

— Township of —

SEVERN

Washago Wastewater Treatment 2025 Annual Report

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System 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 2025. 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 90446 cubic metres (m³) - approximately 110% of the facility's operating capacity of 81,900 m³/year. In 2025, the Township discharged more than normal to accommodate planned capital projects.

No bypass occurred during the 2025 operating year.

Introduction

Washago is situated approximately 20 kilometres (km) north of Orillia near the intersection of Highway 11 and County Road 169. The lagoon is located approximately 1.5 km northwest of the settlement 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



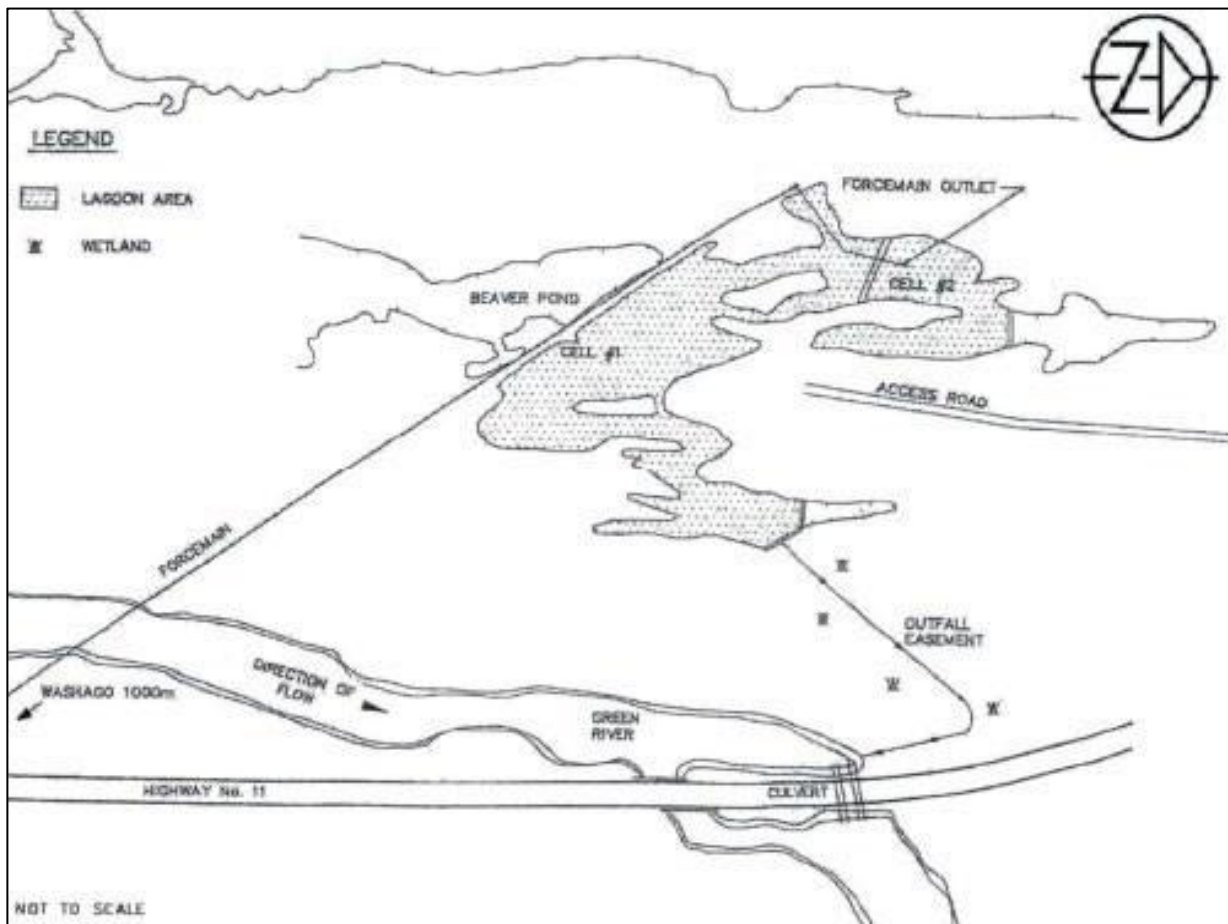
Township of

SEVERN

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. The configuration of the lagoon and outfall easement are shown on Figure 1.

