

Wastewater Treatment and Collection System

Washago 2021 Annual Report

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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 2021. 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 57,319 m³ - approximately 70% of the facility's operating capacity of 81,900 m3/year.

No bypass occurred during the 2021 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 north west 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

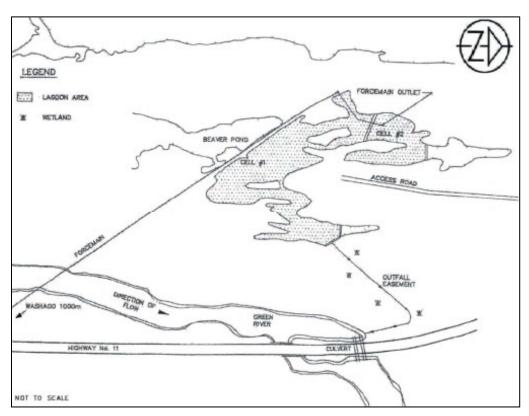
runs through the adjacent wetland. According to the C of A, the seasonal operating capacity of the facility is 40,950 m³ based on an average day flow of 227.5 m³/day over 180 days. A breakdown of the lagoon capacity is shown in Table 1.

Operating Cell	Dead Storage (m³)	Active Storage below 0.6 m Freeboard (m³)	Active Storage including Freeboard (m³)	Total Storage (m³)
Cell No. 1	1,700	38,150	63,880	65,580
Cell No. 2	55	6,195	12,745	12,800
Total	1755	44,345	76,625	78,380

Table 1: Lagoon Capacity

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 2.

Parameter	Objective Limits		Compliance Limits		
	Concentration	Semi-Annual	Concentration	Semi-Annual	
	(mg/L)	Loading (kg)	(mg/L)	Loading (kg)	
BOD ₅	15	614	25	1,024	
TSS	20	815	25	1,024	
Pt	1	41	1	41	

Table 2: Performance Criteria

Monitoring and Treatment Protocol

Raw sewage samples were collected from Washago Sewage Pumping Station #1 on a monthly basis and analyzed for TSS, BOD₅, P_t and TKN. Results of the analysis are shown on the Municipality Monitoring Program Mechanical Plants forms enclosed in Appendix B and summarized in Table 3.

Raw Sewage Monitoring

Date	TSS	BOD ₅	Pt	TKN
	(mg/L)	(mg/L)		(mg/L)
January 6, 2021	87	96	3.84	37.4
February 2, 2021	145	193	7.07	65.8
March 2, 2021	225	161	7.01	64.6
April 6, 2021	180	151	5.66	58.7
May 4, 2021	156	181	4.90	44.8
June 8, 2021	310	167	6.70	54.5
July 13, 2021	130	154	6.30	67.9
August 4, 2021	118	151	4.60	67.7
September 8, 2021	166	185	3.97	41.0
October 5, 2021	148	358	6.56	63.1
November 2, 2021	142	188	3.46	28.2
December 15, 2021	175	214	4.01	23.3
Mean Concentration	165	183	5.34	51.4

Table 3: Raw Sewage Monitoring Results

Sewage Flow Monitoring

The volume of sewage pumped from Washago Sewage Pumping Station #1 to the lagoon is estimated on a monthly basis 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 October 14, 2020, to April 3, 2021, winter operating season was 12,611 m³. The total estimated volume of sewage transferred to the lagoon during the April 4, 2021, to November 9, 2021, summer operating season was 13,525 m³. The total volume of

sewage transferred to the lagoon during the winter and summer operating seasons was 26,136 m³. Sewage flows are summarized in Table 4.

Winter Operating Sea	son	Summer Operating Season		
Date	Volume (m ³)	Date	Volume (m ³)	
October 14-31, 2020	1,173	April 4-30, 2021	1,851	
November 2020	2,080	May 2021	1,841	
December 2020	2,583	June 2021	1,920	
January 2021	1,672	July 2021	1,850	
February 2021	1,582	August 2021	1,418	
March 2021	3,307	September 2021	1,790	
April 1-3, 2021	214	October 2021	1,897	
		November 1-9, 2021	958	
Sub-Total	12,611	Sub-Total	13,525	
Total Volume - Summe	26,136			

Table 4: Sewage Flow to Lagoon

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 essentially to reduce P_t levels, a significant reduction of BOD₅ and TSS is also achieved. The volume of alum required to treat

the cell is calculated based on jar test results to determine the optimum alum concentration and the estimated gross volume of liquid in the cell. The formulae for calculating the required volume of alum are presented in Appendix D. The stagestorage curves used to estimate the gross volume of liquid in the cells are presented in Appendix E. 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 BOD₅, 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 BOD5, Pt, TSS, pH, TA, TKN and Alkalinity.

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

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 BOD₅ 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.

	Date	TSS	BOD ₅	Pt	ТА
		(mg/L)	(mg/L)	(mg/L)	(mg/L)
Sample 1	March 29, 2021	17	16	0.50	9.9
Sample 2	April 6, 2021	17	8	0.12	7.5
Sample 3	April 13, 2021	8	6	0.19	4.7
C of A Objective		20	15	1	N/A
C of A Compliance		25	25	1	N/A

Table 5: Pre-Discharge Sampling – Spring Discharge

The spring discharge commenced on May 3, 2021. The total volume of effluent discharged was 20,502 m³ at a mean discharge rate of 2928 m3/day. During the discharge, the mean concentrations of TSS, BOD₅ and Pt were below compliance limits. A summary of the effluent quality and waste loadings is illustrated in Table 6.

	Date	TSS	BOD ₅	Pt	ТА
		(mg/L)	(mg/L)	(mg/L)	(mg/L)
Start Discharge	May 3, 2021	6	6	0.13	2.8
Mid Discharge	May 5, 2021	2	<4	0.10	1.6
End Discharge	May 10, 2021	4	6	0.22	3.8
Mean Concentration		4	5.3	0.15	2.7
C of A Objective		20	15	1	N/A
C of A Compliance		25	25	1	N/A
Effluent Waste Loading		82	109	4.51	55.4

Table 6: Effluent Discharge Summary – Spring Discharge

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.

	Date	TSS	BOD ₅	Pt	ТА
		(mg/L)	(mg/L)	(mg/L)	(mg/L)
Start Discharge	May 3, 2021				
Upstream		<2	<4	<0.03	<0.1
Downstream		4	<4	<0.03	<0.1
Mid Discharge	May 5, 2021				
Upstream		4	<4	<0.03	<0.1
Downstream		2	<4	<0.03	<0.1
End Discharge	May 10, 2021				
Upstream		<2	<4	0.03	<0.1
Downstream		<2	<4	<0.03	<0.1

Table 7: Green River Monitoring – Spring Discharge

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.

TSS BOD₅ Pt TA Date (mg/L) (mg/L)(mg/L)(mg/L)Nov 8, 2021 Sample 1 18 0.55 3 1.1 Nov 15, 2021 14 Sample 2 21 0.59 0.9 Nov 24, 2021 4 4 Sample 3 0.04 0.2 C of A Objective 20 15 1 N/A C of A Compliance 25 25 1 N/A

Table 8: Pre-Discharge Sampling – Fall Discharge

The discharge of Cell No. 1 commenced December 13, 2021. The total volume of effluent discharged was 36,187 m³ at a mean discharge rate of 4,523 m³/day.

During the discharge, the mean concentrations of TSS, BOD₅ and P_t were below compliance limits. A summary of the effluent quality and waste loadings is illustrated in Table 9.

	Date	TSS	BOD ₅	Pt	ТА
		(mg/L)	(mg/L)	(mg/L)	(mg/L)
Start Discharge	Dec 13, 2021	11	13	0.10	0.3
Mid Discharge	Dec 16, 2021	3	5	0.03	0.005
End Discharge	Dec 21, 2021	13	12	0.07	4.6
Mean Concentration		9	10	0.07	1.6
C of A Objective		20	15	1	N/A
C of A Compliance		25	25	1	N/A
Effluent Waste loading		325	361	2.53	57.9

Table 9: Effluent Discharge Summary – Fall Discharge

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. Results of the analysis are illustrated in Table 10.

	Date	TSS (mg/L)	BOD₅ (mg/L)	P _t (mg/L)	TA (mg/L)
Start Discharge	Dec 13, 2021				
Upstream		2	<4	<0.03	<0.01
Downstream		<2	<4	<0.03	<0.01
Mid Discharge	Dec 16, 2021				
Upstream		3	<4	<0.03	<0.01
Downstream		2	4	<0.03	<0.01
End Discharge	Dec 21, 2021				

Table 10: Green River Monitoring – Fall Discharge

Upstream	<2	<4	<0.03	<0.01
Downstream	12	<4	<0.03	<0.01

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.

All effluent objectives were met for 2021 lagoon discharges.

2021 Operating Year Summary

The volumes of influent received, and effluent discharged from the lagoon during the 2021 operating year are summarized in Table 11. The total volume of sewage received plus the net precipitation during the 2021 operating year was 56,689 m³. A total effluent volume of 56,689 m³ was discharged from the lagoon.

Table 11: Influent and Discharge Volume Summary

Total Influent Volume Sewage	26,136 m³
Total Effluent Discharged	56,689 m³
Approx. Precipitation Volume	30,553 m³

The waste loadings during the 2021 operating year are summarized in Table 12.

Table 12: Waste Loading Summary

	Spring 2020 (kg)	Fall 2020 (kg)	Total Loading (kg)
TSS	82	325	407
BOD5	109	361	470
Pt	4.51	2.53	7.04
ТА	55	57.9	112.9

Conclusions and Recommendations

The performance of the Washago Sewage Treatment Works during the 2021 operating year satisfied all requirements of the Certificate of Approval. 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 practical 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

Ministry of the Environment Certificate No. 3-0800-82-006

Certificate of Approval (Sewage)

SANITARY SEWERS

ntario

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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:

STREET	FROM	<u>T0</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
Attn:-Mr. J.B. Mather, Clerk, cc:-Mr. G. Mierzynski, MOE	Twp. of Ori C. Reg. Dir.	llia	
-Reid & Assoc. Ltd.			
-Mr. W.A.S. Marshall, Pro	oject Engrg.		
-Mr. N. Embree, MOE Barr			na ma
		10	15 1110
-Mr. J. Toth, Design & Ed -Mr. W. Brink, Design & I	Equipment	C	101100
ec			
NOF 0701 0/01			

Director

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Ministry of the Environment Cc___ificate No. 3-0800-82-006 (Continued)

Certificate of Approval (Sewage)

- 2 -

Whereas

Ontario

of

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

SANITARY SEWERS (Cont'd)	and developments of the second states of the second states and the second states are second states and the second states are second states	
STREET	FROM	<u>T0</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
FORCEMAINS		
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

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Os m Director

Certificate No. 3-0800-82-006 (Continued)

Ministry of the Environment

Certificate of Approval (Sewage)

- 3 -

Whereas

Ontario

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:

<u>SEWAGE PUMPING STATION NO.1</u>: 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;

<u>SEWAGE PUMPING STATION NO.3</u>: 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

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of the Environment Certificate No. .7-0214-83-006.....

Certificate of Approval (Water)

Whereas TOWNSHIP OF ORILLIA

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

the construction of watermains as follows:

STREET	FROM	TO
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).

into all recent with the local DCa

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 Attn:-Mr. J.B. Mather, Clerk, Tw	29th day of	Apri1	19 83
	cc:¥Mr. J. Ferguson, Road Supt	t.		
	-Mr. G. Mierzynski, MOE C.	Reg. Dir.		
	-Reid & Assoc. Ltd.			
	-Mr. W.A.S. Marshall, Proj.	. Engra.		
	-Mr. A.J. Forsyth, Proj. Er	ngrg.	0	A DECEMBER OF THE OWNER AND
	-Mr. J. Toth, Design & Equi	ipment	20	
ĉ	ec -Mr. W. Brink, Design & Equ	uipment		W. Carton
			Director	0
	MOE 0732 9/81			

Ontario	Certificate of Ap (Sewage)	prova or RELEIVED IT -
Whereas	TOWNSHIP OF ORILL	IA
×X		
has applied in accordance with Se	ction 24 of the Ontario Water Resc	ources 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

C.N.R. Right-of-Way

FORCEMAIN

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 ATTORONTO this 29th day of 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 /ec -Mr. W. Brink, Design & Equipment

April

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Director

MOE 0731 9/81

Ministère Environment l'Environnement

Ministry

of the

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

Number / Numéro 3-1459-87-006

Whereas / Attendu que Hope-Smith Lands Limited

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 1/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

of / d

From

Forcemain

Hamilton St.

Approx. 45m E of Cumberland St.

Quetton St

TO

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

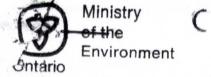
Oct-187 16 ON ... Wesh (Signed)



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.

16 DATED AT TORONTO this day of DATÉ À TORONTO ce jour d cc: (Mr. J.B. Mather, Clerk, Township of Orillia Mr. A.F. Pelletier, Clerk, County of Simcoe Mr. N. Embree, Chief Approvals and Planning Uni Marshall Macklin Monaghan Limited 12. ...





.../2

Certificate of Approval (Sewage)

Whereas

..... TOWNSHIP OF ORILLIA

XQ

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval ofthe 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; interconnecting piping; and outfall structure and all necessary appurtenances (Total effective storage volume at 1.5 m effective liquid depth = 47,800 m³; BOD loading rate = 8.11 kg/ha/d) with effluent discharge via an existing natural drainage

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:

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Effluent Parameter	Effluent Concentration	Effluent Waste Loading
B005	15 mg/L	614 kg
Suspended Solids	20 mg/L	815 kg
Total Phosphorus	1.0 mg/L	41 kg

di. 1. .

