consistent with the design.

You may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board.

This Notice should be served upon:

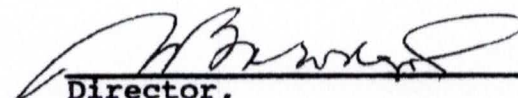
The Secretary,  
Environmental Appeal Board,  
1 St. Clair Ave. West,  
5th Floor,  
Toronto, Ontario.  
M4V 1K7

AND

The Director,  
Section 24, O.W.R. Act,  
Ministry of the Environment,  
135 St. Clair Ave. West,  
Toronto, Ontario.  
M4V 1P5

DATED at Toronto

this 18th day of November, 1983.

  
\_\_\_\_\_  
Director,  
Section 24, O.W.R. Act,  
Ministry of the Environment.





NOTICE OF AMENDMENT

To the Applicant:

The Corporation of the Township of Orillia  
R. R. # 4, Box 159  
Orillia, Ontario  
L3V 6J3

*The Applicant is hereby notified that the approval issued under Certificate of Approval No. 3-1081-83-006 dated November 18, 1983 for the construction of a two celled seasonal discharge waste stabilization pond for the Hamlet of Washago on part of Lots 10 and 11, Concession XV, Township of Orillia, is hereby amended as follows:*

The Statement, "the magnetic flow meter" of Special Terms and Conditions (2) (e) is hereby revoked;

In substitution for the above revocation, the following is inserted:

"three (3) elapsed time meters with a data logging system and verification of pump rates for the two sewage pumps on a semi-annual basis".

**This Notice shall constitute part of the approval issued under Certificate of Approval No. 3-1081-83-006 dated November 18, 1983.**

*The Applicant may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter O.40, provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which the Applicant intends to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the sewage works are located;

*And the Notice should be signed and dated by the appellant.*



Ontario

Ministry  
of the  
Environment  
and Energy

Ministère  
de  
l'Environnement  
et de l'Énergie

AMENDMENT TO CERTIFICATE OF APPROVAL  
MUNICIPAL SEWAGE  
NUMBER 3-1081-83-006  
Page 2 of 2

*This Notice must be served upon:*

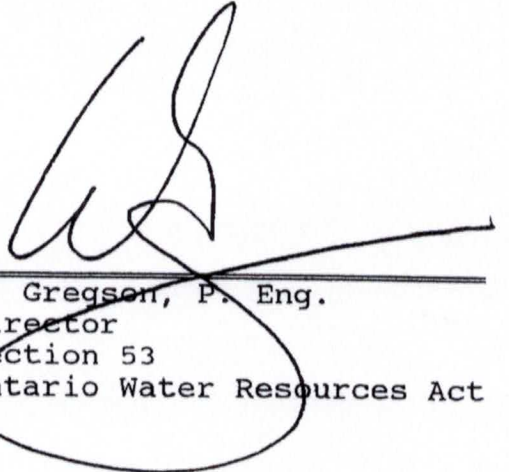
The Secretary,  
Environmental Appeal Board,  
112 St. Clair Avenue West,  
Suite 502,  
Toronto, Ontario.  
M4V 1N3

AND

The Director,  
Section 53, Ontario Water Resources Act,  
Ministry of Environment and Energy,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2

*The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.*

DATED AT TORONTO this 30th day of June, 1993.

  
\_\_\_\_\_  
W. Gregson, P. Eng.  
Director  
Section 53  
Ontario Water Resources Act

GL/nk

Att: Mr. J. B. Mather, Clerk, Twp. of Orillia  
cc: Mr. G. Carpentier, Supervisor, Approvals & Pesticides Management  
Mr. D.G. Carr, P. Eng., Ainley and Associates Ltd.



Whereas / Attendu que

TOWNSHIP OF ORILLIA

of / d

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:

a fait, conformément à l'article 24 de la loi sur les ressources en eau de l'Ontario, une demande d'autorisation:

a new 250 mm diameter polyethylene effluent outfall from the existing two celled seasonal discharge waste stabilization pond located approximately 1700 m north and northwest of Hamilton Street, Washago (Part of Lots 10 and 11, Concession XV, Township of Orillia) consisting of approximately 225 m of Series 45 butt-fused outfall following the existing ground profile together with a gate valve box shut-off terminations at Highway No. 11 immediately north of the Severn River,

all in accordance with the detailed drawing and supporting information prepared by Reid and Associates Limited, Consulting Engineers, at a total estimated cost, including engineering and contingencies, of SEVENTEEN THOUSAND DOLLARS (\$17,000.00).



Now therefore this is to certify that after due enquiry the said proposed works have been approved under Section 24 of the Ontario Water Resources Act.

Le présent document certifie qu'après vérification en bonne et due forme la construction dudit projet d'ouvrages a été approuvée aux termes de l'article 24 de la loi sur les ressources en eau de l'Ontario.

DATED AT TORONTO this 24th

day of

April

1986

DATE À TORONTO ce

jour d

Attn: Mr. J.B. Mather, Clerk, Township of Orillia

cc: Mr. J.C. Ferguson, Twp. Engineer

Mr. G. Mierzynski, MOE C, Reg. Dir.

Reid & Associates Ltd.

  
Director / Directeur





RECEIVED

AUG 8 1975

REID & ASSOC. LTD.

Atten: Mr. W.A. Marshall  
cc: J.D. Reid and Assoc. Ltd.  
Mr. P. Cockburn (MOE Central  
Region)  
Mr. J. Toth (MOE Tech.  
Svc. Br.)

MINISTRY OF THE ENVIRONMENT

# SEWAGE WORKS APPROVAL

/aw

Whereas ..... THE PROVINCE OF ONTARIO .....

or

has applied in accordance with Section 42 of The Ontario Water Resources Act for approval of: -

construction of a sanitary sewerage works system to serve the Township of Orillia (Community of Washago) as follows:

<u>STREET</u>	<u>FROM</u>	<u>TO</u>
Easement	Sanitary sewers	Rama St. (Hwy. #69)
		approx. 500' S. of Rama St. (Proposed Sewage Pumping Station No.2)
Easement	approx. 160' N. of Rama St.	approx. 1140' N. of Edgar St.
Easement	approx. 300' S. of Hamilton St.	approx. 1700' N. of Hamilton St.
Hamilton St. and Easement	approx. 200' W. of Muskoka St. (Easement)	approx. 300' E. of Muskoka St. (Severn River)
Easement parallel to Severn River	Hamilton St. Easement	Edgar St.
Edgar St.	approx. 200' E. of Muskoka St. (proposed Sewage Pumping Station No. 1)	approx. 630' E. of Muskoka St.
<u>Forcemains</u>		
Easement	Edgar St. (proposed Sewage Pumping Station No. 1)	Hamilton St.
Hamilton Street	Easement	approx. 400' W. of Muskoka St. (Easement)
Easement	Hamilton St.	approx. 1850' N. of Hamilton St. (Proposed Sewage Treatment Plant)

Now Therefore this is to certify that after due enquiry the said proposed works have been approved under Section 42 of The Ontario Water Resources Act.

continued:

DATED AT TORONTO this 1st day of August 19 75

Director



continued:



MINISTRY OF THE ENVIRONMENT

# SEWAGE WORKS APPROVAL

PRELIMINARY APPROVAL for purpose of facilitating works herein set out - not to be regarded as fulfilling requirements of this Act. Final certificate will be issued when detailed plans and specifications are approved.