Figure 1: Sewage Treatment Facility Site Plan



Performance Criteria

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

Table 1: Performance Criteria

Parameter	Objective Limits	Objective Limits	Compliance Limits	Compliance Limits
	Concentration (mg/L)	Semi-Annual Loading (kg)	Concentration (mg/L)	Semi-Annual Loading (kg)
BOD5	15	614	25	1024
TSS	20	815	25	1024
Pt	1	41	1	41

Monitoring and Treatment Protocol

Raw sewage samples were collected from Washago Sewage Pumping Station #1 monthly and analyzed for TSS, BOD₅, P_t and TKN. Results of the analysis are shown on the Municipality Monitoring Program and summarized in Table 2.

Raw Sewage Monitoring

Table 2: Raw Sewage Monitoring Results

Date	TSS (mg/L)	BOD ₅ (mg/L)	P _t	TKN (mg/L)
January 7, 2025	142	136	3.17	29.3
February 4, 2025	42	60	0.90	9.5
March 4, 2025	219	290	4.81	42.7
April 8, 2025	38	67	1.05	11.3
May 7, 2025	146	220	4.46	44.2
June 10, 2025	78	181	3.51	34.1
July 15, 2025	275	398	7.44	53.4
August 6, 2025	74	160	4.84	47.4

September 9, 2025	172	229	6.03	51.9
October 6, 2025	146	248	5.20	46.9
November 4, 2025	305	164	2.74	26.2
December 3, 2025	118	199	5.25	60.5

Sewage Flow Monitoring

The volume of sewage pumped from Washago Sewage Pumping Station #1 to the lagoon is estimated monthly by multiplying the elapsed run time of each pump in the station by the capacity of the pump. Drawdown tests are completed by Township staff in the spring and the fall to confirm pump capacity. Raw sewage flows are recorded on the Municipality Monitoring Program.

Based on the influent volumes reported in the Municipal Utility Monitoring Report, the total estimated volume of sewage transferred to the lagoon during the December 5, 2024, to May 20, 2025, operating season was 19,829 m³. The total estimated volume of sewage transferred to the lagoon during the October 27, 2025, to December 5, 2025, operating season was 13,459 m³. The total volume of sewage transferred to the lagoon during the winter and summer operating seasons was 33,288 m³. Sewage flows are summarized in Tables 3 and 4.

Table 3: Sewage Flow to Lagoon Summer Operating Season

Date	Volume (m ³)
December 5 to 31, 2024	3718
January 2025	2525
February 2025	3582
March 2025	5948
April 2025	2536
May 1 to May 20, 2025	1520
Total	19829

Table 4: Sewage Flow to Lagoon Winter Operating Season

Date	Volume (m ³)
May 20 to May 31, 2025	836
June 2025	2039
July 2025	2523
August 2025	1558
September 2025	1581
October 2025	2088
November 2025	2394
December 1 to December 5, 2025	440
Total	13459

Treatment and Sampling Protocol

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

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

of the effluent. If the effluent quality is below the C of A compliance limits, the cell is discharged without further treatment. If treatment is required, it is accomplished by batch chemical treatment with liquid aluminum sulphate (alum). Alum is added to the lagoon contents to initiate precipitation of the suspended matter. Although the treatment is essential to reduce P_t levels, a significant reduction of BOD₅ and TSS is also achieved. The addition of liquid alum is carried out using the procedure outlined and recommended by the MECP in a technical report issued January 16, 1974.

Pre- and post-treatment samples are obtained from representative locations in Cell No. 1 and analyzed for 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 the impacts of the discharge on the river. Samples are analyzed for BOD₅, P_t, TSS, pH, TA, TKN and Alkalinity.

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.

Table 5: Pre-Discharge Sampling – Spring Discharge

	Date	TSS (mg/L)	BOD ₅ (mg/L)	P _t (mg/L)
Sample 1	March-24-25	15	11	0.11
Sample 2	April 1, 2025	4	4	0.03
Sample 3	April 7, 2025	53	18	0.37
Sample 4	April 14, 2025	7	15	0.05
Sample 5	April 16, 2025	5	4	0.04
Sample 6	April 22, 2025	4	11	0.06
Average		15	10.5	0.11

The spring discharge commenced on May 5, 2025. The total volume of effluent discharged was 72754 m³ at a mean discharge rate of 4850 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 6.