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
ttn:-Mr. J.B. Mather, Clerk, Twp. of Orillia		November	10 03
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			

Ontario

Certificate of Approval (Sewage)

Whereas

of

- 2 -

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).

Effluent Parameter	Effluent Concentration	Effluent Waste Loading
BOD 5	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 $227.5 \text{ m}^3/\text{d}$ 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 noncompliance of the BOD5, 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 BOD5, 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

.....

Certificate of Approval (Sewage)

- 3 -

Whereas

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 BOD5, 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

- BOD5
- 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

√an

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 (BOD₅, 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 requirments, 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.





of the Environment

> 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 BOD₅, 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,	The Director,
Environmental Appeal Board,	Section 24, O.W.R. Act,
1 St. Clair Ave. West,	Ministry of the Environment,
5th Floor, AND	135 St. Clair Ave. West,
Toronto, Ontario.	Toronto, Ontario.
M4V 1K7	M4V 1P5

DATED at Toronto

this 18thday of November , 1983.

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

Ministère Ministry de Environment l'Environnement et de l'Énergie and Energy

AMENDMENT TO CERTIFICATE OF APPROVAL MUNICIPAL SEWAGE WNSHIAVUMBER 3-1081-83-006 Page 1 of 2

NOTICE OF AMENDMENT

To the Applicant:

of the

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.

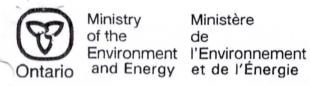
The Applicant may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act. R.S.O. 1990. Chapter 0.40, provides that the Notice requiring the hearing shall state:

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

The Notice should also include:

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

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



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.



Ministère de l'Environnement

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

2 1988

Director / Directeur

Number / Numéro 3-0051-86-006

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 DATÉ 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.

0731 06/84

Certificate No. 1-0294-7	1- 3261	Attaciment: Air Approval
	7-753261	
en: Mr. W.A. Marshall J.D. Reid and Assoc. Mr. F. Cockburn (MOI Region)	Ltd. Central	AUG 8 1975
Mr. J. Toth (MOE Tec		REID & ASSOC. LTD.
Jaw SEWA	AGE WORKS A	APPROV AL
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Whereas	THE PROVINCE OF	ONTARIO
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construction of a	Section 42 of The Ontario Water Resource sanitary sewerage works s ity of Washago) as follow	system to serve the Township
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Easement parallel (Severn River	to Hamilton St.Easen	ment Edgar St.
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Forcemains		
Easement	Edgar St. (propo Sewage Pumping St No. 1)	
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Easement	Hamilton St.	approx. 1850' N. of Hamilton St. (Proposed

continued:

DATED AT TORONTO this

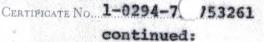
lst

day of

August

19 75

Director Confing





1000 CE-3 -3-5 Cup Collins MINISTRY OF THE ENVIRONMENT

SEWAGE WORKS APPRO AL Ins 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

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C. Mananak

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Proposed Sewage Pumping Station #2

approx. 180' N.

Outfall sewer

Easement

Easement

Proposed Sewage Treatment West Branch of Plant Severn River

including building sewers from the main sewer to the stret 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 Uperclore 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:

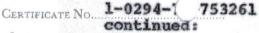
DATED AT TORONTO this

lst

day of

August 19 75 Director

110E 10 001 7/70





MINISTRY OF THE ENVIRONMENT

SEWAGE WORKS APPROVAL

Whereas

of

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),

3

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,

Row 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

1975

Director

August

Appendix B

Municipality Monitoring Program Mechanical Plants Forms



Ministry of the Environment

Project I							
	go Lagoon						
Mailing /							
Unit No.		Street Name					PO Box
	1024	Hurlwood Lane					159
	ality/City/Town				Province		Postal Code
Orillia					ON		L3V 6J3
	g Authority						
The Co	rporation of the Towns	hip of Severn					
Mailing A		Les Lui					
Unit No.	Street No. 1024	Street Name Hurlwood Lane					PO Box
Municing	ality/City/Town	Huriwood Lane			Province		159
Orillia							Postal Code
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3 5	FLOWS		Parameter Code	Dec		Monthly Results	
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3 5	BYPASS						No. of Occurrences
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	Flow Duration	(hrs) 8	1 6 8	0 1			
	Cell Depth	(m) 5	0 2 9	0 1			
	BOD₅	(mg/L) 0	0 0 0	1 1			
	Suspended Solids	(mg/L) 0	0 0 0	6 1			
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	TKN	(mg/L) 0	0 0 2	0 2			
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Operator '	Telephone Number	Email Addre	ess				
705-325-		utilities@t	ownshipofsev	ern.com			
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Return completed form to:

- 1. Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@Ontario.ca AND
- 2. Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: http://www.ene.gov.on.ca/environment)

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Operatin	g Authority								1								100	1 000				
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Return completed form to:

- 1. Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@Ontario.ca AND
- 2. Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: http://www.ene.gov.on.ca/environment)



Ministry of the Environment

Project Name		
Washago Lagoon		
Mailing Address		
Unit No. Street No. Street Name		PO Box
1024 Hurlwood Lane		159
Municipality/City/Town	Province	Postal Code
Orillia	ON	L3V 6J3
Operating Authority		
The Corporation of the Township of Severn		
Mailing Address		î.
Unit No. Street No. Street Name 1024 Hurlwood Lane		PO Box
Municipality/City/Town		159
Orillia	Province	Postal Code
	ON	L3V 6J3
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3 5 FLOWS Parameter Code De	Monthly Results	
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Maximum Daily Flow $(10^3 m^3/d)$ 5 0 2 0 3		5 4
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3 5 BYPASS		No. of Occurrences
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Chlorine Residual (mg/L as Cl ₂) 8 0 4 2 0 1		
(Representative of Final Discharge) 30 34 35	38	48 51
Operator Telephone Number Email Address		
705-325-2315 utilities@townshipofsevern.com Comments		
ovinition@		

Return completed form to:

- 1. Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@Ontario.ca AND
- 2. Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: http://www.ene.gov.on.ca/environment)

	Ontario	the Environ	ment			Municipal Lagoons		.y wi			yrai		(IP) S
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Return completed form to:

- 1. Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@Ontario.ca AND
- 2. Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: http://www.ene.gov.on.ca/environment)



Project Name Washago Lagoon Facility Address Street Number Street Name PO Box 1024 Hurlwood Lane 159 Municipality/City/Town Province Postal Code Orillia ON - Ontario Postal Code Mailing Authority Province PO Box The Corporation of the Township of Severn Street Name PO Box Mailing Address Unit Number Street Number Street Name 1024 Hurlwood Lane 159 Municipality/City/Town Province Po Box 00111a ON - Ontario Postal Code 1024 Hurlwood Lane 159 Municipality/City/Town Province Postal Code 011 0 0 2 0 File No. Works Number * Data Period * Days Discharge Up 1 2 0 0 2 0 2 8 2 2 1 1 10 10 10 2 2 2 2 2 2 <td< th=""></td<>
Facility AddressUnit NumberStreet NumberStreet Name Hurlwood LanePO Box 159Municipality/City/TownProvince OrilliaPostal Code L3V 6J3Operating Authority The Corporation of the Township of SevernProvince ON - OntarioPo Box L3V 6J3Mailing Address Unit NumberStreet Number 1024Street Name Hurlwood LanePO Box 159Municipality/City/Town OrilliaStreet Name Hurlwood LanePO Box 159Municipality/City/Town OrilliaProvince ON - OntarioPostal Code L3V 6J3File No.Works Number * 1 2 0 0 0 2 2 7 3Data Period * 0 2 2 0 2 1Days 2 8 2
Unit NumberStreet Number 1024Street Name Hurlwood LanePO Box 159Municipality/City/Town OrilliaProvince ON - OntarioPostal Code L3V 6J3Operating Authority The Corporation of the Township of SevernProvince ON - OntarioPostal Code L3V 6J3Mailing Address Unit NumberStreet Name Hurlwood LanePO Box 159Municipality/City/Town OrilliaStreet Name Hurlwood LanePO Box 159Municipality/City/Town OrilliaProvince ON - OntarioPostal Code L3V 6J3File No.Works Number * 1 2 0 0 0 2 2 7 3Data Period * Nonth YearDaysDischarge TypeUp Up Type461 2 0 0 0 2 2 7 30 2 2 0 2 1 2 8 220
Municipality/City/Town Orillia Province ON - Ontario Postal Code L3V 6J3 Operating Authority The Corporation of the Township of Severn Postal Code L3V 6J3 Postal Code L3V 6J3 Mailing Address Unit Number Street Number 1024 Street Name Hurlwood Lane PO Box 159 Municipality/City/Town Orillia Province 0N - Ontario Postal Code L3V 6J3 File No. Works Number * Data Period * Month Days Discharge Type Uf Type 4 6 1 2 0 2 2 1 2 8 2
Orillia ON - Ontario L3V 6J3 Operating Authority The Corporation of the Township of Severn Mailing Address PO Box 159 Unit Number Street Number 1024 Street Name Hurlwood Lane PO Box 159 Municipality/City/Town Orillia Province ON - Ontario Postal Code L3V 6J3 File No. Works Number * 1 2 0 0 0 2 2 7 3 Data Period * 0 2 2 0 2 1 Days Discharge Type Uf Contario
The Corporation of the Township of Severn Mailing Address Street Number Street Name PO Box 1024 1024 Hurlwood Lane 159 Municipality/City/Town Orillia Province ON - Ontario Postal Code L3V 6J3 File No. Works Number * Data Period * Month Days Discharge Type Ut C 4 6 1 2 0 0 2 2 0 2 1 2 8 2
Mailing Address Unit Number Street Number 1024 Street Name Hurlwood Lane PO Box 159 Municipality/City/Town Orillia Province ON - Ontario Postal Code L3V 6J3 File No. Works Number * Data Period * Month Days Discharge Type Urg Type 4 6 1 2 0 0 2 7 3 0 2 0 2 8 2
Image: 1024 Hurlwood Lane 159 Municipality/City/Town Orillia Province ON - Ontario Postal Code L3V 6J3 File No. Works Number * Data Period * Month Data Period * Year Days Discharge Type Ut Code 4 0 0 2 2 7 3 0 2 0 2 1 2 8 2
Orillia ON - Ontario L3V 6J3 File No. Works Number * Data Period * Data Period * 4 6 1 2 0 0 2 2 7 3 Data Period * Days Discharge Up
Here Works Number* Month Year Days Distributing of Type 4 6 1 2 0 0 2 2 7 3
4 6 1 2 0 0 0 2 2 7 3 0 2 2 0 2 1 2 8 2
1 2 3 11 16 19 20 21 22
C.P.
3 5 Flows Parameter Code Dec. Monthly Results
¹² ¹³ Total Flow (10 ³ m ³) 50010 3 1582.000
Average Daily Flow (10 ³ m ³ /d) 50015 3 57.000
Maximum Daily Flow (10 ³ m ³ /d) 50020 3
30 34 35 38 46
3 5 Bypass # of Occurren 12 13 Plant Bypass Volume (103 m3) 50270 2
Plant Bypass volume (103 m3) 30270 3
Duration (hours) 81680 1 1
3 6 Raw Sewage # of Sample
¹² ¹³ BOD ₅ (mg/L) 00001 0 193
Suspended Solids (mg/L) 00006 0 145
TKN (mg/L) 00020 2 65.80
Total Phosphorus (mg/L) 00033 1 7.1
30 34 35 38 48
3 9 Final Effluent
^{12 13} Total Effl. Volume To Watercourse (10 ³ m ³) 50280 3
Flow Duration (hours) 81680 1
Cell Depth (m) 50290 1
CBOD ₅ (mg/L) 00002 1
BOD ₅ (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 2
30 34 35 38 48
2 13 Chlorine Used (kg as Cl ₂) 50320 1
Chlorine Dosage (mg/L as Cl ₂) 80410 1
Chlorine Residual (mg/L as Cl ₂) 80420 1
30 34 35 38 48
perator Telephone Number Return completed form to: 05-345-1841 1. Environmental Monitoring and Reporting Branch, MECF
perator Email Address * <u>WasteWaterReporting@ontario.ca</u> And Irouin@severn.ca 2. Your Environmental Officer at your local District/Area
omments MECP Office.
Ministry Contact Email Address * WasteWaterReporting@ontario.ca