Whereas

of

- 2 -

has applied in accordance with Section 42 of The Ontario Water Resources Act for approval of: -

**construction of a sanitary sewerage works system to serve the Township of Orillia (Community of Washago) (continued: -)**

STREET

FROM

TO

**Easement**

**Proposed Sewage Pumping Station #2**

**approx. 180' N.**

Outfall sewer

**Easement**

**Proposed Sewage Treatment Plant**

**West Branch of Severn River**

including building sewers from the main sewer to the street line together with the construction of two (2) sewage pumping stations as follows:

Sewage Pumping Station No. 1 - to be located at the west end of Edgar Street approx. 400' N. of Albany St. and to be equipped with two (2) 183 IGPM submersible type raw sewage pumps a standby diesel generator, an emergency overflow to the Severn River and all necessary appurtenances and controls,

Sewage Pumping Station No. 2 - to be located on the south side of Rama St. approx. 150' E. of Muskoka St. and to be equipped with one (1) 81 IGPM submersible type raw sewage pump, an emergency overflow to the adjacent sanitary sewers and all necessary appurtenances and controls,

Sewage Treatment Plant - to be located approx. 1725' N. of Hamilton St. on the E. side of Hwy. #11 (Part Orillia Island, Twp. of Orillia) and consisting of a 50,000 IGPD extended aeration sewage treatment plant c/w influent works, grit channels, an aeration tank, a final clarifier; effluent chlorination; phosphorus removal facilities, a control building and all necessary appurtenances and controls with effluent discharge to the West Branch Severn River, all in accordance with the report prepared

Now Therefore this is to certify that after due enquiry the said proposed works have been approved under Section 42 of The Ontario Water Resources Act.

continued:

DATED AT TORONTO this

1st

day of

August

19 75

Director

40510 001 7/70



MINISTRY OF THE ENVIRONMENT  
**SEWAGE WORKS APPROVAL**

**Whereas**

of

- 3 -

has applied in accordance with Section 42 of The Ontario Water Resources Act for approval of: -

**by J.D. Reid and Associates Limited, Consulting Engineers, at a total estimated cost, including land charges, engineering and contingencies, of FIVE HUNDRED FORTY SIX THOUSAND NINE HUNDRED AND SIXTY DOLLARS (\$546,960.00),**

PRELIMINARY APPROVAL for purpose of facilitating works herein set out - not to be regarded as fulfilling requirements of this Act. Final certificate will be issued when detailed plans and specifications are approved.

**Now Therefore** this is to certify that after due enquiry the said proposed works have been approved under Section 42 of The Ontario Water Resources Act.

DATED AT TORONTO this **1st** day of **August** 19**75**

A handwritten signature in dark ink, appearing to read "V. A. Hall", written over a dotted line.  
Director

# Appendix B

## Municipality Monitoring Program Mechanical Plants Forms



Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia			Province ON - Ontario
			Postal Code L3V 6J3

File No.	Works Number *		Data Period *		Days	Discharge Type	Update Code
46	120002273		Month	Year			
			01	2024	31	2	R
1 2	3 11		16 19		20 21	22	80

C.P.	
35	Flows

Parameter Code	- Dec -	Monthly Results
----------------	---------	-----------------

12	13	Total Flow (10 <sup>3</sup> m <sup>3</sup> )	50010	3	3.015
		Average Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	50015	3	0.09
		Maximum Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	50020	3	
			30 34	35	38 46

35 Bypass		Parameter Code	Dec.	Monthly Results	# of Occurrences
12	13 Plant Bypass Volume ( $10^3 \text{ m}^3$ )	50270	3		
	Duration (hours)	81680	1		
		30 34	35	38	

36	Raw Sewage	Parameter Code	Dec.	Monthly Results	# of Samples
12 13	BOD <sub>5</sub> (mg/L)	00001	0	468	1
	Suspended Solids (mg/L)	00006	0	263	1
	TKN (mg/L)	00020	2	25.8	1
	Total Phosphorus (mg/L)	00033	1	3.1	1
		30 34	35	38	48

39	Final Effluent	Parameter Code	Dec.	Monthly Results	# of Samples
12	Total Effl. Volume To Watercourse (10 <sup>3</sup> m <sup>3</sup> )	50280	3		
13	Flow Duration (hours)	81680	1		
	Cell Depth (m)	50290	1		
	CBOD <sub>5</sub> (mg/L)	00002	1		
	BOD <sub>5</sub> (mg/L)	00001	1		
	Suspended Solids (mg/L)	00006	1		
	Ammonia + Ammonium (mg/L)	00019	2		
	TKN (mg/L)	00020	2		
	Total Phosphorus (mg/L)	00033	2		

09 Disinfection		Parameter Code	Dec.	Monthly Results	# of Samples
12	13	Chlorine Used (kg as Cl <sub>2</sub> )	50320	1	
		Chlorine Dosage (mg/L as Cl <sub>2</sub> )	80410	1	
		Chlorine Residual (mg/L as Cl <sub>2</sub> )	80420	1	

Operator Telephone Number  
705-345-1841

Operator Email Address \*  
tdrouin@severn.ca

---

Comments

**|Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
Peter.Vreugdenhil@ontario.ca

[illegible]



Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

## Facility Address

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

## Mailing Address

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month 02	Year 2024	29	2	R
1 2	3 11	16 19		20 21	22	80

C.P.

35

## Flows

12 13

Total Flow ( $10^3 \text{ m}^3$ )Average Daily Flow ( $10^3 \text{ m}^3/\text{d}$ )Maximum Daily Flow ( $10^3 \text{ m}^3/\text{d}$ )

Parameter Code	Dec.	Monthly Results
50010	3	3.197
50015	3	0.11
50020	3	

30 34 35 38 46

35

## Bypass

12 13

Plant Bypass Volume ( $10^3 \text{ m}^3$ )

Duration (hours)

Parameter Code	Dec.	Monthly Results	# of Occurrences
50270	3		
81680	1		

30 34 35 38

36

## Raw Sewage

12 13

BOD<sub>5</sub> (mg/L)

Suspended Solids (mg/L)

TKN (mg/L)

Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results	# of Samples
00001	0	422	1
00006	0	128	1
00020	2	34.6	1
00033	1	4.4	1

30 34 35 38 48 51

39

## Final Effluent

12 13

Total Effl. Volume To Watercourse ( $10^3 \text{ m}^3$ )

Flow Duration (hours)

Cell Depth (m)

CBOD<sub>5</sub> (mg/L)BOD<sub>5</sub> (mg/L)

Suspended Solids (mg/L)

Ammonia + Ammonium (mg/L)

TKN (mg/L)

Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results	# of Samples
50280	3		
81680	1		
50290	1		
00002	1		
00001	1		
00006	1		
00019	2		
00020	2		
00033	2		

30 34 35 38 48 51

09

## Disinfection

12 13

Chlorine Used (kg as Cl<sub>2</sub>)Chlorine Dosage (mg/L as Cl<sub>2</sub>)Chlorine Residual (mg/L as Cl<sub>2</sub>)

Parameter Code	Dec.	Monthly Results	# of Samples
50320	1		
80410	1		
80420	1		

30 34 35 38 48 51

Operator Telephone Number  
705-345-1841Operator Email Address \*  
tdrouin@severn.ca

Comments

## Return completed form to:

- Environmental Monitoring and Reporting Branch, MECP, at  
[WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
- Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
[Peter.Vreugdenhil@ontario.ca](mailto:Peter.Vreugdenhil@ontario.ca)







Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month 03	Year 2024	31	2	R
1 2	3 11	16 19		20 21	22	80

C.P.