Table 6: Effluent Discharge Summary – Spring Discharge

	Date	TSS (mg/L)	BOD ₅ (mg/L)	P _t (mg/L)
Start Discharge	May 5, 2025	9	14	0.06
Mid Discharge	May 12, 2025	2	29	1.47
End Discharge	May 20, 2025	2	7	0.34
Mean Concentration		16.66	4.33	0.62
C of A Objective		20	15	1
C of A Compliance		25	25	1
Effluent Waste Loading(kg)		330	86	12.29

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

Table 7: Green River Monitoring – Spring Discharge

	Date	TSS (mg/L)	BOD ₅ (mg/L)	P _t (mg/L)
Start Discharge	May 5, 2025			
Upstream		3	4	0.02
Downstream		2	4	0.02
Mid Discharge	May 12, 2025			
Upstream		3	9	0.03
Downstream		3	17	0.03
End Discharge	May 20, 2025			

Upstream		2	5	0.03
Downstream		2	4	0.03

Fall Discharge

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

Table 8: Pre-Discharge Sampling – Fall Discharge

	Date	TSS (mg/L)	BOD ₅ (mg/L)	P _t (mg/L)
Sample 1	November 4, 2025	4	7	0.16
Sample 2	November 10, 2025	2	16	0.52
Sample 3	November 18, 2025	2	7	0.68
Average		2.66	10	0.45
C of A Objective		20	15	1
C of A Compliance		25	25	1

The discharge of Cell No. 1 commenced on December 1, 2025. The total volume of effluent discharged was 17,692 m³ at a mean discharge rate of 4423 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.

Table 9: Effluent Discharge Summary – Fall Discharge

	Date	TSS (mg/L)	BOD ₅ (mg/L)	P _t (mg/L)
Start Discharge	December 1, 2025	4	4	0.30
Mid Discharge	December 3, 2025	38	6	0.28



End Discharge	December 5, 2025	8	9	0.44
Mean Concentration		16.66	6.33	0.34
C of A Objective		20	15	1
C of A Compliance		25	25	1
Effluent Waste loading(kg)		224	85	4.57

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

Table 10: Green River Monitoring - Fall Discharge

	Date	TSS (mg/L)	BOD ₅ (mg/L)	P _t (mg/L)
Start Discharge	Dec 1, 2025			
Upstream		4	<4	< 0.03
Downstream		<2	< 4	< 0.03
Mid Discharge	Dec 3, 2025			
Upstream		6	< 4	< 0.03
Downstream		<2	< 4	< 0.03

End Discharge	Dec. 5, 2025			
Upstream		4	< 4	<0.03
Downstream		3	< 4	< 0.03

Efforts and Results in Meeting Effluent Objectives of Certificate of Approval

The lagoon is operated and maintained such that all effluent quality objectives are strived for. Objectives and limits are based on an average. There was no limit exceedance during the 2025 discharges.

2025 Operating Year Summary

The volumes of influent received, and effluent discharged from the lagoon during the 2025 operating year are summarized in Table 11.

Table 11: Influent and Discharge Volume Summary

Total Influent Volume Sewage	33,288 m ³
Total Effluent Discharged	90,446 m ³
Precipitation Value	57,158 m ³

The waste loading during the 2025 operating year are summarized in Table 12.

Table 12: Waste Loading Summary

	Spring 2025 (kg)	Fall 2025 (kg)	Total Loading (kg)
TSS	330	224	554
BOD ₅	86	85	171
P _t	12.29	4.57	16.86

Conclusions and Recommendations

The performance of the Washago Sewage Treatment Works during the 2025 operating year had no objective or limit exceedance. To ensure that the seasonal operating capacity of the lagoon is not exceeded, the spring and fall discharges should continue to be scheduled as early in the spring and as late in the fall as a practical way to reduce the length of the winter operating season, when the volume of precipitation accumulation is the greatest and the rate of evaporation is the lowest.



Appendix A

Certificate of Approval





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Certificate of Approval (Sewage)



Whereas TOWNSHIP OF ORILLIA

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

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

SANITARY SEWERS

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

... 2

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

DATED AT TORONTO this 8th day of December 19 82

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

6/,,) Director



Certificate of Approval {Sewage}

Whereas

- 2 -

of

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

SANITARY SEWERS (Cont'd)

<u>STREET</u>	FROM	TO
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 19 82


 Director

Certificate of Approval (Sewage)

Whereas

- 3 -

of

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

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

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

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

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

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

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

DATED AT TORONTO this 8th day of December 19 82



Certificate of Approval (Water)

Whereas


TOWNSHIP OF ORILLIA

XX

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

<u>STREET</u>	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).