Project Name Washago Lagoor	1											
Facility Address												
Unit Number	Street Number 1024	Street Nat								PO	Box 9	
Municipality/City/To Orillia	wn		Provin ON - 0		o						stal Co V 6J3	
Operating Authority The Corporation of	of the Township	of Severn		_						1		
Mailing Address					_					_		
Jnit Number	Street Number 1024	Street Nar								PO	Box	
/unicipality/City/To Drillia	wn		Provin ON - 0		0					Pos	stal Co / 6J3	de
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4 6 1 2	2 0 0 0	2 2 7	3 (2	Ye:	2 1	2 8		ype 2		Code R
C.P.			11 1	6			19	20 21		22	_	80
3 6 Raw Sewa	ige	[Paramete	r Code		ec	Month	ly Average	Results	削	# of §	Samples
2 13												
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		3	0		34 3	5	38			L		
9 Final Efflue	ent	[Parameter	Code	De	c	Monthl	y Average F	Results	劏	# of S	amples
^{2 13} Alkalinity, T	otal	(mg/L)	0005	1	4							
Conductivit	y 25°C	(µS/cm)	9100	4	4							
E. Coli		(CT/100ml)	9100	0	4	•						
	iltered reactive	(mg/L)	0002	2	4							
	Itered reactive	(mg/L)	0002		4	_						
pH			80770		4	-						
Temperatur		(°C)	80250		4	-						
Un-ionized Dissolved C		(mg/L)	91012		4	- 1	-					
Hydrogen S		(mg/L) (mg/L)	00003		4	- 1				-		_
inydrogen o		(ing/L)	03000)	4					-		
erator Telephone I	Number	30		3- Reti			38 eted for	m to:				
5-345-1841				1. I	Environ	men	tal Monito	ring and Re	eporting	Bran	ch, ME	ECP, at
erator Email Addre	ISS							g@ontario.c				
mments				2. \ 	rour En NECP (viroi Office	nmental C e. (Find v	Officer at you our local ME	ur local [ECP offic	Distri æ: ht	ot/Area tos://	3
				<u>v</u>	ww.on	tario	.ca/enviro	nment-and	-energy/	minis	stry-	
					INTON	nent	-district-lo	cator)				



acility Add	ress								
Init Number	Street Number	Street Nam						PO Bo	x
1unicipality/Ci Drillia		T Id I WOOd I	Provin					Postal	
perating Auth	ority		ON-0	Ontario				L3V 6	J3
he Corporat	ion of the Townshi	o of Severn							
failing Addu	Street Number	Street Name						PO Bo	
	1024	Hurlwood L	-					159	^
lunicipality/Ci Irillia	ty/Town		Provine ON - C	ce Ontario				Postal	
ile No.	Works Nu	umbor *			a Period	•	Dava	Discharge	Updi
			\rightarrow \vdash	/lonth	Yea		Days	Туре	Coc
	1 2 0 0 0	2 2 7	3 0		2 0	2 1	3 1	2	R 80
C.P.									
3 5 Flows			Parame	ter Code	Dec.	M Mc	onthly Results		
^{2 13} Total		(10 ³ m ³)	500	010	3		3.307		
Avera	ge Daily Flow	(10 ³ m ³ /d)	500	015	3		0.107		
Maxin	num Daily Flow	(10 ³ m ³ /d)	500	020	3				
			30	34	4 35	38	46		
3 5 Bypa ^{2 13} Plant	ss Bypass Volume	(10 ³ m ³)	502	270] [3]	- -	1	# of Oc	currence
Durati		(hours)		380			5	ļ	
			30	34	35	38			
	Sewage	(-		# of S	Samples
0005	ended Solids	(mg/L)	000				161		
TKN	andeu Solids	(mg/L) (mg/L)	000		0		225 64.60		
	Phosphorus	(mg/L)	000		1		7.0		
			30	34		38	7.0	48	
	Effluent	,	1			a			
Total	Effl. Volume To Wate				3				
Flow L Cell D	Duration	(hours)	816 502		1				
CBOE		(m) (mg/L)	000		1				
BOD ₅	5	(mg/L)	000						
-	nded Solids	(mg/L)	000					-	
	nia + Ammonium	(mg/L)	000		2				
TKN		(mg/L)	000	20	2				
Total F	Phosphorus	(mg/L)	000	33	2				
		103	10	34	35	38		48	
9 Disinf	ection ne Used	(kg as Cl ₂)	502	20					
01110111	ne Dosage	(mg/L as Cl ₂)	503 804						
	ie Residual	(mg/L as Cl ₂)	804						
		- L	0	34		38	J	48	
erator Teleph 5-345-1841	one Number				i compl e		m to: pring and Repor	ting Branch	MECP
erator Email				Wa:	steWater	Reportin	<u>g@ontario.ca</u> A	nd	
ouin@sever	n ca			12. You	ır Enviror	nmental (Officer at your lo	cal District/A	rea



Project Name Washago Lagoon								
Facility Address					_			
Unit Number Street Nu 1024	mber Street Na Hurlwoo							PO Box 159
Municipality/City/Town Orillia		Provin ON - (ce Ontario					Postal Code L3V6J3
Operating Authority The Corporation of the Tow	roshin of Severn							
Mailing Address								
Unit Number Street Nu 1024	mber Street Na Hurlwoo							PO Box
Municipality/City/Town Orillia		Provine	ce Ontario				F	Postal Code
File No. Wor	ks Number *			ata Perio		Days	Disch	narge Upda
4 6 1 2 0 0	0 2 2 7	3 0	_	2 0	'ear 2 1	3 1		2 R
1 2 3 C.P.		11 10	5		19	20 21	2:	2 80
3 6 Raw Sewage		Parameter	r Code	Dec	Month	ly Average Re	esults	# of Sample
12 13								" or compre
				-				
		30	34	35	38			
3 9 Final Effluent		Parameter		Dec		y Average Re	sults	# of Samples
12 13 Alkalinity, Total	(mg/L)	0005	1	4				
Conductivity 25°C	(µS/cm)	91004	4	4				
E. Coli	(CT/100ml)	9100		4				
Nitrate, Unfiltered read	· · · ·	0002		4				
Nitrite, Unfiltered reac	1	0002		4				-
pH	(ing/2/	80770		4				
Temperature, Water	(°C)	80250		4				
Un-ionized Ammonia	(mg/L)	91012		4				
Dissolved Oxygen		00003		4				
Hydrogen Sulphide	(mg/L)							
	(mg/L)	83008	5	4			_	
				_			_	
	3	0	34	35	38			
perator Telephone Number 05-345-1841		-	Retu	n com	pleted for		ortina Br	ranch, MECP, a
perator Email Address rouin@severn.ca			1 <u>w</u>	asteWat	erReporting	Contario.ca	And	
omments] M:	ECP Offi	ice. (Find y	our local MEC	P office:	: https://
			wv	vw.ontar	io.ca/enviro nt-district-lo	onment-and-e	nergy/m	inistry-



Project		า an asterisk (*) ar										
Facilit	y Address	5										
Unit Nu	Imber	Street Number 1021	Street Nam Hurlwood								PO Bo 159	x
Orillia	oality/City/To				vince I - Ont	ario					Postal L3V 6	Code J3
Operati The Co	ng Authority prporation	/ of the Township	of Severn									
Mailing	g Address										10	
Unit Nu		Street Number 1021	Street Nam Hurlwood	-							PO Bo: 159	x
Municip Orillia	ality/City/To	own			vince I - Ont	ario					Postal L3V 6.	
File No.		Works Nur	mber *		Mon		Period * Yea	r	Days	D	ischarge Type	Update Code
4 6		2 0 0 0	2 2 7	3	0	4 2		2 1	3 0		2	R
C.P.	7				10			19	20 21		22	80
3 5	Flows			Para	meter	Code	Dec.	Mor	thly Result	5		
12 13	Total Flow	1	(10 ³ m ³)		50010)	3		2.1	36		
	Average D	aily Flow	(10 ³ m ³ /d)		50015	5	3		0.0	26		
	Maximum	Daily Flow	(10 ³ m ³ /d)		50020		3					
3 5	Bypass			30		34	35 M	38 M		46	# of Oc	currences
12 13	Plant Bypa	ass Volume	(10 ³ m ³)		50270		3		0.00	00		
	Duration		(hours)	30	81680	34	1					
3 6	Raw Sewa	ade		30		34	30 1	38			# of S	Samples
	BOD ₅		(mg/L)		00001		0		15	51		1
	Suspende	d Solids	(mg/L)		00006		0		18	30		1
	TKN		(mg/L)		00020		2		58.7	0		1
	Total Phos	phorus	(mg/L)	· · · · ·	00033		1		5	.6		1
3 9	Final Efflu	iont		30		34	35	38			48	51
12 13	_	Volume To Water	course (103 m ³)		50280		3	·	0.00	0		
	Flow Durat		(hours)		81680		1			.0		
	Cell Depth		(m)	·	50290		1					
	CBOD ₅		(mg/L)	(00002		1	-		-		
	BOD ₅		(mg/L)	(00001		1					
	Suspended	d Solids	(mg/L)	(00006		1					
	Ammonia +	Ammonium	(mg/L)	(00019		2					
	TKN		(mg/L)	(00020		2					
	Total Phos	phorus	(mg/L)	0	00033	34	2 35	38			48	
0 9	Disinfectio	'n						1			40	51
	Chlorine Us		(kg as Cl ₂)	5	50320		1					
	Chlorine Do	osage	(mg/L as Cl ₂)		30410		1			1		
	Chlorine Re	esidual	(mg/L as Cl ₂)	8	30420		1			11		
				30		34	35	38			48	51
Dperator 705-345	Telephone -1841	Number				Envi	ronmenta	ted form al Monito	ring and Re	portin	g Branch,	MECP, at
	Email Addr								@ontario.ca		1.51	
Commen)severn.ca				^{2.}		P Office		fficer at you	r loca	I District/A	rea
Southern						inistry I	Contact I	Email Ade				



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p of Severn								
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[Paramete	r Code	Dec	Monthly	/ Average R	esults	🛱 # of :	Sample
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3	0	3		28				
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				Monthly	Average Re	esults	F # of S	Samples
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(mg/L)	0002	2	4					
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	8077	0	4					
			4					_
(ing/L)	8300	8	4					
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30		34	35	38				
30		Retu	rn comp nvironme	leted form	ing and Rep	oorting B	Branch, M	ECP, at
30		Retu 1. E <u>₩</u>	rn comp nvironme /asteWate	leted form ntal Monitor erReporting	ing and Rep @ontario.ca	And		
30		Retu 1. E 2. Y	rn comp nvironme /asteWate our Enviro ECP Offic	ileted form ntal Monitor erReporting onmental O ce. (Find yo	ing and Rep	And local Di CP office	istrict/Are	
	P of Severn Street Nar Hurlwood Jumber * 2 2 7 2 7 3 (mg/L) (μS/cm) (CT/100ml) (mg/L)	Hurlwood Lane Provin ON - Street Name Hurlwood Lane Provin ON - 2 2 2 7 30 Parameter 30 Parameter (mg/L) 0002 (mg/L) 0002 (mg/L) 0002 (mg/L) 0002 (mg/L) 0002 (mg/L) 0002 (mg/L) 0001 (mg/L) 0002 (mg/L) 0000	Hurlwood Lane Province ON - Ontario Street Name Hurlwood Lane Province ON - Ontario Jumber * 2 2 7 3 2 2 7 3 0 4 Parameter Code Parameter Code Jumper * 2 2 7 3 Parameter Code Jumper * Jumper * 30 3 Parameter Code (mg/L) 00051 (mg/L) 00022 (mg/L) 00021 80770 (°C) 80250 (mg/L) 91012 (mg/L) 00003	Province ON - Ontario Province ON - Ontario Data Perior Month Yreet Name Hurlwood Lane Province ON - Ontario Data Perior Month yree Data Perior Month Yree 2 2 7 3 Data Perior Parameter Code Pec Dec Pec 30 34 35 11 16 Parameter Code Pec 30 34 35 14 Parameter Code Pec 4 4 (mg/L) 00051 4 4 (mg/L) 00022 4 4 (mg/L) 91012 4 4 (mg/L) 91012 4	Province ON - Ontario Province ON - Ontario Data Period * Month Year 2 2 7 3 Data Period * Month Year 2 2 7 3 Parameter Code Dec Monthly	Province ON - Ontario p of Severn Street Name Hurlwood Lane Province ON - Ontario Imber * Data Period * Month Days 2 2 7 3 0 11 Data Period * Month Days 3 0 2 2 7 3 0 4 2 2 1 3 0 2 2 7 3 1 19 20 21 3 0 2 2 7 3 1 19 20 21 3 0 2 2 7 3 0 4 2 0 2 1 30 34 35 38<	Province ON - Ontario Province ON - Ontario Data Period * Month Days Data Period * Data Period	Hurlwood Lane 159 Province ON - Ontario Postal C L3V 6J3 Street Name Hurlwood Lane PO Box 159 ON - Ontario Days 0 4 2 0 2 1 16 Days 19 Discharge Type 20 21 Discharge 22 Month Year 0 4 2 0 2 1 16 Days 19 Discharge Type 20 21 Postal C 2 Parameter Code Month Year 19 Monthly Average Results # of S Parameter Code Moet 19 Monthly Average Results # of S 30 34 35 38 Parameter Code Moet 19 Monthly Average Results # dof S 30 34 35 38 Parameter Code Moet 14 Monthly Average Results # dof S (mg/L) 00021 4 4 4 4 4 4 (°C) 80770 4 4 4 4 4 4 (°C) 80250 4 4 4 4 4 (°C) 80250 4 4 4 4 4 (°C) 80250 4 4 4