35

**Flows**

12 13	Total Flow (10 <sup>3</sup> m <sup>3</sup> )
	Average Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)
	Maximum Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)

Parameter Code	Dec.	Monthly Results
50010	3	4.164
50015	3	0.134
50020	3	

35

**Bypass**

12 13	Plant Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )
	Duration (hours)

Parameter Code	Dec.	Monthly Results	# of Occurrences
50270	3		
81680	1		

36

**Raw Sewage**

12 13	BOD <sub>5</sub> (mg/L)
	Suspended Solids (mg/L)
	TKN (mg/L)
	Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results	# of Samples
00001	0	132	1
00006	0	98	1
00020	2	26.5	1
00033	1	2.7	1

39

**Final Effluent**

12 13	Total Effl. Volume To Watercourse (10 <sup>3</sup> m <sup>3</sup> )
	Flow Duration (hours)
	Cell Depth (m)
	CBOD <sub>5</sub> (mg/L)
	BOD <sub>5</sub> (mg/L)
	Suspended Solids (mg/L)
	Ammonia + Ammonium (mg/L)
	TKN (mg/L)
	Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results	# of Samples
50280	3		
81680	1		
50290	1		
00002	1		
00001	1		
00006	1		
00019	2		
00020	2		
00033	2		

09

**Disinfection**

12 13	Chlorine Used (kg as Cl <sub>2</sub> )
	Chlorine Dosage (mg/L as Cl <sub>2</sub> )
	Chlorine Residual (mg/L as Cl <sub>2</sub> )

Parameter Code	Dec.	Monthly Results	# of Samples
50320	1		
80410	1		
80420	1		

Operator Telephone Number  
705-345-1841

Operator Email Address \*  
tdrouin@severn.ca

Comments

**Return completed form to:**

- Environmental Monitoring and Reporting Branch, MECP, at  
WasteWaterReporting@ontario.ca And
- Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
Peter.Vreugdenhil@ontario.ca

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month	Year			
		03	2024	31	2	R
1 2	3 11	16 19		20 21	22	80

[illegible][illegible]

Operator Telephone Number  
705-345-1841

Operator Email Address  
tdrouin@severn.ca

## Comments

**|Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office. (Find your local MECP office: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>)



Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

## Facility Address

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

## Mailing Address

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month 04	Year 2024	30	2	R
1 2	3 11	16 19	20 21	22	80	

C.P.

35

## Flows

12 13

Total Flow ( $10^3 \text{ m}^3$ )Average Daily Flow ( $10^3 \text{ m}^3/\text{d}$ )Maximum Daily Flow ( $10^3 \text{ m}^3/\text{d}$ )

Parameter Code	Dec.	Monthly Results
50010	3	5.289
50015	3	0.176
50020	3	

Parameter Code	Dec.	Monthly Results
50270	3	
81680	1	

# of Occurrences

35

## Bypass

12 13

Plant Bypass Volume ( $10^3 \text{ m}^3$ )

Duration (hours)

Parameter Code	Dec.	Monthly Results
00001	0	235
00006	0	197
00020	2	57
00033	1	3.4

# of Samples
1
1
1
1

36

## Raw Sewage

12 13

BOD<sub>5</sub> (mg/L)

Suspended Solids (mg/L)

TKN (mg/L)

Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results
50280	3	
81680	1	
50290	1	
00002	1	
00001	1	
00006	1	
00019	2	
00020	2	
00033	2	

# of Samples

39

## Final Effluent

12 13

Total Effl. Volume To Watercourse ( $10^3 \text{ m}^3$ )

Flow Duration (hours)

Cell Depth (m)

CBOD<sub>5</sub> (mg/L)BOD<sub>5</sub> (mg/L)

Suspended Solids (mg/L)

Ammonia + Ammonium (mg/L)

TKN (mg/L)

Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results
50320	1	
80410	1	
80420	1	

# of Samples

09

## Disinfection

12 13

Chlorine Used (kg as Cl<sub>2</sub>)Chlorine Dosage (mg/L as Cl<sub>2</sub>)Chlorine Residual (mg/L as Cl<sub>2</sub>)Operator Telephone Number  
705-345-1841Operator Email Address \*  
tdrouin@severn.ca

Comments

## Return completed form to:

- Environmental Monitoring and Reporting Branch, MECP, at  
[WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
- Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
[Peter.Vreugdenhil@ontario.ca](mailto:Peter.Vreugdenhil@ontario.ca)



Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
Month	Year					
46	120002273	04	2024	30	2	R
1 2	3 11	16 19		20 21	22	80

[illegible][illegible]

Operator Telephone Number  
705-345-1841

Operator Email Address  
tdrouin@severn.ca

### Comments

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office. (Find your local MECP office: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>)

Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 2 2 7 3	Month: 0 5 Year: 2 0 2 4	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	Flows	Parameter Code	Dec.	Monthly Results	
3 5	Total Flow (10 <sup>3</sup> m <sup>3</sup> )	50010	3	3.860	
12 13	Average Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	50015	3	0.124	
	Maximum Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	50020	3		
		30 34	35 38	46	
3 5	Bypass				# of Occurrences
12 13	Plant Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	50270	3		
	Duration (hours)	81680	1		
		30 34	35 38		
3 6	Raw Sewage				# of Samples
12 13	BOD <sub>5</sub> (mg/L)	00001	0	218	1
	Suspended Solids (mg/L)	00006	0	196	1
	TKN (mg/L)	00020	2	44.70	1
	Total Phosphorus (mg/L)	00033	1	4.8	1
		30 34	35 38	48	51
3 9	Final Effluent				
12 13	Total Effl. Volume To Watercourse (10 <sup>3</sup> m <sup>3</sup> )	50280	3	24.813	
	Flow Duration (hours)	81680	1	198.0	
	Cell Depth (m)	50290	1		
	CBOD <sub>5</sub> (mg/L)	00002	1		
	BOD <sub>5</sub> (mg/L)	00001	1	4.0	4
	Suspended Solids (mg/L)	00006	1	2.5	4
	Ammonia + Ammonium (mg/L)	00019	2	2.47	4
	TKN (mg/L)	00020	2	3.62	4
	Total Phosphorus (mg/L)	00033	2	0.21	4
		30 34	35 38	48	51
0 9	Disinfection				
12 13	Chlorine Used (kg as Cl <sub>2</sub> )	50320	1		
	Chlorine Dosage (mg/L as Cl <sub>2</sub> )	80410	1		
	Chlorine Residual (mg/L as Cl <sub>2</sub> )	80420	1		
		30 34	35 38	48	51

Operator Telephone Number  
705-345-1841

Operator Email Address \*  
tdrouin@severn.ca

Comments

**Return completed form to:**

- Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
- Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
[Peter.Vreugdenhil@ontario.ca](mailto:Peter.Vreugdenhil@ontario.ca)

Project Name Washago Lagoon					
Facility Address					
Unit Number 1021	Street Name Hurlwood Lane				
Municipality/City/Town Orillia	Province ON - Ontario				
Operating Authority The Corporation of the Township of Severn					
Mailing Address					
Unit Number 1021	Street Name Hurlwood Lane				
Municipality/City/Town Orillia	Province ON - Ontario				
Postal Code L3V 6J3					
File No.	Works Number *	Data Period *	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 2 2 7 3	Month: 0 5 2 0 2 4 Year: 16 19	3 1	2	R
1 2	3 11	16 19	20 21	22	80

[illegible]

	Final Effluent	Parameter Code	Dec	Monthly Average Results	# of Samples
Alkalinity, Total (mg/L)	00051	4	112.5000	4	
Conductivity 25°C (µS/cm)	91004	4			
E. Coli (CT/100ml)	91000	4			
Nitrate, Unfiltered reactive (mg/L)	00022	4			
Nitrite, Unfiltered reactive (mg/L)	00021	4			
pH	80770	4	7.0400	4	
Temperature, Water (°C)	80250	4	13.0000	4	
Un-ionized Ammonia (mg/L)	91012	4	0.0100	3	
Dissolved Oxygen (mg/L)	00003	4			
Hydrogen Sulphide (mg/L)	83008	4			

Operator Telephone Number 705-345-1841	<b>Return completed form to:</b> 1. Environmental Monitoring and Reporting Branch, MECP, at <a href="mailto:WasteWaterReporting@ontario.ca">WasteWaterReporting@ontario.ca</a> And 2. Your Environmental Officer at your local District/Area MECP Office. (Find your local MECP office: <a href="https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator">https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator</a> )
Operator Email Address <a href="mailto:tdrouin@severn.ca">tdrouin@severn.ca</a>	
Comments	



Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month 06	Year 2024	30	2	R
1 2	3 11	16 19	20 21	22	80	