May 31 83


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

DATED AT TORONTO this 29th
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.


.....
Director



Township of
SEVERN

day of April 19 83

ec -Mr. J. Toth, Design & Equip.ment
-Mr. W. Brink, Design & Equipment



Certificate of Approval

(Sewage)

Whereas TOWNSHIP OF ORILLIA

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

the construction of sanitary sewage works facilities as follows:

SANITARY SEWER

STREET

FROM

TO

C.N.R. Right-of-Way

Hamilton Street

Quetton Street

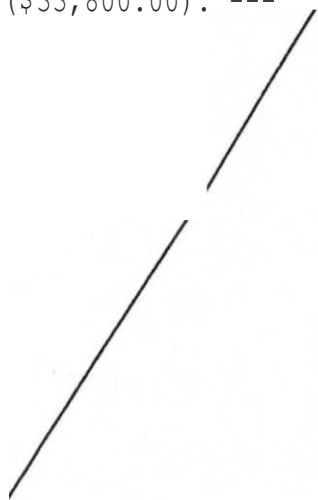
FORCEMAIN

C.N.R. Right-of-Way

Orillia Street

Hamilton Street

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



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



Township of
SEVERN

DATED AT TORONTO this 29th day of April 19 83

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

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

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

-Reid & Assoc. Ltd.

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

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

-Mr. J. Toth, Design & Equipment

/ec -Mr. W. Brink, Design & Equipment



.....
Director



Township of

SEVERN

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

Number/ Numero 3-1.459-87-006



Ministry of the Environment

Ministère de l'Environnement

Whereas / Attendu que Hope-Smith Lands Limited

located at / situé à Washago, Ontario

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

a fait, conformément à l'article 24 de la loi sur les ressources en eau de l'Ontario, une demande d'autorisation: Private sanitary pumping station and forcemain to service a commercial development located on Part of Lot 14 and all of Lots 15, 16, 17 & 18 in the Township of Orillia equipped with 2 submersible grinder pumps each rated at 1.9 l/s at a total dynamic head of 6.8m with float switch controls, associated valves, electrical equipment, interconnecting piping, a natural vent, a forcemain and appurtenances.

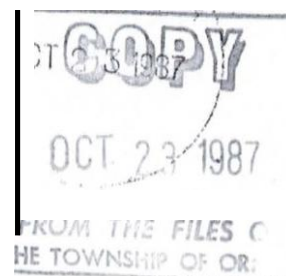
Table with 3 columns: Street, From, TO. Row 1: Hamilton St., Approx. 45m E of Cumberland St., Quetton St.

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

THIS IS A TRUE COPY OF THE ORIGINAL CERTIFICATE MAILED

ON [] [] ([])

(Signed)



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

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

DATED AT TORONTO this DATE AT TORONTO ce

day of jour

20 October 1987

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

f []

Handwritten notes and stamps at the bottom right.

Whereas

**Certificate of Approval
(Sewage)**

TOWNSHIP OF ORILLIA

has applied in accordance with Section 24 of the Ontario Water Resources Act for approval of:-
the construction of a 4.77 ha two celled seasonal discharge waste stabilization pond to be located approximately 1700 m north and northwest of Hamilton Street - Washago (Part of Lots 10 and 11, Concession XV, Township of Orillia) in a natural rock basin and including an influent structure; four (4) berms; inter-connecting piping; and outfall structure and all necessary appurtenances (Total effective storage volume at 1.5 m effective liquid depth= 47,800 m³; BOD loading rate= 8.11 kg/ha/d) with effluent discharge via an existing natural drainage course to the Severn River,

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

SPECIAL TERMS AND CONDITIONS:

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

(2) TYPE OF SAMPLE

Grab Sample

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

<u>Effluent Parameter</u>	<u>Effluent Concentration</u>	<u>Effluent Waste Loading</u>
BCD5	15 mg/L	614 kg
Suspended Solids	20 mg/L	815 kg
Total Phosphorus	1.0 mg/L	41 kg



under Section 24 of the Ontario Water Resources Act.