Project Name Washago Lago	with an asterisk (*) ar oon	e mandatory.							
Facility Addre									
Unit Number	Street Number 1021	Street Nam Hurlwood						PO Bo 159	x
Municipality/City Orillia	//Town		Provinci ON - 0	ce Ontario				Postal L3V 6	
Operating Author									
Mailing Addre	on of the Township	of Severn							
Unit Number	Street Number	Street Nam						PO Bo 159	x
Municipality/City Orillia	ı/Town		Provinc ON - C					Postal L3V 6	
File No.	Works Nu	mber *		Data Ionth	Period Yea		Days	Discharge Type	Update Code
4 6 1 1 2 3	2 0 0 0	2 2 7	3 0	5 2		2 1	3 1	2	R
						19	20 21	22	80
C.P.			[-		1	
3 5 Flows				ter Code	PDec.	MC MC	onthly Results		
Total F		(10 ³ m ³)		010	3		1.841		
	e Daily Flow	(10 ³ m ³ /d)		015	3		0.059		
Maxim	um Daily Flow	(10 ³ m ³ /d))20	3				
3 5 Bypass	e		30	34	35	38	46	r	currences
	s Sypass Volume	(10 ³ m ³)	502	270	3	·		# 01 00	181
Duratio		(hours)	816		1	-		L	101
		(<i>)</i>	30	34		38			
3 6 Raw Se	ewage				m	P		# of S	amples
¹² ¹³ BOD ₅		(mg/L)	000	001	0		181		1
Suspen	nded Solids	(mg/L)	000	06	0		156		1
TKN		(mg/L)	000	20	2		44.80		1
Total P	hosphorus	(mg/L)	000		1		4.9		1
3 9 Final E	filment.		30	34	35	38		48	51
	ffl. Volume To Water	course (103 m3)	502	80	3	· ·	20.502		
Flow Du		(hours)	816				263.0		
Cell De		(m)	502		1		200.0		
CBOD ₅		(mg/L)	000		1				
BOD ₅		(mg/L)	000	01	1		5.3		3
Suspen	ded Solids	(mg/L)	000		1		4.0		3
Ammon	ia + Ammonium	(mg/L)	000		2		1.63		3
TKN		(mg/L)	000		2				
Total Pr	nosphorus	(mg/L)	000	33	2		0.15		3
			30	34	35	38		48	51
0 9 Disinfe		(ka ca Oli)			F	F*			
	e Used e Dosage	(kg as Cl ₂)	503		1				
	e Dosage e Residual	(mg/L as Cl ₂) (mg/L as Cl ₂)	804		1				
GHIOHHE	- roomulai		804 30	34	35	38		48	51
Operator Telepho 05-345-1841	one Number			Return	comple	eted for	m to: pring and Repor		
Operator Email A				Was	teWater	Reportin	<u>g@ontario.ca</u> A Dfficer at your lo	nd	
Comments				MEC	CP Office	ə.			
				Ministry Peter.V					



Project Name Washago Lagoon									
Facility Address							_		
Unit Number Street Number 1021	Street Nat Hurlwood							PO Box 159	
Municipality/City/Town Orillia		Provine	ce Ontario					Postal C	
Operating Authority			Jntario					L3V 6J	5
The Corporation of the Township	of Severn								
Mailing Address	112.1								
Unit Number Street Number 1021	Street Nar Hurlwood							PO Box 159	
Municipality/City/Town Orillia		Provinc ON - C						Postal C L3V 6J3	
File No. Works Nu	mber *			Perio		Days		harge	Update
4 6 1 2 0 0 1 2 3	2 2 7	3 0 11 16		_	ear 2 1 19	3 1		2 22	Code R 80
C.P.								_	
3 6 Raw Sewage	ĺ	Parameter	Code	Dec	Monthl	y Average R	esults	🛱 # of	Samples
12 13				TANKA SA		,			
								-	
A	3	0	34	35	38				
3 9 Final Effluent		Parameter	Code	Dec	Monthly	/ Average R	esults	🎒 # of :	Samples
¹² ¹³ Alkalinity, Total	(mg/L)	0005	1	4		90	.0000		
Conductivity 25°C	(µS/cm)	91004	4	4					
E. Coli	(CT/100ml)	9100	0	4		_			
Nitrate, Unfiltered reactive	(mg/L)	00022	2	4					
Nitrite, Unfiltered reactive	(mg/L)	0002	1	4					
рH		80770)	4		7	.2000		
Temperature, Water	(°C)	80250)	4		10	.6700		
Un-ionized Ammonia	(mg/L)	91012	2	4		0	.0087		
Dissolved Oxygen	(mg/L)	00003	3	4					
Hydrogen Sulphide	(mg/L)	83008	3	4					
				\vdash					
									_
				\neg					
				-	-			-	
	30)	34	35	38				
Operator Telephone Number 705-345-1841			1. Envi	ronme	pleted for ental Monito	ring and Re	porting I	Branch, M	IECP, at
Operator Email Address tdrouin@severn.ca			2. Your	Envir	onmental C	<u>@ontario.ca</u>)fficer at you	r local D	District/An	ea
Comments			MEC	P Off.	ice. (Find y	our local ME	CP offic	e: https://	



		an asterisk (*) ar	e mandatory.										
Project Washa	Name Igo Lagoon	1											
	y Address				-								_
Unit Nu	-	Street Number 1021	Street Nam Hurlwood								PO Bo 159	x	
Municip Orillia	ality/City/To	wn		Provin ON - (ario					Postal		
	ng Authority				_								-
		of the Township	of Severn							_			
Unit Nu	g Address mber	Street Number	Street Nam								PO Box	x	
Municipa	ality/City/To		, landood	Provin ON - 0		ario	_				Postal		-
File No.	ſ	Works Nur	mbor *				Period	*	David	Dis	scharge	Update	,
		- I - I - I			Mon	-	Yea		Days		Туре	Code	_
4 6 1 2		2 0 0 0	2 2 7	3 (6	6 2	2 0	2 1 19	3 0 20 21		2	R 80	
C.P.	7												-
3 5	Flows			Parame	ter	Code	PDec.	Mc Mc	onthly Results				
12 13	Total Flow		(10 ³ m ³)	50	010		3		1.92	0			
	Average D	aily Flow	(10 ³ m ³ /d)	50	015		3		0.06	4			
	Maximum	Daily Flow	(10 ³ m ³ /d)	50	020		3						
	-			30		34	35	38		46			1
3 5 12 13	Bypass		(400	50	0.70					_	# of Oc	currences	
12 10	Plant Bypa	iss volume	(10 ³ m ³)		270		3			41			
	Duration		(hours)	30	680	34	1	38					
3 6	Raw Sewa	ae					M	۳Ľ.		Г	# of S	Samples	1
12 13			(mg/L)	000	001		0		167	7 6		1	ĺ
	Suspended	l Solids	(mg/L)	000	006		0		31(5 1		1	1
	TKN		(mg/L)	000)20		2		54.50	5 [1	1
	Total Phos	phorus	(mg/L)	000	033		1		6.7	7 1		1	1
	1			30		34	35	38		4	8	5	i
3 9 12 13	Final Efflu		(10)				-	F					
12 10		/olume To Water					3	-		-			
	Flow Durati	ion	(hours)	816	_		1			-			
	Cell Depth CBOD ₅		(m) (mg/L)	502	_		1			-			ĩ
	BOD ₅		(mg/L)	000						+ $+$			ł
	Suspended	Solids	(mg/L)	000						┥┝			
	•	Ammonium	(mg/L)	000			2			-			
	TKN		(mg/L)	000	_		2						
	Total Phosp	ohorus	(mg/L)	000			2			4 F			ľ
				30	_	34	35	38		48	3	51	
	Disinfectio						P	P		-			
	Chlorine Us		(kg as Cl ₂)	503	20		1						
	Chlorine Do	•	(mg/L as Cl ₂)	804			1						2
	Chlorine Re	sidual	(mg/L as Cl ₂)	804 30	20	34	1	20					ĺ
Operator	Telephone I	Number		50	R		35 compl	38 eted for	m to:	48)	51	
705-345-	-1841					Envi	ronmen	tal Monite	oring and Rep		Branch,	MECP, at	
	Email Addre	ess *			1				g@ontario.ca		D 1 + 1 + 1		
drouin@ Comment)severn.ca				-2.		P Office		Officer at your	iocal	District/A	rea	
Johnneill						nistry	Contact	Email Ad					
					Pe	eter.V	reugdei	nhil@on	tario.ca				



Project Name Washago Lagoon													
Facility Address													
Unit Number	Street Number 1021	Street Name Hurlwood L										O Box 59	
Municipality/City/Tov Orillia	wn		Provine ON - C		ario							ostal C 3V 6J3	
Operating Authority The Corporation of	f the Townshin c	f Severn											
Mailing Address	and roundinp c			-	-	_					_		
Unit Number	Street Number 1021	Street Name Hurlwood L									- I -	O Box	
Municipality/City/Tov Orillia	vn		Provinc ON - C		ario						P	ostal C 3V 6J3	
File No.	Works Num	per *		_		a Perio			Day)ischa	arge	Update
		2 2 7	3 0	-		2 0	ear 2	1	3	0	Тур 2		Code
C.P.			11 16	; 	-			19	20	21	22		80
3 6 Raw Sewag	je	F	Parameter	Co	de	Dec		Monthly	/ Avera	je Result	s F	# of	Samples
12 13													
							L						
			_		_		L				_		
					_						_		
				_	_	-	-				_	L	
				_	_		-				_		
				_	_	\vdash	1				_		
		30		_	34	35	38						
3 9 Final Effluer	nt	P	arameter	Co	de	Dec	M N	Ionthly	Averag	e Results	s #	# of {	Samples
12 13 Alkalinity, Te	otal	(mg/L)	0005	1		4					-		
Conductivity	25°C	(µS/cm)	91004	1		4							
E. Coli		(CT/100ml)	91000)		4	F				11		
Nitrate, Unfi	Itered reactive	(mg/L)	00022	2		4					11		
Nitrite, Unfilt	ered reactive	(mg/L)	00021			4					11		
pН			80770)		4							
Temperature	e, Water	(°C)	80250)		4							
Un-ionized A		(mg/L)	91012			4							
Dissolved O		(mg/L)	00003	-	_	4							
Hydrogen Si	ulphide	(mg/L)	83008	}	_	4					-		
					-						- -		_
				_			-				-		
					-		-				-		
											- -	_	
		30			34	35	38				J L		
Operator Telephone N 705-345-1841	lumber				Env	ironme	ntal	d forn Monito	ring and	Reportin	ıg Bra	inch, N	IECP, at
Operator Email Addres	SS			1	Was	steWat	erRe	porting	@ontari	o.ca And	I		
tdrouin@severn.ca Comments				2.	You	r Envir	onme	ental O	fficer at	your loca MECP of	I Dist	rict/Are	a
ooninionta					www	v.ontar	io.ca	enviro	nment-a	nd-energ	iy/mir	<u>iistry-</u>	



Facility Addre											
Unit Number	Street Number	Street Nam								() 	
Onit Number	1021	Hurlwood	-							PO Box 159	(
Municipality/City Orillia	/Town		Provi	ince Ontari	io					Postal (
Operating Autho	rity			ontan						L3V 03	3
	on of the Township	of Severn									
Mailing Addre Unit Number	Street Number	Street Nam									
	1021	Hurlwood	-							PO Box 159	
Municipality/City Orillia	/Town		Provi ON -	nce Ontari	io					Postal 0 L3V 6J	
File No.	Works Nur	nber *			Data F	Period *		Days] [0	ischarge	Update
4 6 1	2 0 0 0	2 2 7	3	Month	2	Yea 0	r 2 1			Туре	Code
		2 2 1	3 11	16	2		2 I 19	3 1 20 21	l	2	R 80
C.P.											
3 5 Flows			Param	eter Co	de	Dec.	M Ma	onthly Resul	ts		
12 13 Total F	low	(10 ³ m ³)	5	0010	_	3	_	1.8			
Averag	e Daily Flow	(10 ³ m ³ /d)	5	0015		3		0.0			
Maxim	im Daily Flow	(10 ³ m ³ /d)	5	0020		3					
			30		34	35	38		46		
3 5 Bypas:	s ypass Volume	(10 ³ m ³)	5/	0270					-	# of Occ	urrences
Duratio	-	(hours)		1680	-	3			_		
	12	• •	30	1000	34	35	38				
3 6 Raw Se	wage						M			# of S	amples
¹² ¹³ BOD ₅		(mg/L)	00	0001		0		1	54		1
	ded Solids	(mg/L)	00	0006		0		1	30		1
TKN		(mg/L))020		2		67.			1
I otal Pl	nosphorus	(mg/L)	00 30	0033	34	35	38		5.3	49	1
3 9 Final E	fluent		50		34	35 M	1			48	5
	fl. Volume To Water	course (103 m3)	50)280		3					
Flow Du	iration	(hours)	81	680		1			-		
Cell De	oth	(m)	50	290		1					
CBOD ₅		(mg/L)	00	0002		1					
BOD ₅		(mg/L)		001		1					
	led Solids	(mg/L)		006		1					
	a + Ammonium	(mg/L)		019		2					
TKN		(mg/L)		020	_	2					
lotal Pr	osphorus	(mg/L)	00	033	34	2 35	38			48	51
0 9 Disinfed	tion		-		1				-	10	51
^{2 13} Chlorine		(kg as Cl ₂)	50	320		1					
Chlorine	Dosage	(mg/L as Cl ₂)	80	410		1					
Chlorine	Residual	(mg/L as Cl ₂)		420		1				1	
		3	0	lin-1	34	35	38			48	51
perator Telepho 05-345-1841	ne Number						ted for al Monito	m to: pring and Re	nortin	o Branch I	VECP at
perator Email Ad	idress *			1	Naste	WaterF	Reporting	g@ontario.c	a And		
rouin@severn. omments	са					Office		Officer at you	ır loca	I District/A	ea