C.P.						
35	<b>Flows</b>	Parameter Code	Dec	Monthly Results		
12 13	Total Flow (10 <sup>3</sup> m <sup>3</sup> )	50010	3	2.407		
	Average Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	50015	3	0.08		
	Maximum Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	50020	3			
		30 34	35	38 46		
35	<b>Bypass</b>	Parameter Code	Dec	Monthly Results	# of Occurrences	
12 13	Plant Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	50270	3			
	Duration (hours)	81680	1			
		30 34	35	38		
36	<b>Raw Sewage</b>	Parameter Code	Dec	Monthly Results	# of Samples	
12 13	BOD <sub>5</sub> (mg/L)	00001	0	218	1	
	Suspended Solids (mg/L)	00006	0	196	1	
	TKN (mg/L)	00020	2	44.7	1	
	Total Phosphorus (mg/L)	00033	1	4.8	1	
		30 34	35	38	48 51	
39	<b>Final Effluent</b>	Parameter Code	Dec	Monthly Results	# of Samples	
12 13	Total Effl. Volume To Watercourse (10 <sup>3</sup> m <sup>3</sup> )	50280	3			
	Flow Duration (hours)	81680	1			
	Cell Depth (m)	50290	1			
	CBOD <sub>5</sub> (mg/L)	00002	1			
	BOD <sub>5</sub> (mg/L)	00001	1			
	Suspended Solids (mg/L)	00006	1			
	Ammonia + Ammonium (mg/L)	00019	2			
	TKN (mg/L)	00020	2			
	Total Phosphorus (mg/L)	00033	2			
		30 34	35	38	48 51	
09	<b>Disinfection</b>	Parameter Code	Dec	Monthly Results	# of Samples	
12 13	Chlorine Used (kg as Cl <sub>2</sub> )	50320	1			
	Chlorine Dosage (mg/L as Cl <sub>2</sub> )	80410	1			
	Chlorine Residual (mg/L as Cl <sub>2</sub> )	80420	1			
		30 34	35	38	48 51	

Operator Telephone Number  
705-345-1841

Operator Email Address \*  
tdrouin@severn.ca

Comments

**Return completed form to:**

- Environmental Monitoring and Reporting Branch, MECP, at  
WasteWaterReporting@ontario.ca And
- Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
Peter.Vreugdenhil@ontario.ca

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *		Data Period *		Days	Discharge Type	Update Code
46	120002273		Month	Year			
			06	2024	30	2	R
1 2	3 11		16 19		20 21	22	80

[illegible][illegible]

Operator Telephone Number  
705-345-1841

Operator Email Address  
tdrouin@severn.ca

### Comments

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office. (Find your local MECP office: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>)



Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *		Data Period *		Days	Discharge Type	Update Code
46	120002273		Month	Year	31	2	R
1 2	3 11	16 19	20 21	22	80		

C.P.

35 **Flows**

12	13	Total Flow ( $10^3 \text{ m}^3$ )
		Average Daily Flow ( $10^3 \text{ m}^3/\text{d}$ )
		Maximum Daily Flow ( $10^3 \text{ m}^3/\text{d}$ )

Parameter Code	Dec	Monthly Results
50010	3	2.672
50015	3	0.086
50020	3	

35 Bypass

12	13	Plant Bypass Volume ( $10^3 \text{ m}^3$ )
		Duration (hours)

Parameter Code	Dec.	Monthly Results	# of Occurrences
50270	3		
81680	1		

36 Raw Sewage

12	13	BOD <sub>5</sub> (mg/L)
		Suspended Solids (mg/L)
		TKN (mg/L)
		Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results	# of Samples
00001	0	215	1
00006	0	134	1
00020	2	53.5	1
00033	1	5.5	1

39 Final Effluent

12	13	
		Total Effl. Volume To Watercourse ( $10^3 \text{ m}^3$ )
		Flow Duration (hours)
		Cell Depth (m)
		CBOD <sub>5</sub> (mg/L)
		BOD <sub>5</sub> (mg/L)
		Suspended Solids (mg/L)
		Ammonia + Ammonium (mg/L)
		TKN (mg/L)
		Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results	# of Samples
50280	3		
81680	1		
50290	1		
00002	1		
00001	1		
00006	1		
00019	2		
00020	2		
00033	2		

## 09 Disinfection

12	13	Chlorine Used (kg as Cl <sub>2</sub> )
		Chlorine Dosage (mg/L as Cl <sub>2</sub> )
		Chlorine Residual (mg/L as Cl <sub>2</sub> )

Parameter Code	Dec.	Monthly Results	# of Samples
50320	1		
80410	1		
80420	1		

Operator Telephone Number  
705-345-1841

Operator Email Address \*  
tdrouin@severn.ca

Comments

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
Peter.Vreugdenhil@ontario.ca

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
-------------	-----------------------	------------------------------	---------------

Municipality/City/Town Orillia	Province ON - Ontario	Postal Code L3V 6J3
-----------------------------------	--------------------------	------------------------

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
-------------	-----------------------	------------------------------	---------------

Municipality/City/Town Orillia	Province ON - Ontario	Postal Code L3V 6J3
-----------------------------------	--------------------------	------------------------

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month	Year			
1 2	3 11	07	2024	31	2	R
		16 19		20 21	22	80

[illegible][illegible]

Operator Telephone Number  
705-345-1841

Operator Email Address  
tdrouin@severn.ca

Comments

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office. (Find your local MECP office: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>)

Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month 08	Year 2024	31	2	R
1 2	3 11	16 19	20 21	22	80	

C.P.

35

**Flows**

12	13	Total Flow (10 <sup>3</sup> m <sup>3</sup> )
		Average Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)
		Maximum Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)

Parameter Code	Dec	Monthly Results
50010	3	2.174
50015	3	0.07
50020	3	

35

**Bypass**

12	13	Plant Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )
		Duration (hours)

Parameter Code	Dec	Monthly Results	# of Occurrences
50270	3		
81680	1		

36

**Raw Sewage**

12	13	BOD <sub>5</sub> (mg/L)
		Suspended Solids (mg/L)
		TKN (mg/L)
		Total Phosphorus (mg/L)

Parameter Code	Dec	Monthly Results	# of Samples
00001	0	391	1
00006	0	94	1
00020	2	47.9	1
00033	1	5	1

39

**Final Effluent**

12	13	Total Effl. Volume To Watercourse (10 <sup>3</sup> m <sup>3</sup> )
		Flow Duration (hours)
		Cell Depth (m)
		CBOD <sub>5</sub> (mg/L)
		BOD <sub>5</sub> (mg/L)
		Suspended Solids (mg/L)
		Ammonia + Ammonium (mg/L)
		TKN (mg/L)
		Total Phosphorus (mg/L)

Parameter Code	Dec	Monthly Results	# of Samples
50280	3		
81680	1		
50290	1		
00002	1		
00001	1		
00006	1		
00019	2		
00020	2		
00033	2		

09

**Disinfection**

12	13	Chlorine Used (kg as Cl <sub>2</sub> )
		Chlorine Dosage (mg/L as Cl <sub>2</sub> )
		Chlorine Residual (mg/L as Cl <sub>2</sub> )

Parameter Code	Dec	Monthly Results	# of Samples
50320	1		
80410	1		
80420	1		

Operator Telephone Number  
705-345-1841

Operator Email Address \*  
tdrouin@severn.ca

Comments

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at  
WasteWaterReporting@ontario.ca And
2. Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
Peter.Vreugdenhil@ontario.ca



Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month	Year			
		08	2024	31	2	R
1 2	3 11	16 19		20 21	22	80

[illegible][illegible]

Operator Telephone Number  
705-345-1841

Operator Email Address  
tdrouin@severn.ca

Comments

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office. (Find your local MECP office: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>)



Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

## Facility Address

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

## Mailing Address

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month 09	Year 2024	30	2	R
1 2	3 11	16 19		20 21	22	80