DATED AT TORONTO this 18th day of November 19 83

.ttn:-Mr. J.B. Mather, Clerk, Twp. of Orillia
cc:-Mr. G. Mierzynski, MOE C, Reg. Dir.
-Reid and Associates Limited
-Mr. W.A.S. Marshall, Project Supervisor
-Mr. J. Toth, Value Engineering
-MY' f. IAI Rv-inl, M□1110 J:nninoov-inn

- " ' 1

Certificate of Approval (Sewage)



Whereas

- 2 -

of

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

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

<u>Effluent Parameter</u>	<u>Effluent Concentration</u>	<u>Effluent Waste Loading</u>
B005	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 m³/d over 180 days and represent the total load discharged to the receiving stream over the discharge period.

- c) The minimum sampling programme to be followed in assessing non-compliance of the 8005, 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 B005 SS or phosphorus concentration of samples collected during the discharge period exceeds the corresponding value as stated in Condition 2b) above.

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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



— Township of —
SEVERN


.....
Director

Certificate of Approval (Sewage)



Whereas

- 3 -

of

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

Special Terms and Conditions Cont'd.

- e) Non-compliance with respect to effluent waste loadings is considered to occur when the arithmetic mean of either B005, 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

- 8005
- 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



— Township of —
SEVERN

[Handwritten Signature]
.....
Director

SAMPLE COLLECTION

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

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

SAMPLE SIZE

- (a) At least one litre of sample from each sampling location should be submitted for the minimum analysis requirements (BOD5, SS, Ammonia plus Ammonia Nitrogen and Total Phosphorus). If the effluent sample has less than 1 mg/l of solid matter when settled, or is almost clear when shaken, provide an extra litre of sample.

SUBMISSION OF ANALYSIS

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

SAMPLE ANALYSIS AND DATA REPORTING

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



Appendix -1A- Cont'd.

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

NOTICE



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

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

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

Condition 1

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

Condition 2

The effluent criteria relating to BOD5, Suspended Solids and Ammonia plus Nitrogen are being imposed to prevent discharges of inadequately treated sewage. The concentration parameters are compatible with the proposed treatment system under normal operating and loading conditions.

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

Condition 3

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

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

This Notice should be served upon:

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

AND

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

DATED at Toronto this 18th day of November, 1983.



— Township of —
SEVERN

1044 0/80

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



Ministry
of the
Environment
and Energy

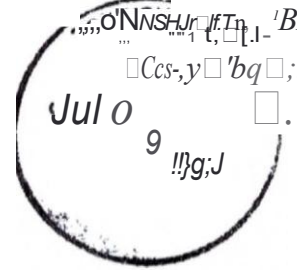
Ministere
de
l'Environnement
et de l'Energie

AMENDMENT TO CERTIFICATE OF
APPROVAL
MUNICIPAL SEWAGE



Township of

SEVERN



3-1081-83-006

Page 1 of 2

NOTICE OF AMENDMENT

To the Applicant:

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

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

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

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

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

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

The Applicant may by written notice served upon me and the Environmental Appeal Board within 15 day 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:

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

The Notice should also include:

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

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



Ministry
of the
Environment
and Energy

Ministere
de
l'Environnement
et de l'Energie

AMENDMENT TO
CERTIFICATE OF APPROVAL



Township of
SEVERN

MUNICIPAL SEWAGE
NUMBER 3-1081-83-006

Page 2 of 2

This Notice must be served upon.:

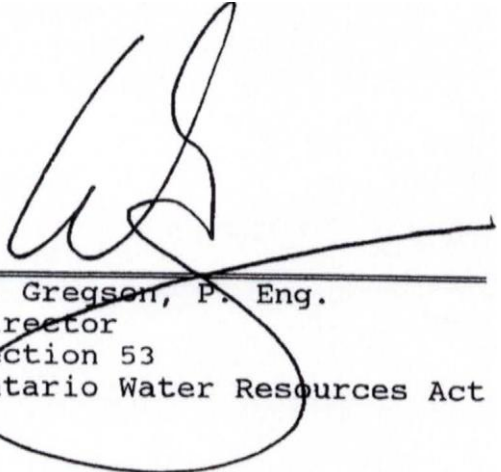
The Secretary,
Environmental Appeal Board,
112 St. Clair Avenue West,
Suite 502,
Toronto, Ontario.
M4V 1R1J3