	t y Address umber	Street Number	Street Na	me									P	О Вох	
		1021	Hurlwoo	d La										59	
Municip Orillia	pality/City/To	own			Prov ON		tario						1.	ostal (3V 6J	
	ing Authority prporation of	, of the Township	of Severn										4		
Mailing	g Address											-	-		
Unit Nu	Imber	Street Number 1021	Street Na		ne									O Box	
Municip Orillia	ality/City/To	wn			Provi ON -		tario							ostal C SV 6J	
File No.		Works Nun	iber *		7 [Mor		ta Perio	d * ear		Day		scha		Upda
4 6		2 0 0 0	2 2 7	3	1	0	7	2 0	2	1	3	1	Type 2		Cod
1 2	3		2 2 1	11		16	- 1	2 0	-	19		21	22		80
C.P.															
3 6	Raw Sewa	aae		Pa	rame	er C	ode	Dec	M	onthly	Averag	e Results		# 01	Sample
12 13				1 4			000			onuny	Averag	e Results	1	# 01	Sample
	-			-					-				-		
									-				1		
													1		_
	-														
													11		
													11		
													11		
				30			34	35	38						
3 9	Final Efflue	ent		Par	amet	er Co	ode	Dec	M	onthly	Average	Results		# of	Sample
12 13	Alkalinity, 1	Fotal	(mg/L)		000	51		4					11		
	Conductivit	ty 25°C	(µS/cm)		910	04	_	4					11		
						<u> </u>			-						
	E. Coli		(CT/100ml)		910	_		4							
	Nitrate, Un	filtered reactive	(mg/L)		910 000	00 22									
	Nitrate, Uni Nitrite, Unfi	filtered reactive Itered reactive			910	00 22		4 4 4							
	Nitrate, Uni Nitrite, Unfi pH	Itered reactive	(mg/L) (mg/L)		910 000 000 807	00 22 21 70		4 4 4 4							
	Nitrate, Unfi Nitrite, Unfi pH Temperatu	Itered reactive re, Water	(mg/L) (mg/L) (°C)		910 000 000 807 802	00 22 21 70 50		4 4 4 4							
	Nitrate, Uni Nitrite, Unfi pH Temperatur Un-ionized	Itered reactive re, Water Ammonia	(mg/L) (mg/L) (°C) (mg/L)		910 000 000 807 802 910	00 22 21 70 50 12		4 4 4 4 4							
	Nitrate, Uni Nitrite, Unfi pH Temperatur Un-ionized Dissolved C	Itered reactive re, Water Ammonia Dxygen	(mg/L) (mg/L) (°C) (mg/L) (mg/L)		910 000 807 802 910 000	00 22 21 70 50 12 03		4 4 4 4 4 4							
	Nitrate, Uni Nitrite, Unfi pH Temperatur Un-ionized	Itered reactive re, Water Ammonia Dxygen	(mg/L) (mg/L) (°C) (mg/L)		910 000 000 807 802 910	00 22 21 70 50 12 03		4 4 4 4 4							
	Nitrate, Uni Nitrite, Unfi pH Temperatur Un-ionized Dissolved C	Itered reactive re, Water Ammonia Dxygen	(mg/L) (mg/L) (°C) (mg/L) (mg/L)		910 000 807 802 910 000	00 22 21 70 50 12 03		4 4 4 4 4 4							
	Nitrate, Uni Nitrite, Unfi pH Temperatur Un-ionized Dissolved C	Itered reactive re, Water Ammonia Dxygen	(mg/L) (mg/L) (°C) (mg/L) (mg/L)		910 000 807 802 910 000	00 22 21 70 50 12 03		4 4 4 4 4 4							
	Nitrate, Uni Nitrite, Unfi pH Temperatur Un-ionized Dissolved C	Itered reactive re, Water Ammonia Dxygen	(mg/L) (mg/L) (°C) (mg/L) (mg/L)		910 000 807 802 910 000	00 22 21 70 50 12 03		4 4 4 4 4 4							
	Nitrate, Uni Nitrite, Unfi pH Temperatur Un-ionized Dissolved C	Itered reactive re, Water Ammonia Dxygen	(mg/L) (mg/L) (°C) (mg/L) (mg/L)		910 000 807 802 910 000	00 22 21 70 50 12 03		4 4 4 4 4 4							
	Nitrate, Uni Nitrite, Unfi pH Temperatur Un-ionized Dissolved C	Itered reactive re, Water Ammonia Dxygen	(mg/L) (mg/L) (°C) (mg/L) (mg/L)		910 000 807 802 910 000	00 22 21 70 50 12 03		4 4 4 4 4 4	38						
perator	Nitrate, Uni Nitrite, Unfi PH Temperatu Un-ionized Dissolved (Hydrogen S	Itered reactive re, Water Ammonia Dxygen Sulphide	(mg/L) (mg/L) (°C) (mg/L) (mg/L) (mg/L)	 D	910 000 807 802 910 000	00 22 21 70 50 12 03 08		4 4 4 4 4 4 4		ł form	• to:				
perator 05-345-	Nitrate, Uni Nitrite, Unfi PH Temperatu Un-ionized Dissolved C Hydrogen S	Itered reactive re, Water Ammonia Dxygen Sulphide Number	(mg/L) (mg/L) (°C) (mg/L) (mg/L) (mg/L)		910 000 807 802 910 000	00 22 21 70 50 12 03 08	etur En	4 4 4 4 4 4 4 4 4 4 4 4 4 4 9 5 n comp	oleted Intal M	lonitori	ing and	Reporting	Bra	nch, N	леср, а
perator 05-345- perator	Nitrate, Uni Nitrite, Unfi PH Temperatu Un-ionized Dissolved C Hydrogen S 	Itered reactive re, Water Ammonia Dxygen Sulphide Number Ess	(mg/L) (mg/L) (°C) (mg/L) (mg/L) (mg/L)		910 000 807 802 910 000	00 22 21 70 50 12 03 08	etur En <u>W</u> a	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	ntal M	lonitori orting@	ing and	<u>a</u> And			
perator 05-345- perator	Nitrate, Uni Nitrite, Unfi PH Temperatu Un-ionized Dissolved C Hydrogen S 	Itered reactive re, Water Ammonia Dxygen Sulphide Number Ess	(mg/L) (mg/L) (°C) (mg/L) (mg/L) (mg/L)	0	910 000 807 802 910 000	00 22 21 70 50 12 03 08	etur En Wa	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	oleted Intal M erRep onmer	lonitori orting@ ntal Of	ing and <u>Contario</u> ficer at y	Reporting D.Ca And /our local MECP offi	Dist	rict/Ar	ea



Fields marked with an asterisk (are mandatory. 							
Project Name								
Washago Lagoon					_			
Facility Address Unit Number Street Number	oer Street Nam						in	
	Hurlwood						PO Bo 159	x
Municipality/City/Town		Provi	nce		_		Postal	Code
Orillia			Ontario				L3V 6	
Operating Authority								
The Corporation of the Towns	ship of Severn							
Mailing Address Unit Number Street Numb	er Street Nam	_						
	Hurlwood	-					PO Bo: 159	x
Municipality/City/Town		Provir	nce				Postal	Code
Orillia		ON -	Ontario				L3V 6	
File No. Works	Number *		Da	ata Period	*		Discharge	Update
			Month	Ye	ar	Days	Туре	Code
4 6 1 2 0 0	0 2 2 7		8 0	2 0	2 1	3 1	2	R
1 2 3		11	16		19	20 21	22	80
C.P.								
3 5 Flows		Param	eter Cod	e Dec	Mo	nthly Results		
¹² ¹³ Total Flow	(10 ³ m ³)	50	010	3		1.418		
Average Daily Flow	(10 ³ m ³ /d)	50	0015	3		0.046		
Maximum Daily Flow	(10 ³ m ³ /d)	50	0020	3				
		30		34 35	38	46	-	
3 5 Bypass					H		# of Oc	currences
12 13 Plant Bypass Volume	(10 ³ m ³)	50)270	3				
Duration	(hours)		680	1				
		30		34 35	38			
3 6 Raw Sewage	(mg/L)	00	004		, "	151	# of S	amples
Suspended Solids			0001	0	<u> </u>	151		1
TKN	(mg/L)		006	0		118		1
Total Phosphorus	(mg/L)		020	2		67.70		1
rotal Phosphorus	(mg/L)	30	033	34 35	38	4.6	48	1
3 9 Final Effluent				#	M		40	51
12 13 Total Effl. Volume To Wa	atercourse (103 m ³)	50	280	3				
Flow Duration	(hours)		680					
Cell Depth	(m)	50	290	1				
CBOD ₅	(mg/L)	00	002	- 1				
BOD ₅	(mg/L)	00	001					
Suspended Solids	(mg/L)	00	006	1	-			
Ammonia + Ammonium	(mg/L)	00	019	2				
TKN	(mg/L)	00	020	2				
Total Phosphorus	(mg/L)		033	2				
	L.	10	3	34 35	38		48	51
0 9 Disinfection	-			_ F	h			
¹² ¹³ Chlorine Used	(kg as Cl ₂)	503	320	1				
Chlorine Dosage	(mg/L as Cl ₂)	804	410	1				
Chlorine Residual	(mg/L as Cl ₂)		420	1				
O- startes T-lask	3	0	(01)	4 35	38		48	51
Operator Telephone Number 705-345-1841				' <mark>n compl</mark>		n to: ring and Report	ing Bross	
Operator Email Address *			- <u>w</u>	asteWater	Reporting	ilig and Report	ng bianch, id	wede, at
tdrouin@severn.ca						fficer at your loo	cal District/A	rea
Comments				ECP Office ry Contact		droop *		
				Vreugde				



Project Washa	Name ago Lagoon											
	y Address											
Unit Nu	mber s	Street Number	Street Na		e						PO Box 159	
Municip Orillia	ality/City/Tow	'n		P	rovinc	e Intario					Postal C	
Operation The Co	ng Authority prporation of	the Township	of Severn									
Mailing	g Address											
Unit Nu		Street Number	Street Na Hurlwoo)						PO Box 159	
Municip Orillia	ality/City/Tow	n			rovinco N - O	e ntario					Postal C L3V 6J3	
File No.		Works Nurr	ıber *		M	Da onth	ita Perio	od * /ear	Days		harge ype	Update Code
4 6	12	0 0 0	2 2 7	3	0	8	2 0		3 1 20 21		2	R
C.P.	1								20 21			
3 6	Raw Sewag	e		Para	meter	Code	Dec	Month	ly Average R	esults	🎒 # of	Samples
12 13												
										_		
							-					
				30		34	35	38				
3 9	Final Effluen	t		Paran	neter (Code	Dec	Monthl	y Average Re	sults	🛱 # of :	Samples
12 13	Alkalinity, To	tal	(mg/L)	C	00051		4					
	Conductivity	25°C	(µS/cm)	g	91004		4					
	E. Coli		(CT/100ml)	9	1000		4				-	
	Nitrate, Unfili	ered reactive	(mg/L)	0	0022		4					
	Nitrite, Unfilte	ered reactive	(mg/L)	0	0021		4		_	_		
	pН				80770		4					
	Temperature	, Water	(°C)		0250		4				-	
	Un-ionized A		(mg/L)		1012		4					
	Dissolved Ox	ygen	(mg/L)	0	0003		4					
	Hydrogen Su	lphide	(mg/L)	8	3008		4					
						-						
						-	\vdash	-				
1						_						
			3	0		34	35	38	_			
705-345-						1. En	vironmo		oring and Rep		Branch, M	IECP, at
	Email Addres	S							<u>a@ontario.ca</u>			
Comment						ME	ECP Off	fice. (Find y	Officer at your our local MEC	CP offic	e: https://	ea
						WV	w.onta	rio.ca/enviro	onment-and-e	energy/r	ninistry-	



Facility Addre	55								
Unit Number	Street Number	Street Nam Hurlwood						PO B	ох
Municipality/City/ Orillia	Town		Provi ON -	nce Ontario					l Code 6J3
Operating Author The Corporatio	ity n of the Township	of Severn							
Mailing Addres									
Jnit Number	Street Number 1021	Street Name Hurlwood L	-					PO B	OX
Municipality/City/ Orillia	Town		Provi ON -	nce Ontario				Posta L3V 6	I Code 5J3
File No.	Works Nu	mber *		Data Month	Period ¹ Yea		Days	Discharge	
4 6 1	2 0 0 0		3	0 9 2	1 1	2 1	3 0	Type 2	Code
C.P.			11	16		19	20 21	22	80
3 5 Flows			Param	eter Code	Dec.	Mo	nthly Results	T	
12 13 Total Fl	w	(10 ³ m ³)	50	0010	3		1.790		
Average	Daily Flow	(10 ³ m ³ /d)	50	0015	3		0.059		
Maximu	m Daily Flow	(10 ³ m ³ /d)	50	0020	3		0.000		
			30	34		38	4	6	
3 5 Bypass		-			P	P		# of O	ccurrence
	pass Volume	(10 ³ m ³)	50)270	3				
Duration	1	(hours)		1680	1				
3 6 Raw Se	1200		30	34	35	38		# of	Samples
¹² ¹³ BOD ₅	waye	(mg/L)	00	001			185		Samples
•	led Solids	(mg/L)		0006	0		166		
TKN		(mg/L)		020	2		41.00	-	
Total Ph	osphorus	(mg/L)		033			3.9		
			30	34		38	0.0	48	
3 9 Final Ef					P	P		- 11	
	I. Volume To Water	course (103 m ³)		280	3]	
Flow Du	ration	(hours)	81	680	1				
Cell Dep	th	(m)		290	1				
CBOD ₅		(mg/L)		002	1				
BOD ₅		(mg/L)		001	1				
•	ed Solids	(mg/L)		006	1				
	a + Ammonium	(mg/L)		019	2				
TKN		(mg/L)		020	2				
Total Phi	osphorus	(mg/L)	00	033 34	2	38		48	
) 9 Disinfec	tion	5	0		#	M		40	
² ¹³ Chlorine		(kg as Cl ₂)	50	320	1	[
Chlorine	Dosage	(mg/L as Cl ₂)		410	1				
Chlorine	Residual	(mg/L as Cl ₂)		420	1				
		- L 3	0	34	35	38		48	
berator Telephor 05-345-1841	e Number			1. Envi	comple ironment	al Monito	ring and Repo	rting Branch	, MECP, at
perator Email Ad	dress *			<u>Was</u>	teWater	Reporting	Montario.ca A	And	



Project Name Washago Lagoon								
Facility Address								
Unit Number Street Number Street Na 1021 Hurlwoo	-						PO Box 159	
Municipality/City/Town Orillia	Provinc ON - C	ce Ontario					Postal Co L3V 6J3	
Operating Authority The Corporation of the Township of Severn								
Mailing Address								
Unit Number Street Number Street Na 1021 Hurlwoo							PO Box 159	
Municipality/City/Town Orillia	Provinc ON - C						Postal Co L3V 6J3	de
File No. Works Number *		Data I	Period Ye		Days		narge rpe	Update Code
4 6 1 2 0 0 2 2 7	3 0	9 2	0	2 1	3 0	1	2	R
C.P.		>		19	20 21	2	2	80
3 6 Raw Sewage	Parameter	Code	Dec	Monthly	/ Average Re	esults	🎒 # of \$	Samples
12 13								
			\square					
				i				
				0				
			_					
	30	34	35	38			L	
3 9 Final Effluent	Parameter	Code	Dec	Monthly	Average Re	sults	# of S	amples
12 ¹³ Alkalinity, Total (mg/L)	0005		4					
Conductivity 25°C (µS/cm)	91004	4	4					
E. Coli (CT/100ml)	91000)	4					
Nitrate, Unfiltered reactive (mg/L)	00022	2	4					
Nitrite, Unfiltered reactive (mg/L)	00021	1	4					
рН	80770		4					
Temperature, Water (°C)	80250		4					
Un-ionized Ammonia (mg/L)	91012		4					
Dissolved Oxygen (mg/L) Hydrogen Sulphide (mg/L)	00003 83008		4					
	05000	,	-					
L	30		35	38				
Operator Telephone Number 705-345-1841		Return	comp	leted form	n to: ring and Rep	ortine P	ranah 14	
Operator Email Address		Wast	eWate	rReporting	Contario.ca	And And	rancn, M	LUP, at
drouin@severn.ca								
		2. Your	Enviro	onmental O	fficer at your our local MEC	local Di	istrict/Are	а



	with an asterisk (*) a	re mandatory.									
Project Name Washago Lag	loon										
Facility Addr											
Unit Number	Street Number 1021	Street Nam Hurlwood							PO Bo 159	x	
Municipality/Cit Orillia	y/Town		Provinci ON - (ce Ontario					Postal L3V 6.		
Operating Auth											
	on of the Township	of Severn									
Mailing Addro Unit Number	Street Number	Street Nam							PO Box 159	ĸ	
Municipality/City Orillia	y/Town		Provinc	ce Ontario				F	Postal		
File No.	Works Nu	mber *			a Period *		Days	Disch	narge	Up	date
4 6 1	2 0 0 0	2 2 7	3 1	Nonth	Year 2 0 2	2 1	3 1		rpe 2		ode R
1 2 3			11 16	3		19	20 21	2	2		80
C.P.											
3 5 Flows	i		Parame	ter Code	Dec.	Mor	thly Results	٦			
12 13 Total F	low	(10 ³ m ³)	500	010	3		1.89	7			
Averag	ge Daily Flow	(10 ³ m ³ /d)	500	015	3		0.06	1			
Maxim	um Daily Flow	(10 ³ m ³ /d)	500	020	3			-			
			30	34		38		46			
3 5 Bypas						.		#	t of Oc	currenc	ces
	Bypass Volume	(10 ³ m ³)	502		3						
Duratio	חת	(hours)	816		1						
3 6 Raw S			30	34	35	38			# of S	amples	
¹² ¹³ BOD ₅	ewage	(mg/L)	000	001			358		#010	ampies	3 1
-	nded Solids	(mg/L)	000		0	-	148		_		1
TKN		(mg/L)	000		2		63.10				-1
	hosphorus	(mg/L)	000				6.8	- 1-		_	1
		(30	34		38	- On	48			51
	Effluent		-								
12 13 Total E	ffl. Volume To Water	rcourse (103 m ³)	502	280	3						
	uration	(hours)	816	80	1						
Cell De		(m)	502	290	1						
CBOD	5	(mg/L)	000		1						
BOD_5		(mg/L)	000		1						
	nded Solids	(mg/L)	000		1						
	nia + Ammonium	(mg/L)	000		2						_
TKN		(mg/L)	000		2						
I otal P	hosphorus	(mg/L)	000 30	33 34	35	38		48			51
0 9 Disinfe	ection		50					40			51
12 13 Chlorin		(kg as Cl ₂)	503	20	1			1			
Chlorin	e Dosage	(mg/L as Cl ₂)	804	10	1			1			
Chlorin	e Residual	(mg/L as Cl ₂)	804	20	1						
		11	30	34	35	38		48			51
Operator Telepho 705-345-1841	one Number			1. Env		I Monito	ring and Rep		ranch,	MECP	, at
Operator Email A							@ontario.ca fficer at your		istrict/A	rea	
Comments				ME	CP Office.						
				Ministry Peter.V	Contact E	mail Ad	dress * ario.ca				



Facilit	y Address	6														
Unit Nu	-	Street Number 1021	Street Na Hurlwood		ne									- I -	0 Box 59	C
Municip Orillia	ality/City/To	own			Provin ON - (ario								ostal (3V 6J	
Operati The Co	ng Authority prporation	y of the Township c	of Severn													
Mailing	g Address	6														
Unit Nu	mber	Street Number 1021	Street Nat		ne										O Box	
Municip Orillia	ality/City/To	own			Provin ON - C		rio								ostal (BV 6J	
File No.		Works Num	ber*			/ont	- C	ta Perio	od * /ea			Days	Di	scha Typ		Update
4 6		2 0 0 0	2 2 7	3			0	2 0		2 1	_	3	1	2		R 80
	7					_	-	_	_	15		20 2		22		
C.P.	-			<u> </u>							_					
3 6 12 13	Raw Sewa	age		Par	ramete	r Co	de	Dec	1	Mon	thly /	Average	Results	P	# of	f Samples
12 13							_									
				_			_				_					
							_			L						
						_	_									_
						_				<u> </u>						
							_	_								
						_	_				_		_			
				30			34	35		38						
							•			00						
3 9	Final Efflue	ent		Para	ameter	Cod	de	Dec	1	Mont	hly A	verage	Results	p	# of	Samples
12 13	Alkalinity,	Total	(mg/L)		0005	1		4						1		
	Conductivi	ty 25°C	(µS/cm)		9100	4		4						1		
	E. Coli		(CT/100ml)		9100	C		4						11	1	
	Nitrate, Un	filtered reactive	(mg/L)		0002	2		4						1		
	Nitrite, Unf	iltered reactive	(mg/L)		0002	1		4								
	pН				8077)		4								
	Temperatu		(°C)		8025)		4] [
	Un-ionized		(mg/L)		9101:	_		4								
	Dissolved ((mg/L)		0000	_	_	4		_						
	Hydrogen	Sulphide	(mg/L)		83008	3		4								
							_			_						
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				_			_	-		_		_				
			3	0			34	35	ļ	38						
Inerator	Telephone	Number	3	J		Re		35 n com			orm	to:				
705-345		HUIIDE											Reporting	a Bra	anch. I	MECP, at
	Email Addr				_	1	Wa	<u>isteWa</u>	terf	Reporti	ing@	ontario	.ca And			
	evern.ca	L				2.	Yo	ur Envi	ron	menta	l Offi	cer at y	our loca	Dist	rict/A	rea
Commen	ts						ME	CP Of	rice	. (Find	you	r local N	IECP of d-energ	fice:	https:/	11
							en	vironme	ent-	district	-loca	itor)	<u>a-energ</u>	<u>y/ []]][]</u>	nau y*	



Facility Address								
Unit Number Street Number 1021	Street Nam Hurlwood	-					PO Box 159	
Municipality/City/Town Orillia		Provin ON - (ce Ontario				Postal C L3V 6J	
Operating Authority The Corporation of the Township	o of Severn							
Mailing Address								
Unit Number Street Number 1021	Street Nam Hurlwood	-					PO Box 159	
Municipality/City/Town Drillia		Provin ON - (ce Ontario				Postal C L3V 6J	
File No. Works Nu	mber *		Data Nonth	Period [*] Yea		Days	Discharge Type	Updat Code
4 6 1 2 0 0 0 1 2 3	227		1 1 2	1 1	2 1	3 0	2	R
						20 21	22	80
C.P.		[
3 5 Flows			ter Code	Dec.	P Mo	nthly Results		
¹² ¹³ Total Flow	(10 ³ m ³)	50	010	3		2.194		
Average Daily Flow	(10 ³ m ³ /d)	50	015	3		0.073		
Maximum Daily Flow	(10 ³ m ³ /d)		020	3				
3 5 Bypass		30	34	35	38	46	# ={ 0==	urrences
¹² ¹³ Plant Bypass Volume	(10 ³ m ³)	50	270	3	-		# 01 Ucc	urrences
Duration	(hours)		580					
		30	34		38			
6 Raw Sewage				1	饆		# of Sa	amples
^{2 13} BOD ₅	(mg/L)	000	001	0		188		1
Suspended Solids	(mg/L)	000	006	0		142		
TKN	(mg/L)	000)20	2		28.20		1
Total Phosphorus	(mg/L)	000)33	1		3.4		1
		30	34	35	38		48	6
Final Effluent					194.			
Total Elli. Volume 10 Wate				3		0.000		
	(hours)	816		1				
Cell Depth CBOD ₅	(m) (mg/l.)	502		1	1			
BOD ₅	(mg/L) (mg/L)	000		1				
Suspended Solids		000		1	-	12.0		3
Ammonia + Ammonium	(mg/L)	000		1		9.0		3
TKN	(mg/L)	000		2		0.73		3
Total Phosphorus	(mg/L) (mg/L)	000		2		1.76		3
retari noophoruo		1000	33 34	35	38	0.39	48	3
9 Disinfection				1	1			5
^{2 13} Chlorine Used	(kg as Cl ₂)	503	20	1				
Chlorine Dosage	(mg/L as Cl ₂)	804	10	1				
	(mg/L as Cl ₂)	804	20	1			· · · · · · · · · · · · · · · · · · ·	
Chlorine Residual	[0]	0	34	35	38		48	5
						n to i		
perator Telephone Number 5-345-1841			Return 1. Envir	ronment	al Monito	ring and Report	ing Branch, N	IECP, at
perator Telephone Number			1. Envir Wast 2. Your	ronment teWateri	al Monito <u>Reporting</u> mental O		nd	



	t Name ago Lagoon												
	ty Address						_			_			
Unit Nu	-	Street Number 1021	Street Na Hurlwoo								P0	O Box	
	pality/City/To	wn			rovince							ostal C	
Orillia	ing Authority			0	N - Onta	10				_	L3	3V 6J3	}
		f the Township	of Severn										
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Unit Nu	umber	Street Number 1021	Street Na Hurlwoo								PC	D Box	
Municip Orillia	oality/City/Tov	wn			ovince N - Ontai	io						ostal Co V 6J3	
File No		Works Nu	mber *		Month	Data Peri			Days	Dis			Update
4 6		0 0 0	2 2 7	3	Month		Year	1	3 0	4	`yp∉ 2	<u> </u>	Code
1 2				11	16				20 21	L	22	1	80
C.P.	1												
	Raw Sewa	20		Deser	neter Cod						-18		
3 6 12 13		ge		Paran	neter Cod	e PDec	- MC	onthly A	verage Re	sults	13	# of a	Samples
						\neg				_			
			_				┥┝──						
									_		-		
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				-	_				_		ł		
									_		ł		_
				30		34 35	38				L		_
3 9	Final Efflue	nt		Param	neter Cod	Dec	Mo	onthiv Av	verage Res	sults	凹	# of 5	Samples
12 13	Alkalinity, T	otal	(mg/L)	0	0051	4				0000	ŀ		3
	Conductivity	y 25°C	(µS/cm)	9	1004	4			0110		ł		
	E. Coli		(CT/100ml)	9	1000	4				-	ł		
	Nitrate, Unfi	iltered reactive	(mg/L)	0	0022	4					ŀ		
	Nitrite, Unfil	tered reactive	(mg/L)	0	0021	4					ł		
	рН			80	0770	4			8.4	400	t	_	3
	Temperatur	e, Water	(°C)	80	0250	4			10.6		F		3
	Un-ionized /	Ammonia	(mg/L)	91	1012	4					F	-	
	Dissolved O	lxygen	(mg/L)	00	0003	4					T		
	Hydrogen S	ulphide	(mg/L)	83	3008	4							
				2									
	Telephone N	Number	3	30	Ret	34 35 urn com							
705-345					1.	Environm	ental Mo	onitoring	and Repo	orting l	Brai	nch, M	ECP, at
	Email Addre	SS						1.	intario.ca / er at your l):-+	int/A	_
Commen						MECP Of	fice. (Fir	nd your	local MEC	P offic	e:h	nttos://	a
						www.onta	rio.ca/ei	nvironm	ent-and-er	nergy/	min	istry-	
						environme	ent-aistri	ct-locat	<u>or)</u>				



Fields mark	ed with an asterisk (*) a	are mandatory.								
Project Nan Washago i										
Facility A	ddress									
Unit Numbe	er Street Number 1021	Street Nam Hurlwood							PO Box 159	¢
Municipality Orillia	/City/Town		Provinci ON - C	ce Ontario					Postal	
Operating A	uthority ration of the Townshi	a of Davies						_	1	
Mailing Ac		p or Severn								
Unit Numbe		Street Nam Hurlwood							PO Box	:
Municipality Orillia	/City/Town		Provinc ON - C						Postal 0	
File No.	Works NL	umber *		Data	Period *		Days	Dis	scharge	Update
F				1onth	Year				Туре	Code
4 6 1 2	1 2 0 0 0 3	227	3 1 11 16		2 0 2	2 1	3 1 20 21		2	R 80
C.P.										
3 5 Flo)ws		Paramet	ter Code	PDec.	Mon	thly Results	٦		
¹² ¹³ To	tal Flow	(10 ³ m ³)	500	010	3		0.01	5		
Ave	erage Daily Flow	(10 ³ m ³ /d)	500)15	3		0.00	1		
Ma	ximum Daily Flow	(10 ³ m ³ /d)	500		3					
3 5 By	pass		30	34	35	38		46 [# of Oo	currences
	pass nt Bypass Volume	(10 ³ m ³)	502	270	3		0.00	ก่	# 01 000	
	ration	(hours)	816	80	1		0.	- 4		
			30	34	35	38				
3 6 Rat	w Sewage	(mall)	000	0.4		ps.			# of S	amples
DO	spended Solids	(mg/L) (mg/L)	000		0		21			1
TKI		(mg/L)	000		2		23.3	-		1
	al Phosphorus	(mg/L)	000				4.0	- +		1
			30	34	35	38			8	51
	al Effluent	(100 0)						7		
100	al Effl. Volume To Wate w Duration	(hours)	502 816		3		36.81	4		
	I Depth	(murs)	502		1			-		
CBC		(mg/L)	000		1			1 r		
BOI	•	(mg/L)	000		1		10.0			3
Sus	pended Solids	(mg/L)	000	06	1		9.0	히 ㅣ		3
Ami	monia + Ammonium	(mg/L)	000	19	2		1.77			3
TKN		(mg/L)	000		2		2.60			3
Tota	al Phosphorus	(mg/L)	000 30	33 34	2	38	0.07			3
0 9 Disi	nfection		30	34	# 1	30 1		4	\$	51
	prine Used	(kg as Cl ₂)	503	20	1			1		
Chic	orine Dosage	(mg/L as Cl ₂)	804	10	1			1		
Chlo	orine Residual	(mg/L as Cl ₂)			1					
Operator Tele	phone Number	:	30		35 complet			48		51
705-345-184 Operator Ema	ail Address *			Was	steWaterR	eporting	ing and Rep @ontario.ca	And		
tdrouin@sev	/ern.ca				r Environn CP Office.	nental O	ficer at your	local	District/A	rea
Comments				Ministry	Contact E					
				Peter.V	reugdenł	nil@onta	ario.ca			



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Facilit	y Address	3	21												
Unit Nu	umber	Street Number 1021	Street Na Hurlwood		ne								P0	D Box	
Municip Orillia	pality/City/To	own			Provin ON -		rio							stal C 3V 6J3	
	ing Authority	y of the Township c	of Severn												
Mailin	g Address	;													
Unit Nu	imber	Street Number 1021	Street Na Hurlwood		ne								PC) Box 9	
Municip Orillia	oality/City/To	nwo			Provin ON - (rio							stal Co V 6J3	
File No.		Works Num	ber*			Monti	1	a Perio Y	d * ear		Day		cha Type		Update
4 6		2 0 0 0	2 2 7	3		1	2	2 0	2	1	3	1	2		R 80
C.P.	1									10	20	21	~~~		
3 6	Raw Sewa	age		Pa	ramete	г Со	le	Dec	1	Monthly	y Averaç	je Results		# of	Samples
12 13															
					_				L						
					_										
							_								
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				30			34	35	38		_				
	1								-				- 201		
3 9 12 13	Final Efflu		((1))	Par	amete	_	e	Dec		Nonthly	Averag	e Results	P	# of \$	Samples
12 10	Aikaunity,		(mg/L)		0005		_	4				75.0000			3
	Conductivi E. Coli		(µS/cm)		9100 9100		_	4	+						
			(CT/100ml) (mg/L)		0002		-	4	+						
			(mg/L)		0002		-	4	+				ł		
	pH		((()))	-	8077		-	4	H			7.5600	ł		3
	Temperatu	ire, Water	(°C)		8025		-	4	-			11.6000	ŀ		3
	<u> </u>		(mg/L)		9101	_		4					-		
	Dissolved		(mg/L)		0000		-	4	-	_			-		
	Hydrogen		(mg/L)		8300			4					t		
					_										
Operator	Telephone	Number	3	0		Re	34 turi	35 1 com	38 plete	d form	n to:				
705-345							En	vironme	ental	Monito	ring and	Reporting	Bra	nch, M	IECP, at
	Email Addr					1.						o.ca And			
Commen))severn.ca	1				-2.	Yo MF	ur Envir CP Offi	onm ice. (ental O Find vo	fficer at	your local i MECP offic	Dist	rict/Are	a
- on mon							ww	w.ontar	io.ca	/enviro	nment-a	ind-energy			
							<u>en</u>	rironme	nt-di	strict-lo	cator)				

Appendix C

Sewage Pump Station Draw Down Tests

Pump Drawdown Test Results at Pumping Station #1 in Washago

Completed: Aaron + Silas May 5/21 Performed By

Data:

Influent

Influent testing completed immediately before and after each trial for the pump drawdown. The increase in waste collected from an initial starting point over a 1 minute period. Results shown are in inches.

Drawdown

Drawdown testing was completed by measuring the drop of waste from an initial starting point over a 1 minute period. Results shown are in inches.

	Trial		Influent			7		
	No.	Initial	Final	Result	Initial	Final	Result	1
Pump 1		2.53	2.5	0,02	2.51	2.64	0.13	5,905
		2.56	2.54	0.02	2.54	2.66	0.12	5,511
		260	2.58	6,02	258	2.70	0.12	1
Pump 2		2.56	2.53	0,03	2.53	2.64	0.11	5,511
		2.63	2.61	0.02	2.6	2.73	0.12	5.511
		2.55	2.57	0.02.	2.57	2.68	0.11	1

Volume Calculations:

V = $\pi r^2 h$, where r = 1.2 m and h = <u>drawdown result (inches) x 0.0254 m/inch</u> 1 minute

= 4.5216 h x <u>1000 litres</u> 60 seconds = (1.914144) x result (inches)

Pump Capacity:

Vtotal = Vpump + Vinfluent

Results:

Using the calculations shown above, the results of the average pump capacity of the pumps are indicated in L/s.

	Trial 1	Trial 2	Trial 3	Average
Pump 1	11.30	0.54	10.54.	10,79
Pump 2	10.54	10.54	9,79	10.29

Therefore the pump capacity of Pump 1 is 12.76 L/s and Pump 2 is 11.96 L/s.

Prepar Prepared By: Signature:

Pump Drawdown Test Results at Pumping Station #1 in Washago

Completed: Performed By

Data:

Influent

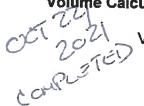
Influent testing completed immediately before and after each trial for the pump drawdown. The increase in waste collected from an initial starting point over a 1 minute period. Results shown are in inches.

Drawdown

Drawdown testing was completed by measuring the drop of waste from an initial starting point over a 1 minute period. Results shown are in inches.

	Trial No.	Influent			Drawdown			
		Initial	Final	Result	Initial	Final	Result	
Pump 1		0,88	0.89	Icm	0.82	0.626	16cm	
		0.27	0,89	2 cm.	0.77	0.621	15 Jan	
		6.83	0.85	2cm.	0.89	0.75	14 cm	
Pump 2		0,84	0.84	Ocm.	0.78	0.62	16cm	
		0.86	0.88	2 cm.	0,73	0.61	12cm.	
		0,86	0.88	200	0,74	0.60	1ºlan.	

Volume Calculations:



= $\pi r^2 h$, where r = 1.2 m and $h = \frac{drawdown result (inches) \times 0.0254 m/inch}{1 minute}$ = 4.5216 h x 1000 litres 60 seconds

= (1.914144) x result (inches)

Pump Capacity:

Results:

Using the calculations shown above, the results of the average pump capacity of the pumps are indicated in L/s.

	Trial 1	Trial 2	Trial 3	Average
Pump 1	12.81	13,24	12,05	12201/5
Pump 2	12.05	10.54	12.05.	11.5416

Therefore the pump capacity of Pump 1 is 12.76 L/s and Pump 2 is 11.96 L/s.

Appendix D

Alum Dosing Formula

Alum Dosing

Dry Alum

Mass of Alum (kg) = Gross Volume of Cell (m³) x Optimum Alum Dosage (mg/L) x 1000L/m³ 1,000,000 mg/kg

Liquid Alum

Volume of Alum (L) =

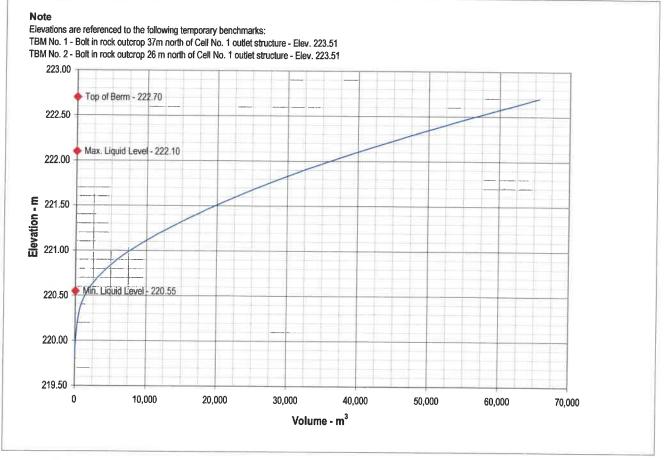
<u>Gross Volume of Cell (m³) x 1,000L/m³ x Optimum Alum Dosage (mg/L)</u> 1,000,000 mg/kg x Density of Alum (1.335 kg/L) x % of alum concentration (48.5%)

OR

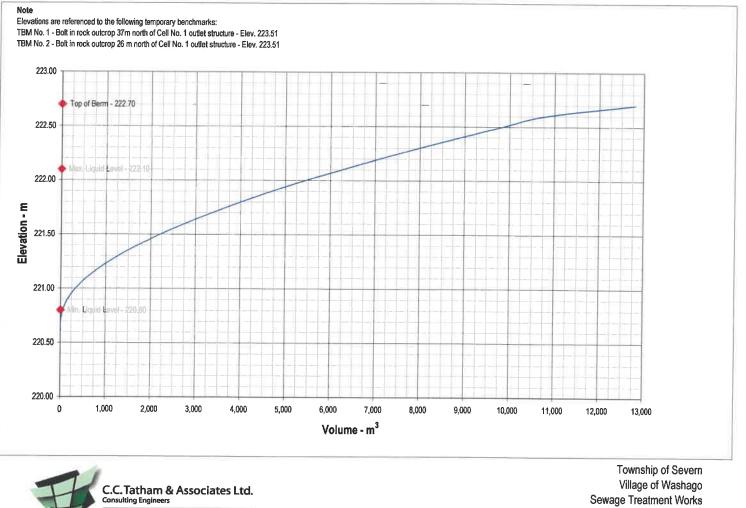
<u>Gross Volume of Cell (m³) x Optimum Alum Dosage (mg/L)</u> 647.5 mg/L

Appendix E

Lagoon Stage Storage Graphs



C.C. Tatham & Associates Ltd. Consulting Engineers Collingwood Bracebridge Orillia Barrie Township of Severn Village of Washago Sewage Treatment Works Stage Storage Graph - Cell No. 1 February 2012



Collingwood Bracebridge Orillia Barrie

Sewage Treatment Works Stage Storage Graph - Cell No. 2 February 2012

Appendix F

Laboratory Analysis Reports



C.O.C.: ---

<u>Report To:</u> Severn, Township of

1024 Hurlwood Lane, PO Box 159 Orillia Ontario L3V 6J3 Canada <u>Attention:</u> Tony Drouin

DATE RECEIVED: 13-Apr-21

DATE REPORTED: 20-Apr-21 SAMPLE MATRIX: Waste Water

CERTIFICATE OF ANALYSIS

Final Report

REPORT No. B21-10329

Caduceon Environmental Laboratories

112 Commerce Park Drive Barrie ON L4N 8W8 Tel: 705-252-5743 Fax: 705-252-5746

JOB/PROJECT NO .: Washago Lagoon

P.O. NUMBER:

WATERWORKS NO.

			Client I.D.		Washago Lagoon		
			Sample I.D.	Sample I.D. Date Collected			
			Date Collect				
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
pH @25°C	pH Units		SM 4500H	15-Apr-21/O	9.14		
Alkalinity(CaCO3) to pH4.5	mg/L	5	SM 2320B	15-Apr-21/O	98		
BOD(5 day)	mg/L	3	SM 5210B	14-Apr-21/K	6		
Total Suspended Solids	mg/L	3	SM2540D	15-Apr-21/K	8		
Phosphorus-Total	mg/L.	0.01	E3199A.1	14-Apr-21/K	0.19		
Total Kjeldahl Nitrogen	mg/L	0.1	E3199A.1	14-Apr-21/K	6.3		
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	14-Apr-21/K	4.70		
рН	pH Units		Client Supplied Data	13-Apr-21	7.80		
Temperature	°C		Client Supplied Data	13-Apr-21	15.2		

1 pH and temperature results provided by client.