C.P.						
35	Flows	Parameter Code	Dec.	Monthly Results		
12 13	Total Flow (10 <sup>3</sup> m <sup>3</sup> )	50010	3	1.87		
	Average Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	50015	3	0.062		
	Maximum Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	50020	3			
		30 34	35	38	46	
35	Bypass	Parameter Code	Dec.	Monthly Results	# of Occurrences	
12 13	Plant Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	50270	3			
	Duration (hours)	81680	1			
		30 34	35	38		
36	Raw Sewage	Parameter Code	Dec.	Monthly Results	# of Samples	
12 13	BOD <sub>5</sub> (mg/L)	00001	0	250	1	
	Suspended Solids (mg/L)	00006	0	246	1	
	TKN (mg/L)	00020	2	39.5	1	
	Total Phosphorus (mg/L)	00033	1	5.6	1	
		30 34	35	38	48	51
39	Final Effluent	Parameter Code	Dec.	Monthly Results	# of Samples	
12 13	Total Effl. Volume To Watercourse (10 <sup>3</sup> m <sup>3</sup> )	50280	3			
	Flow Duration (hours)	81680	1			
	Cell Depth (m)	50290	1			
	CBOD <sub>5</sub> (mg/L)	00002	1			
	BOD <sub>5</sub> (mg/L)	00001	1			
	Suspended Solids (mg/L)	00006	1			
	Ammonia + Ammonium (mg/L)	00019	2			
	TKN (mg/L)	00020	2			
	Total Phosphorus (mg/L)	00033	2			
		30 34	35	38	48	51
09	Disinfection	Parameter Code	Dec.	Monthly Results	# of Samples	
12 13	Chlorine Used (kg as Cl <sub>2</sub> )	50320	1			
	Chlorine Dosage (mg/L as Cl <sub>2</sub> )	80410	1			
	Chlorine Residual (mg/L as Cl <sub>2</sub> )	80420	1			
		30 34	35	38	48	51

Operator Telephone Number  
705-345-1841

Operator Email Address \*  
tdrouin@severn.ca

Comments

## Return completed form to:

1. Environmental Monitoring and Reporting Branch, MECP, at  
WasteWaterReporting@ontario.ca And
2. Your Environmental Officer at your local District/Area MECP  
Office.

Ministry Contact Email Address \*  
Peter.Vreugdenhil@ontario.ca

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
-------------	-----------------------	------------------------------	---------------

Municipality/City/Town Orillia	Province ON - Ontario	Postal Code L3V 6J3
-----------------------------------	--------------------------	------------------------

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number	Street Name	PO Box
	1021	Hurlwood Lane	159

Municipality/City/Town Orillia	Province ON - Ontario	Postal Code L3V 6J3
-----------------------------------	--------------------------	------------------------

File No.	Works Number *		Data Period *		Days	Discharge Type	Update Code
46	120002273		Month	Year	30	2	R
1 2	3 11	16 19	20 21	22	80		

[illegible][illegible]

Operator Telephone Number  
705-345-1841

Operator Email Address  
tdrouin@severn.ca

Comments

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office. (Find your local MECP office: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>)

Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month 10	Year 2024	31	2	R
1 2	3 11	16 19		20 21	22	80

C.P.

35

**Flows**

12 13 Total Flow (10<sup>3</sup> m<sup>3</sup>)  
Average Daily Flow (10<sup>3</sup> m<sup>3</sup>/d)  
Maximum Daily Flow (10<sup>3</sup> m<sup>3</sup>/d)

Parameter Code	Dec	Monthly Results
50010	3	2.24
50015	3	0.072
50020	3	

Parameter Code	Dec	Monthly Results	# of Occurrences
50270	3		
81680	1		

36

**Raw Sewage**

12 13 BOD<sub>5</sub> (mg/L)  
Suspended Solids (mg/L)  
TKN (mg/L)  
Total Phosphorus (mg/L)

Parameter Code	Dec	Monthly Results	# of Samples
00001	0	189	1
00006	0	102	1
00020	2	51.5	1
00033	1	5.2	1

39

**Final Effluent**

12 13 Total Effl. Volume To Watercourse (10<sup>3</sup> m<sup>3</sup>)  
Flow Duration (hours)  
Cell Depth (m)  
CBOD<sub>5</sub> (mg/L)  
BOD<sub>5</sub> (mg/L)  
Suspended Solids (mg/L)  
Ammonia + Ammonium (mg/L)  
TKN (mg/L)  
Total Phosphorus (mg/L)

Parameter Code	Dec	Monthly Results	# of Samples
50280	3		
81680	1		
50290	1		
00002	1		
00001	1		
00006	1		
00019	2		
00020	2		
00033	2		

09

**Disinfection**

12 13 Chlorine Used (kg as Cl<sub>2</sub>)  
Chlorine Dosage (mg/L as Cl<sub>2</sub>)  
Chlorine Residual (mg/L as Cl<sub>2</sub>)

Parameter Code	Dec	Monthly Results	# of Samples
50320	1		
80410	1		
80420	1		

Operator Telephone Number  
705-345-1841

Operator Email Address \*  
tdrouin@severn.ca

Comments

**Return completed form to:**

- Environmental Monitoring and Reporting Branch, MECP, at  
[WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
- Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
[Peter.Vreugdenhil@ontario.ca](mailto:Peter.Vreugdenhil@ontario.ca)



Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
Month	Year					
46	120002273	10	2024	31	2	R
1 2	3 11	16 19		20 21	22	80

[illegible][illegible]

Operator Telephone Number  
705-345-1841

Operator Email Address  
tdrouin@severn.ca

## Comments

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office. (Find your local MECP office: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>)

Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

## Facility Address

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

## Mailing Address

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
46	120002273	Month 11	Year 2024	30	2	R
1 2	3 11	16 19		20 21	22	80

C.P.

35

## Flows

12 13 Total Flow (10<sup>3</sup> m<sup>3</sup>)  
Average Daily Flow (10<sup>3</sup> m<sup>3</sup>/d)  
Maximum Daily Flow (10<sup>3</sup> m<sup>3</sup>/d)

Parameter Code	Dec.	Monthly Results
50010	3	2.1
50015	3	0.07
50020	3	0.07

30 34 35 38 46

35

## Bypass

12 13 Plant Bypass Volume (10<sup>3</sup> m<sup>3</sup>)  
Duration (hours)

Parameter Code	Dec.	Monthly Results	# of Occurrences
50270	3		
81680	1		

30 34 35 38

36

## Raw Sewage

12 13 BOD<sub>5</sub> (mg/L)  
Suspended Solids (mg/L)  
TKN (mg/L)  
Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results	# of Samples
00001	0	193	6
00006	0	105	6
00020	2	54.4	6
00033	1	5.6	6

30 34 35 38 48 51

39

## Final Effluent

12 13 Total Effl. Volume To Watercourse (10<sup>3</sup> m<sup>3</sup>)  
Flow Duration (hours)  
Cell Depth (m)  
CBOD<sub>5</sub> (mg/L)  
BOD<sub>5</sub> (mg/L)  
Suspended Solids (mg/L)  
Ammonia + Ammonium (mg/L)  
TKN (mg/L)  
Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results	# of Samples
50280	3	27.085	
81680	1	240	
50290	1	1.5	
00002	1		
00001	1	7.1	6
00006	1	5.3	6
00019	2	4.3	6
00020	2	5.98	6
00033	2	0.14	6

30 34 35 38 48 51

09

## Disinfection

12 13 Chlorine Used (kg as Cl<sub>2</sub>)  
Chlorine Dosage (mg/L as Cl<sub>2</sub>)  
Chlorine Residual (mg/L as Cl<sub>2</sub>)

Parameter Code	Dec.	Monthly Results	# of Samples
50320	1		
80410	1		
80420	1		

30 34 35 38 48 51

Operator Telephone Number  
705-345-1841

Operator Email Address \*  
tdrouin@severn.ca

Comments

## Return completed form to:

- Environmental Monitoring and Reporting Branch, MECP, at  
WasteWaterReporting@ontario.ca And
- Your Environmental Officer at your local District/Area MECP  
Office.

Ministry Contact Email Address \*  
Peter.Vreugdenhil@ontario.ca

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *		Data Period *		Days	Discharge Type	Update Code
46	120002273		Month	Year			
			11	2024	30	2	R
1 2	3 11		16 19		20 21	22	80

[illegible][illegible]

Operator Telephone Number  
705-345-1841

Operator Email Address  
tdrouin@severn.ca

### Comments

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office. (Find your local MECP office: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>)





Fields marked with an asterisk (\*) are mandatory.