AND

The Director,
Section 53, Ontario Water Resources Act,
Ministry of Environment and Energy,
250 Davisville Avenue, 3rd Floor,
Toronto, Ontario.
M4S 1H12

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

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



N. 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.



Ministry
of the
Environment

Ministres
de
l'Environnement

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



Township of
SEVERN

Number/ Numero 3-0051-86-006

Whereas / Attendu que

TOWNSHIP OF ORILLIA

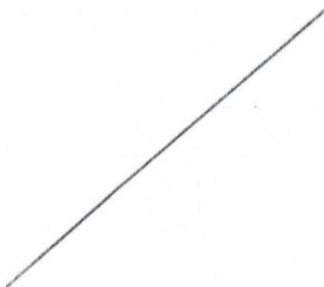
of/ d

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
DATE À TORONTO ce jour d

Attn: Mr. J.B. Mather, Clerk, Township of Orillia
cc: Mr. J.C. Ferguson, Twp. Engineer
Mr. G. Mierzynski, MOE C, Reg. Dir.
Reid & Associates Ltd.

Director / Directeur



Township of SEVERN

CERTIFICATE No. 1-0294-71-3261
71-753261



Attachment: Air Approval

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

MINISTRY OF THE ENVIRONMENT

SEWAGE WORKS APPROVAL

RECEIVED

AUG 8 1975

REID & ASSOC. LTD.

PRELIMINARY APPROVAL for purposes of facilitating works regarding the installation, operation and maintenance of this Act. Final plans and specifications are approved.

/aw

Whereas THE PROVINCE OF ONTARIO

(If

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 Corporation of Orillia (Community of Orillia) as follows:

STREET	ERO	T O
Eastment	Sanitary sewers Rama St. (wy. 160')	approx. 50.0' S. of Rama St. (Proposed Sewage Station No. 2)
Eastment	approx. 160' S. of Rama St.	approx. 110' S. of Rama St.
Eastment	approx. 300' S. of Rama St.	approx. 1700' S. of Rama St.
Eastment	approx. 200' W. of Muskoka St. (Eastment)	approx. 300' S. of Muskoka St. (Severn River)
Eastment parallel to Severn River	Eastment	Eastment
Eastment	approx. 200' S. of Muskoka St. (proposed Sewage Station 1)	approx. 630' S. of Muskoka St.

Remains

Eastment	Eastment	Eastment
Eastment	Eastment	Eastment
Eastment	Eastment	Eastment

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

continued:

DATED AT TORONTO this 1st day of August 1975

[Signature]
Director

continued



MINISTRY OF THE ENVIRONMENT

SEWAGE WORKS APPROVAL

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

Whereas

of

- 2 -

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

construction of a sanitary sewage works site to serve the Township of Orillia (County of Halton) (continued)

Proposed Sewage Pumping Station approx. 100'

Outfall sewer

sellent plant Proposed Sewage Treatment Plant ranch of Severn River

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

Sewage Pumping Station No. 1 - to be located at the west end of Edgar Street approx. 400' N. of Allany St. and to be equipped with two (2) 183 IGPM submersible type raw water pump, 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. 1/2 mi. N. of Muskoka St. and to be equipped with one (1) 81 IGPM submersible type raw water pump, an emergency overflow to the adjacent sanitary sewer and all necessary appurtenances and controls,

Sewer Treatment Plant - to be located approx. 1725' N. of Hamilton St. on E. side of Hwy. 101 (Part Orillia Is. and, Twp. of Orillia) and

consisting of a 50,000 IGPD extended aeration sewage treatment plant c/v influent: works, grit channels, an aeration tank, a final clarifier, effluent chlorination phosphorus removal facility, control building and all necessary appurtenances and controls. All effluent discharge to sewer ranch Severn River, all in accordance with the report prepared

and I hereby certify that after due enquiry the said proposed works have been approved under Section 42 of The Ontario Water Resources Act.

continued

DATED AT TORONTO this 1st day of August 1975

[Signature] Director

CERTIFICATE No. **1-0294-753 261**
eonice | nue | c





SEWAGE WORKS APPROVAL

Whereas

of

- 3 -

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

by J. Reid and Associates Limited, consulting engineers, at a total
estimated cost, including land charge, engineering and contingencies,
of \$546,960.00, (Five Hundred and Forty-Six Thousand Dollars),

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.

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

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



[Handwritten Signature]
Director

of —
RN