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie Steve Garrett Director of Laboratory Services

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from



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

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-Mar-21 08:40
Temperature Upon Receipt [°C]						8.0
Biochemical Oxygen Demand (BOD5) [mg/L]	30-Mar-21	16:31	05-Apr-21	11:45	25	16
Total Suspended Solids [mg/L]	30-Mar-21	12:46	05-Apr-21	15:20	25	17
pH [No unit]	31-Mar-21	06:40	01-Apr-21	13:56		7.64
Alkalinity [mg/L as CaCO3]	31-Mar-21	06:40	01-Apr-21	13:56		134
Phosphorus (total) [mg/L]	30-Mar-21	18:15	31-Mar-21	10:16	1	0.50
Total Kjeldahl Nitrogen [as N mg/L]	30-Mar-21	17:00	31-Mar-21	11:31	•=•	11.6
Ammonia+Ammonium (N) [as N mg/L]	30-Mar-21	18:01	05-Apr-21	13:54		9.9

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06-April-2021

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Date Rec.: 29 March 2021

LR Report: CA14631-MAR21

#1

Patti Stark Project Specialist, Environment, Health & Safety

0002451502

Page 1 of 1

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Twp of Severn (Washago STP)

Attn : Tony Drouin

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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						06-Apr-21 11:30
Temperature Upon Receipt [°C]						10.0
Biochemical Oxygen Demand (BOD5) [mg/L]	07-Apr-21	17:43	12-Apr-21	14:10	25	8
Total Suspended Solids [mg/L]	09-Apr-21	09:02	12-Apr-21	12:08	25	17
pH [No unit]	07-Apr-21	15:33	09-Apr-21	08:08		8.56
Alkalinity [mg/L as CaCO3]	07-Apr-21	15:33	09-Apr-21	08:08		119
Phosphorus (total) [mg/L]	07-Apr-21	18:31	08-Apr-21	14:18	1	0.12
Total Kjeldahl Nitrogen [as N mg/L]	07-Apr-21	18:38	08-Apr-21	13:26		8.3
Ammonia+Ammonium (N) [as N mg/L]	08-Apr-21	12:23	09-Apr-21	08:48		7.5

Deter

12-April-2021

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Date Rec.: 06 April 2021 LR Report: CA12131-APR21

#1

Kimberley Didsbury Project Specialist, Environment, Health & Safety

0002458518

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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

12-May-2021

Date Rec.: 03 May 2021 LR Report: CA13014-MAY21

Copy: #1

CERTIFICATE OF ANALYSIS **Final Report**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed	4: Analysis Completed	5: Client Limits	6: Lagoon Effluent	7: Green River Upsteam	8: Green River Downstream
Sample Date & Time			Date	Time		03-May-21 09:30	03-May-21 09:43	03-May-21 09:05
Temperature Upon Receipt [°C]						8.0	8.0	
Biochemical Oxygen Demand (BOD5) [mg/L]	04-May-21	16:40	10-May-21	12:59	25			8.0
Total Suspended Solids [mg/L]	07-May-21				-	6	< 4	4
		12:36	09-May-21	14:11	25	6	< 2	4
Phosphorus (total) [mg/L]	04-May-21	17:05	05-May-21	11:53	1	0.13	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	04-May-21	19:45	06-May-21	14:43		2.8	< 0.5	< 0.5
Alkalinity [mg/L as CaCO3]	04-May-21	09:56	07-May-21	07:56		93	99	102
Ammonia+Ammonium (N) [as N mg/L]	05-May-21	20:28	07-May-21	14:24		1.4	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	05-May-21	20:28	10-May-21	19:53		0.001	< 0.001	< 0.001
Field pH [no unit]						6.7	6.9	6.8
Field Temperature [celcius]			-			11.0	10.0	10.0

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

Patti Stark Project Specialist, Environment, Health & Safety

0002491606

Page 1 of 1

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

14-May-2021

Date Rec. : LR Report:

CA13218-MAY21 #1

06 May 2021

0002495109

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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-May-21 08:40	05-May-21 09:00	05-May-21 09:10
Temperature Upon Receipt [°C]						11.0	11.0	11.0
Field pH [no unit]						7.4	7.5	7.4
Field Temperature [celcius]						10.0	10.0	10.0
Biochemical Oxygen Demand (BOD5) [mg/L]	06-May-21	17:39	11-May-21	12:21	25	< 4	< 4	< 4
Total Suspended Solids [mg/L]	10-May-21	07:51	12-May-21	16:18	25	2	4	2
Alkalinity [mg/L as CaCO3]	06-May-21	17:57	07-May-21	13:40		87	99	100
Phosphorus (total) [mg/L]	07-May-21	15:45	10-May-21	18:27	1	0.10	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	07-May-21	18:55	10-May-21	15:07		3.2	0.6	0.6
Ammonia+Ammonium (N) [as N mg/L]	12-May-21	17:43	13-May-21	20:56		1.6	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	12-May-21	17:43	13-May-21	20:56		0.007	< 0.001	< 0.001

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

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CA13218-MAY21

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Patti Stark Project Specialist, Environment, Health & Safety

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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

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						10-May-21 11:46	10-May-21 11:55	10-May-21 11:30
Temperature Upon Receipt [°C]					_	10.0	10.0	10.0
Field pH [no unit]						7.5	7.4	7.6
Field Temperature [celcius]						16	7.5	14
Biochemical Oxygen Demand (BOD5) [mg/L]	11-May-21	16:00	17-May-21	12:56	25	6	< 4	< 4
Total Suspended Solids [mg/L]	12-May-21	17:02	16-May-21	13:24	25	4	< 2	< 2
Alkalinity [mg/L as CaCO3]	12-May-21	15:41	13-May-21	13:59		90	96	95
Phosphorus (total) [mg/L]	11-May-21	14:44	12-May-21	15:29	1	0.22	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	12-May-21	15:12	14-May-21	15:17		3.8	< 0.5	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	11-May-21	19:34	12-May-21	13:25		1.9	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	11-May-21	19:34	12-May-21	13:25		0.018	< 0.001	< 0.001

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

17-May-2021

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Date Rec.: 10 May 2021 LR Report: CA13360-MAY21

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0002497703

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

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						08-Nov-21 11:15
Temperature Upon Receipt [°C]						14.0
Biochemical Oxygen Demand (BOD5) [mg/L]	09-Nov-21	15:23	15-Nov-21	10:29	25	18
Total Suspended Solids [mg/L]	11-Nov-21	16:32	15-Nov-21	10:03	25	3
Phosphorus (total) [mg/L]	09-Nov-21	17:17	10-Nov-21	11:38	1	0.55
Total Kjeldahl Nitrogen [as N mg/L]	09-Nov-21	19:48	11-Nov-21	08:04		2.1
Ammonia+Ammonium (N) [as N mg/L]	09-Nov-21	15:32	10-Nov-21	10:55		1.1
pH [No unit]	09-Nov-21	16:19	10-Nov-21	14:35		8.17
Alkalinity [mg/L as CaCO3]	09-Nov-21	16:19	10-Nov-21	14:35		90

Jack

Patti Stark Project Specialist, Environment, Health & Safety

0002713336

Page 1 of 1

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15-November-2021

Date Rec.: 08 November 2021 LR Report: CA14172-NOV21

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22-November-2021

Date Rec.: 15 November 2021 LR Report: CA13561-NOV21

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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						15-Nov-21 09:00
Temperature Upon Receipt [°C]						10.0
Biochemical Oxygen Demand (BOD5) [mg/L]	16-Nov-21	16:02	22-Nov-21	14:21	25	14
Total Suspended Solids [mg/L]	16-Nov-21	20:01	17-Nov-21	14:11	25	21
pH [No unit]	16-Nov-21	13:18	17-Nov-21	11:03		8.41
Alkalinity [mg/L as CaCO3]	16-Nov-21	13:18	17-Nov-21	11:03		88
Phosphorus (total) [mg/L]	16-Nov-21	08:00	17-Nov-21	09:43	1	0.59
Total Kjeldahl Nitrogen [as N mg/L]	16-Nov-21	13:20	17-Nov-21	12:28		1.7
Ammonia+Ammonium (N) [as N mg/L]	16-Nov-21	21:15	17-Nov-21	10:23		0.9

Jark

Patti Stark Project Specialist, Environment, Health & Safety

0002721054

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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						24-Nov-21 11:35
Temperature Upon Receipt [°C]						8.0
Biochemical Oxygen Demand (BOD5) [mg/L]	26-Nov-21	17:31	01-Dec-21	15:32	25	4
Total Suspended Solids [mg/L]	29-Nov-21	14:47	30-Nov-21	14:52	25	4
pH [No unit]	26-Nov-21	15:35	30-Nov-21	10:41		8.74
Alkalinity [mg/L as CaCO3]	26-Nov-21	15:35	30-Nov-21	10:41		99
Ammonia+Ammonium (N) [as N mg/L]	25-Nov-21	17:40	26-Nov-21	12:36		0.2
Phosphorus (total) [mg/L]	25-Nov-21	16:52	26-Nov-21	12:09	1	0.04
Total Kjeldahl Nitrogen [as N mg/L]	26-Nov-21	16:33	29-Nov-21	09:52		1.5

Jark

02-December-2021

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Patti Stark Project Specialist, Environment, Health & Safety

0002731362

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Twp of Severn (Washago STP)

Attn : Tony Drouin

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

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20-December-2021

Date Rec. : 13 December 2021 LR Report: CA12418-DEC21

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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						13-Dec-21 09:20	13-Dec-21 09:35	13-Dec-21 09:00
Temperature Upon Receipt [°C]						8.0	8.0	8.0
Biochemical Oxygen Demand (BOD5) [mg/L]	14-Dec-21	16:12	20-Dec-21	10:20	25	13	< 4	< 4
Total Suspended Solids [mg/L]	14-Dec-21	13:50	15-Dec-21	13:31	25	11	2	< 2
Alkalinity [mg/L as CaCO3]	14-Dec-21	15:08	15-Dec-21	11:06		72	98	101
pH [No unit]	14-Dec-21	15:08	15-Dec-21	11:06		7.79	8.12	8.16
Temperature @ pH [°C]	14-Dec-21	15:08	15-Dec-21	11:06		21.4	21.5	21.7
Phosphorus (total) [mg/L]	15-Dec-21	18:23	15-Dec-21	11:52	1	0.10	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	14-Dec-21	17:53	15-Dec-21	08:24		1.0	< 0.5	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	14-Dec-21	18:05	15-Dec-21	12:25		0.3	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	14-Dec-21	18:05	15-Dec-21	12:25		0.009	< 0.003	<0.003

Note: Unionized ammonia calculated using lab results for pH and temperature.

Kimberley Didsbury Project Specialist, Environment, Health & Safety

000274965

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Lakefield - Ontario - KOL 2HO Phone: 705-652-2000 FAX: 705-652-6365

Twp of Severn (Washago STP) Attn : Tony Drouin

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

23-December-2021

Date Rec. : 17 December 2021 LR Report: CA12578-DEC21

0002753919

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#1

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						16-Dec-21 10:30	16-Dec-21 10:40	16-Dec-21 10:15
Temperature Upon Receipt [°C]				_		10.0	10.0	10.0
Field pH [no unit]		-				7.8	6.2	8.2
Field Temperature [celcius]						10.5	12.4	10.7
Biochemical Oxygen Demand (BOD5) [mg/L]	17-Dec-21	13:07	22-Dec-21	15:37	25	5	< 4	4
Total Suspended Solids [mg/L]	22-Dec-21	11:08	22-Dec-21	15:05	25	3	3	2
Alkalinity [mg/L as CaCO3]	20-Dec-21	16:09	22-Dec-21	10:05		45	104	104
Phosphorus (total) [mg/L]	20-Dec-21	21:19	21-Dec-21	13:17	1	< 0.03	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	20-Dec-21	16:43	22-Dec-21	08:25		1.0	< 0.5	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	21-Dec-21	16:55	22-Dec-21	12:11		0.4	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	21-Dec-21	16:55	22-Dec-21	12:11		0.005	< 0.001	0.002

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

Page 1 of 2

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LR Report :

CA12578-DEC21

0002753919

Carrie Greenlaw Project Specialist, Environment, Health & Safety

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Lakefield - Ontario - KOL 2HO Phone: 705-652-2000 FAX: 705-652-6365

Twp of Severn (Washago STP) Attn : Tony Drouin

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

29-December-2021

Date Rec. : 22 December 2021 LR Report: CA12709-DEC21

Copy:

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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-Dec-21 10:20	21-Dec-21 10:43	21-Dec-21 10:10
Temperature Upon Receipt [°C]						4.0	4.0	4.0
Field pH [no unit]						7.2	8.2	8.2
Field Temperature [celcius]						3	3	4
Biochemical Oxygen Demand (BOD5) [mg/L]	22-Dec-21	16:45	28-Dec-21	11:16	25	12	< 4	< 4
Total Suspended Solids [mg/L]	23-Dec-21	13:54	24-Dec-21	12:49	25	13	<2	12
Alkalinity [mg/L as CaCO3]	23-Dec-21	08:49	24-Dec-21	14:10		109	110	107
Phosphorus (total) [mg/L]	23-Dec-21	14:52	24-Dec-21	11:44	1	0.07	< 0.03	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	23-Dec-21	15:30	24-Dec-21	09:25		5.8	< 0.5	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	23-Dec-21	17:19	24-Dec-21	10:30		4.6	< 0.1	< 0.1
Unionized Ammonia [mg/L as N]	23-Dec-21	17:19	24-Dec-21	10:30		0.008	< 0.001	< 0.001

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

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LR Report :

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Stark

Patti Stark Project Specialist, Environment, Health & Safety

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