Project Name  
Washago Lagoon

## Facility Address

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

## Mailing Address

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *	Data Period *	Days	Discharge Type	Update Code
46	120002273	Month Year 12 2024	31	2	R
1 2	3 11	16 19	20 21	22	80

C.P.

35

## Flows

- 12 13 Total Flow ( $10^3 \text{ m}^3$ )  
Average Daily Flow ( $10^3 \text{ m}^3/\text{d}$ )  
Maximum Daily Flow ( $10^3 \text{ m}^3/\text{d}$ )

Parameter Code	Dec.	Monthly Results
50010	3	4.448
50015	3	0.143
50020	3	

30 34 35 38 46

35

## Bypass

- 12 13 Plant Bypass Volume ( $10^3 \text{ m}^3$ )  
Duration (hours)

Parameter Code	Dec.	Monthly Results	# of Occurrences
50270	3		
81680	1		

30 34 35 38

36

## Raw Sewage

- 12 13 BOD<sub>5</sub> (mg/L)  
Suspended Solids (mg/L)  
TKN (mg/L)  
Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results	# of Samples
00001	0	142	1
00006	0	73	1
00020	2	47	1
00033	1	3.9	1

30 34 35 38 48 51

39

## Final Effluent

- 12 13 Total Effl. Volume To Watercourse ( $10^3 \text{ m}^3$ )  
Flow Duration (hours)  
Cell Depth (m)  
CBOD<sub>5</sub> (mg/L)  
BOD<sub>5</sub> (mg/L)  
Suspended Solids (mg/L)  
Ammonia + Ammonium (mg/L)  
TKN (mg/L)  
Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results	# of Samples
50280	3		
81680	1		
50290	1		
00002	1		
00001	1		
00006	1		
00019	2		
00020	2		
00033	2		

30 34 35 38 48 51

09

## Disinfection

- 12 13 Chlorine Used (kg as Cl<sub>2</sub>)  
Chlorine Dosage (mg/L as Cl<sub>2</sub>)  
Chlorine Residual (mg/L as Cl<sub>2</sub>)

Parameter Code	Dec.	Monthly Results	# of Samples
50320	1		
80410	1		
80420	1		

30 34 35 38 48 51

Operator Telephone Number  
705-345-1841Operator Email Address \*  
tdrouin@severn.ca

Comments

## Return completed form to:

- Environmental Monitoring and Reporting Branch, MECP, at  
WasteWaterReporting@ontario.ca And
- Your Environmental Officer at your local District/Area MECP  
Office.

Ministry Contact Email Address \*  
Peter.Vreugdenhil@ontario.ca

Project Name  
Washago Lagoon

**Facility Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

Operating Authority  
The Corporation of the Township of Severn

**Mailing Address**

Unit Number	Street Number 1021	Street Name Hurlwood Lane	PO Box 159
Municipality/City/Town Orillia		Province ON - Ontario	Postal Code L3V 6J3

File No.	Works Number *		Data Period *		Days	Discharge Type	Update Code
46	120002273		Month	Year	31	2	R
1 2	3 11		16 19		20 21	22	80

[illegible][illegible]

Operator Telephone Number  
705-345-1841

Operator Email Address  
tdrouin@severn.ca

Comments

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office. (Find your local MECP office: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>)

# Appendix C

## Sewage Pump Station Draw Down Tests



# PUMP STATION DRAWDOWN CALCULATIONS

**Washago**

Areas to be Filled

## Volume & Flow Calculations

1 inch = 0.0254 m **or** 1 m = 39.3701 inches

$$V_{\text{pump}} = \pi r^2 h$$

where  $r = \frac{1}{2}$  diameter (m)

$h = \text{m/min}$

Flow = ## x 1000 litres/60 sec.

Main Page 191 of 248

	Trial #	Influent Result (m)	Drawdown Result (m)	Total (m)	Avg. (m)	Flow (L/s)
Pump 1	1	0.03	0.17	0.20	0.185	13.949
	2	0.02	0.15	0.17		
	3	0.05	0.08			
Pump 2	1	0.04	0.15	0.19	0.207	15.582
	2	0.03	0.20	0.23		
	3	0.05	0.15	0.20		

## Main W/O

$$V_{\text{pump}} = 0.837 \text{ m}^3/\text{min}$$

$$\text{Flow} = 13.949 \text{ L/s}$$

$$V_{\text{pump}} = 0.935 \text{ m}^3/\text{min}$$

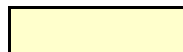
$$\text{Flow} = 15.582 \text{ L/s}$$

Date Completed : May 9 2024

Completed By: Silas Smith

# PUMP STATION DRAWDOWN CALCULATIONS

**Washago**



Areas to be Filled

## Volume & Flow Calculations

1 inch = 0.0254 m or 1 m = 39.3701 inches

$$V_{\text{pump}} = \pi r^2 h$$

where  $r = \frac{1}{2}$  diameter (m)

$h = \text{m/min}$

Flow = ## x 1000 litres/60 sec.

Main

Diameter: 2.4 m (94 in)

Radius:

1.2 m

	Trial #	Influent Result (m)	Drawdown Result (m)	Total (m)	Avg. (m)	Flow (L/s)
Pump 1	1	0.03	0.12	0.15	0.150	11.310
	2	0.01	0.14	0.15		
	3	0.02	0.14	0.15		
Pump 2	1	0.04	0.16	0.20	0.183	13.823
	2	0.02	0.15	0.17		
	3	0.01	0.17	0.18		

## Main W/O

$$V_{\text{pump}} = 0.679 \text{ m}^3/\text{min}$$

$$\text{Flow} = 11.310 \text{ L/s}$$

$$V_{\text{pump}} = 0.829 \text{ m}^3/\text{min}$$

$$\text{Flow} = 13.823 \text{ L/s}$$

Date Completed: October 11 2024

Completed By: Silas Smith

# Appendix D

## Laboratory Analysis Reports



**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

29-April-2024

**Twp of Severn (Washago STP)**

Attn : Tony Drouin

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

Phone: 705-345-1841 (cell)  
Fax: 705-325-1247

**Date Rec. :** 22 April 2024  
**LR Report:** CA14769-APR24

**Copy:** #1

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	6: Washago Lagoon
Sample Date & Time					22-Apr-24 08:13
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Biochemical Oxygen Demand (BOD5) [mg/L]	23-Apr-24	16:20	29-Apr-24	11:17	< 4
Total Suspended Solids [mg/L]	24-Apr-24	09:12	25-Apr-24	11:53	3
pH [No unit]	23-Apr-24	13:21	25-Apr-24	11:00	7.92
Alkalinity [mg/L as CaCO <sub>3</sub> ]	23-Apr-24	13:21	25-Apr-24	11:00	124
Phosphorus (total) [mg/L]	24-Apr-24	14:58	25-Apr-24	21:51	0.15
Total Kjeldahl Nitrogen [as N mg/L]	24-Apr-24	17:01	25-Apr-24	14:34	5.8
Ammonia+Ammonium (N) [as N mg/L]	24-Apr-24	18:36	26-Apr-24	12:32	4.4



Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

06-May-2024

**Twp of Severn (Washago STP)**

Attn : Tony Drouin

Date Rec. : 29 April 2024

LR Report: CA15455-APR24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

Copy: #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Washago Lagoon
Sample Date & Time						29-Apr-24 10:30
Temperature Upon Receipt [°C]	---	---	---	---	---	8.0
Biochemical Oxygen Demand (BOD5) [mg/L]	30-Apr-24	16:02	06-May-24	11:10	25	< 4
Total Suspended Solids [mg/L]	30-Apr-24	13:12	01-May-24	13:41	25	< 2
Phosphorus (total) [mg/L]	30-Apr-24	15:42	01-May-24	11:17	1	0.12
Total Kjeldahl Nitrogen [as N mg/L]	30-Apr-24	15:39	01-May-24	09:52	---	5.1
Ammonia+Ammonium (N) [as N mg/L]	30-Apr-24	19:23	01-May-24	13:01	---	3.7
pH [No unit]	30-Apr-24	08:38	30-Apr-24	14:30	---	7.84
Alkalinity [mg/L as CaCO3]	30-Apr-24	08:38	30-Apr-24	14:30	---	116



Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

16-May-2024

**Twp of Severn (Washago STP)**

Attn : Tony Drouin

**Date Rec. :** 08 May 2024**LR Report:** CA12193-MAY24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Washago Lagoon
Sample Date & Time						07-May-24 09:54
Temperature Upon Receipt [°C]	---	---	---	---	---	11.0
Biochemical Oxygen Demand (BOD5) [mg/L]	09-May-24	16:47	14-May-24	13:04	25	< 4
Total Suspended Solids [mg/L]	10-May-24	09:09	14-May-24	08:15	25	< 2
pH [No unit]	14-May-24	12:45	15-May-24	13:02		8.04
Alkalinity [mg/L as CaCO <sub>3</sub> ]	14-May-24	12:45	15-May-24	13:02		113
Phosphorus (total) [mg/L]	09-May-24	15:47	14-May-24	06:57	1	0.16
Total Kjeldahl Nitrogen [as N mg/L]	09-May-24	07:13	10-May-24	09:53	---	4.3
Ammonia+Ammonium (N) [as N mg/L]	15-May-24	20:51	16-May-24	09:03		3.6



Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety



**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

**27-May-2024****TwP of Severn (Washago STP)****Attn : Tony Drouin**

**Date Rec. :** 21 May 2024  
**LR Report:** CA13975-MAY24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1


Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Lagoon Effluent	7: Green River Upstream	8: Green River Downstream
Sample Date & Time						21-May-24 09:00	21-May-24 10:00	21-May-24 08:40
Temperature Upon Receipt [°C]	---	---	---	---	---	19.0	19.0	19.0
Biochemical Oxygen Demand (BOD5) [mg/L]	22-May-24	17:29	27-May-24	12:55	25	< 4	< 4	< 4
Total Suspended Solids [mg/L]	23-May-24	08:04	24-May-24	08:42	25	2	3	2
Alkalinity [mg/L as CaCO3]	23-May-24	16:16	24-May-24	14:50	---	107	104	103
Phosphorus (total) [mg/L]	22-May-24	16:32	23-May-24	21:04	1	0.20	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	22-May-24	16:39	27-May-24	11:21	---	3.6	0.6	0.6
Unionized Ammonia [mg/L as N]	23-May-24	10:26	24-May-24	13:51	---	< 0.001	< 0.001	< 0.001
Ammonia+Ammonium (N) [as N mg/L]	23-May-24	10:26	24-May-24	13:50	---	2.6	< 0.1	< 0.1
Field pH [no unit]	---	---	---	---	---	6.2	6.8	6.6
Field Temperature [celcius]	---	---	---	---	---	12.0	12.0	12.0

Note: Provincial unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

  
Hawley Anderson, Hon.B.Sc  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

**03-June-2024****Twp of Severn (Washago STP)****Attn : Tony Drouin**

**Date Rec. :** 24 May 2024  
**LR Report:** CA12992-MAY24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Lagoon Effluent	7: Green River Upstream	8: Green River Downstream
Sample Date & Time						23-May-24 11:05	23-May-24 11:30	23-May-24 10:50
Temperature Upon Receipt [°C]	---	---	---	---	---	18.0	18.0	18.0
Field pH [no unit]	---	---	---	---	---	6.80	6.45	6.74
Field Temperature [celsius]	---	---	---	---	---	20	20	20
Biochemical Oxygen Demand (BOD5) [mg/L]	27-May-24	15:26	03-Jun-24	10:10	25	< 4	< 4	< 4
Total Suspended Solids [mg/L]	28-May-24	19:35	29-May-24	16:21	25	3	7	3
Alkalinity [mg/L as CaCO3]	25-May-24	11:52	27-May-24	11:43		115	104	102
Phosphorus (total) [mg/L]	28-May-24	14:49	29-May-24	15:12	1	0.23	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	27-May-24	16:01	29-May-24	12:49	---	4.2	< 0.5	0.6
Ammonia+Ammonium (N) [as N mg/L]	24-May-24	19:30	28-May-24	07:49	---	2.6	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	24-May-24	19:30	28-May-24	07:49	---	0.006	< 0.001	< 0.001

Note: Provincial unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

  
Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

03-June-2024

**Twp of Severn (Washago STP)**

Attn : Tony Drouin

**Date Rec. :** 27 May 2024**LR Report:** CA14851-MAY24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Lagoon Effluent	7: Green River Upstream	8: Green River Downstream
Sample Date & Time						27-May-24 12:11	27-May-24 12:55	27-May-24 11:57
Temperature Upon Receipt [°C]	---	---	---	---	---	16.0	16.0	16.0
Biochemical Oxygen Demand (BOD5) [mg/L]	28-May-24	16:34	03-Jun-24	12:07	25	4	< 4	< 4
Total Suspended Solids [mg/L]	29-May-24	10:35	30-May-24	12:49	25	3	4	2
Phosphorus (total) [mg/L]	29-May-24	14:58	30-May-24	16:01	1	0.20	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	28-May-24	17:50	30-May-24	10:05	---	2.8	< 0.5	0.6
Alkalinity [mg/L as CaCO <sub>3</sub> ]	28-May-24	14:32	29-May-24	11:49	---	112	98	100
Ammonia+Ammonium (N) [as N mg/L]	28-May-24	17:00	29-May-24	11:24	---	1.8	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	28-May-24	17:00	30-May-24	10:06	---	0.040	<0.003	<0.003
Temperature @ pH [°C]	28-May-24	14:32	29-May-24	11:49	---	21.4	21.4	21.4
pH [No unit]	28-May-24	14:32	29-May-24	11:49	---	7.73	8.09	8.08

Note: Provincial unionized ammonia calculated using Lab results for pH and temperature.

**Hawley Anderson, Hon.B.Sc**  
**Project Specialist,**  
**Environment, Health & Safety**



**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

07-June-2024

**Twp of Severn (Washago STP)**

Attn : Tony Drouin

**Date Rec. :** 31 May 2024**LR Report:** CA19798-MAY24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Lagoon Effluent	7: Green River Upstream	8: Green River Downstream
Sample Date & Time						29-May-24 09:53	29-May-24 10:10	29-May-24 09:35
Temperature Upon Receipt [°C]	---	---	---	---	---	12.0	12.0	12.0
Field pH [no unit]	---	---	---	---	---	6.4	7.00	6.80
Field Temperature [celcius]	---	---	---	---	---	16	15	15
Biochemical Oxygen Demand (BOD5) [mg/L]	31-May-24	17:38	05-Jun-24	12:18	25	< 4	< 4	< 4
Total Suspended Solids [mg/L]	05-Jun-24	08:29	06-Jun-24	09:24	25	2	< 2	< 2
Alkalinity [mg/L as CaCO3]	03-Jun-24	15:39	05-Jun-24	11:15	---	115	105	103
Phosphorus (total) [mg/L]	04-Jun-24	15:07	06-Jun-24	15:21	1	0.21	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	03-Jun-24	19:06	05-Jun-24	10:31	---	3.0	0.5	0.5
Ammonia+Ammonium (N) [as N mg/L]	04-Jun-24	06:43	05-Jun-24	09:59	---	1.8	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	04-Jun-24	06:43	05-Jun-24	10:00	---	0.001	< 0.001	< 0.001

Note: Provincial unionized ammonia calculated from field pH and temperature provided on the chain of custody form.



Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

04-November-2024

**Twp of Severn (Washago STP)**

Attn : Tony Drouin

**Date Rec. :** 28 October 2024

**LR Report:** CA14796-OCT24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Washago Lagoon
Sample Date & Time						28-Oct-24 09:35
Temperature Upon Receipt [°C]	---	---	---	---	---	5.0
Biochemical Oxygen Demand (BOD5) [mg/L]	29-Oct-24	16:35	04-Nov-24	11:11	25	6
Total Suspended Solids [mg/L]	29-Oct-24	13:33	30-Oct-24	13:19	25	< 2
pH [No unit]	29-Oct-24	15:48	30-Oct-24	10:25		7.98
Alkalinity [mg/L as CaCO3]	29-Oct-24	15:48	30-Oct-24	10:25		151
Phosphorus (total) [mg/L]	29-Oct-24	17:09	30-Oct-24	14:33	1	0.15
Total Kjeldahl Nitrogen [as N mg/L]	29-Oct-24	17:46	30-Oct-24	09:59	---	5.4
Ammonia+Ammonium (N) [as N mg/L]	29-Oct-24	19:05	31-Oct-24	12:47		3.6

*Hawley Anderson, Hon.B.Sc*  
*Project Specialist,*  
*Environment, Health & Safety*

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

**11-November-2024****Twp of Severn (Washago STP)****Attn : Tony Drouin**

**Date Rec. :** 04 November 2024  
**LR Report:** CA14068-NOV24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Washago Lagoon
Sample Date & Time						04-Nov-24 10:32
Temperature Upon Receipt [°C]	---	---	---	---	---	10.0
Biochemical Oxygen Demand (BOD5) [mg/L]	05-Nov-24	16:44	11-Nov-24	11:18	25	8
Total Suspended Solids [mg/L]	05-Nov-24	12:03	06-Nov-24	11:28	25	6
pH [No unit]	05-Nov-24	10:14	06-Nov-24	10:00		7.38
Alkalinity [mg/L as CaCO <sub>3</sub> ]	05-Nov-24	10:14	06-Nov-24	10:00		153
Ammonia+Ammonium (N) [as N mg/L]	05-Nov-24	19:17	06-Nov-24	14:30		4.2
Phosphorus (total) [mg/L]	05-Nov-24	17:26	06-Nov-24	13:40	1	0.16
Total Kjeldahl Nitrogen [as N mg/L]	06-Nov-24	16:39	07-Nov-24	11:23	---	6.0

**Hawley Anderson, Hon.B.Sc**  
**Project Specialist,**  
**Environment, Health & Safety**

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - KOL 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

18-November-2024

**Twp of Severn (Washago STP)**

Attn : Tony Drouin

**Date Rec. :** 11 November 2024  
**LR Report:** CA14182-NOV24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Washago Lagoon
Sample Date & Time						11-Nov-24 11:37
Temperature Upon Receipt [°C]	---	---	---	---	---	12.0
Biochemical Oxygen Demand (BOD5) [mg/L]	12-Nov-24	16:07	18-Nov-24	10:18	25	9
Total Suspended Solids [mg/L]	12-Nov-24	12:41	13-Nov-24	11:32	25	8
pH [No unit]	12-Nov-24	17:12	13-Nov-24	11:59		8.08
Alkalinity [mg/L as CaCO3]	12-Nov-24	17:12	13-Nov-24	11:59		117
Ammonia+Ammonium (N) [as N mg/L]	13-Nov-24	19:02	14-Nov-24	12:53		4.1
Phosphorus (total) [mg/L]	14-Nov-24	10:02	15-Nov-24	13:04	1	0.13
Total Kjeldahl Nitrogen [as N mg/L]	13-Nov-24	17:01	14-Nov-24	15:51	---	5.7

*Hawley Anderson, Hon.B.Sc*  
*Project Specialist,*  
*Environment, Health & Safety*



**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

02-December-2024

**TwP of Severn (Washago STP)**

Attn : Tony Drouin

**Date Rec. :** 25 November 2024  
**LR Report:** CA14645-NOV24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Lagoon Effluent	7: Green River Upstream	8: Green River Downstream
Sample Date & Time						25-Nov-24 09:50	25-Nov-24 10:01	25-Nov-24 10:13
Temperature Upon Receipt [°C]	---	---	---	---	---	-2	-2	-2
Field Temperature [celcius]	---	---	---	---	---	4.0	3.0	3.0
Field pH [no unit]	---	---	---	---	---	6.33	6.35	6.35
Biochemical Oxygen Demand (BOD5) [mg/L]	26-Nov-24	16:23	02-Dec-24	11:40	25	12	< 4	< 4
Total Suspended Solids [mg/L]	27-Nov-24	07:45	27-Nov-24	15:04	25	9	< 2	< 2
Alkalinity [mg/L as CaCO3]	26-Nov-24	15:38	27-Nov-24	10:11	---	148	94	95
Phosphorus (total) [mg/L]	26-Nov-24	15:57	27-Nov-24	11:01	1	0.11	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	27-Nov-24	17:26	28-Nov-24	14:52	---	5.8	0.6	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	26-Nov-24	18:09	27-Nov-24	13:50	---	3.7	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	26-Nov-24	18:09	27-Nov-24	13:50	---	< 0.001	< 0.001	< 0.001

Note: Provincial unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Note: Sample temperature upon receipt was low; no ice observed in sample(s).

  
Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

05-December-2024

**Twp of Severn (Washago STP)**

Attn : Tony Drouin

**Date Rec. :** 29 November 2024  
**LR Report:** CA15506-NOV24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Lagoon Effluent	7: Green River Upstream	8: Green River Downstream
Sample Date & Time						28-Nov-24 09:40	28-Nov-24 09:56	28-Nov-24 10:07
Temperature Upon Receipt [°C]	---	---	---	---	---	9.0	9.0	9.0
Field pH [no unit]	---	---	---	---	---	6.6	6.5	6.6
Field Temperature [celsius]	---	---	---	---	---	6	5	4
Biochemical Oxygen Demand (BOD5) [mg/L]	29-Nov-24	14:29	04-Dec-24	11:49	25	< 4	< 4	< 4
Total Suspended Solids [mg/L]	02-Dec-24	07:50	03-Dec-24	16:20	25	2	< 2	< 2
Phosphorus (total) [mg/L]	29-Nov-24	15:57	02-Dec-24	11:19	1	0.11	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	29-Nov-24	17:26	03-Dec-24	10:39	---	6.0	< 0.5	< 0.5
Alkalinity [mg/L as CaCO3]	29-Nov-24	16:00	02-Dec-24	12:11		154	98	98
Ammonia+Ammonium (N) [as N mg/L]	29-Nov-24	19:02	02-Dec-24	13:13		4.6	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	29-Nov-24	19:02	02-Dec-24	13:13		0.002	< 0.001	< 0.001



Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

12-December-2024

**Twp of Severn (Washago STP)**

Attn : Tony Drouin

**Date Rec. :** 06 December 2024  
**LR Report:** CA12225-DEC24

P.O. Box 159  
Orillia, ON  
L3V 6J3, Canada

**Copy:** #1

Phone: 705-345-1841 (cell)  
Fax: 705-327-5818

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits	6: Lagoon Effluent	7: Green River Upstream	8: Green River Downstream
Sample Date & Time						05-Dec-24 10:00	05-Dec-24 09:40	05-Dec-24 09:15
Temperature Upon Receipt [°C]	---	---	---	---	---	3.0	3.0	3.0
Field pH [no unit]	---	---	---	---	---	6.6	6.5	6.5
Field Temperature [celcius]	---	---	---	---	---	5	5	4
Biochemical Oxygen Demand (BOD5) [mg/L]	07-Dec-24	10:16	12-Dec-24	10:16	25	< 4	< 4	< 4
Total Suspended Solids [mg/L]	10-Dec-24	12:19	11-Dec-24	14:16	25	5	4	< 2
Alkalinity [mg/L as CaCO3]	09-Dec-24	08:24	10-Dec-24	11:17		152	93	98
Phosphorus (total) [mg/L]	09-Dec-24	16:05	11-Dec-24	11:27	1	0.18	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	06-Dec-24	19:44	09-Dec-24	13:18	---	7.0	< 0.5	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	09-Dec-24	19:22	10-Dec-24	14:43		5.8	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	09-Dec-24	19:22	10-Dec-24	14:43		0.003	< 0.001	< 0.001

  
Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety