

Ministry of the Environment, Conservation and Parks Ministère de l'Environnement, de la Protection de la nature et des Parcs

ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 1822-CJ6HDG Issue Date: December 9, 2022

Sauble Sunsets GP Limited 2188-A Thurston Drive Ottawa, Ontario K1G 6E1

Site Location: Sauble Sunset Retirement Residence 701 Main St South Bruce Peninsula Town, County of Bruce N0H 2G0

You have applied under section 20.2 of Part II.1 of the <u>Environmental Protection Act</u>, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

SANITARY SEWAGE TREATMENT AND DISPOSAL

establishment, usage and operation of new non-municipal Works, for the treatment of sanitary sewage from Sauble Sunset Retirement Residence at the above Site Location and disposal of effluent to subsurface via a Sewage Treatment Plant (proprietary moving bed biofilm reactor package Sewage Treatment System) and Final Effluent disposal facilities as follows:

Classification of Sewage Treatment Plant: Secondary

Details of Service Area:

- **Type of Occupancy**: Residential
- Type and Number of Units:
 - 12 semi-detached (duplex) residential units;
 - 22 townhouse units; and
 - 90 single units in a 2-storey retirement residence

Design Capacity of Sewage Treatment Plant:

Design Capacity with All Treatment Trains in Operation	Upon Completion of Construction of All Proposed Works
Total Maximum Daily Flow	58,000 litres per day (L/d)

Influent

Receiving Location	Types
In Collection System	Sanitary Sewage
At Sewage Treatment Plant	None

Proposed Works:

Collection System

• One (1) sewage collection system comprised of approximately 404 m of 200 mm diameter sewers, six (6) 1,200 mm diameter maintenance holes, one (1) 200 mm diameter sanitary service and thirty four (34) 125 mm diameter sanitary services, discharges to the wet well of the pumping station.

Sanitary Sewage Pumping Station

• One (1) sewage pumping station consisting of a 6.3 m deep by 1,200 mm diameter wet well, two (2) 1 HP submersible sewage pumps, operating on an alternating basis, with an approximate capacity of 7.2 L/s at 7.1 m TDH, float switches to stop and start the pumps and initiate audible and visual high-level alarms, 75 mm diameter discharge piping and fittings and approximately 42 m of 75 mm diameter forcemain discharging to the Equalization Tank of the sewage treatment plant described below.

Sewage Treatment Plant – one proprietary Moving Bed Biofilm Reactor (MBBR) Sewage Treatment System

Equalization Tank

• Tank 1: one (1) flow equalization tank with a working volume of 47.3 m³ equipped with duplex 0.5 HP pumps and pump control floats set configured to dose sewage to the downstream Primary Treatment system sludge storage tank (Tank 2) at a maximum rate of 2,500 L / hour described below.

Primary Treatment System (Tanks 2 and 3)

• Tank 2: sludge storage tank with a working volume of 57.8 m³, receiving raw sewage from Equalization Tank described above, nitrified effluent recycled flow from the Bioreactor #2 (Aerobic MBBR Tank 5) and sludge from Secondary Clarifier and Tertiary Clarifier described below,

discharging effluent by gravity to the Primary Clarifier (Tank 3) described below.

• Tank 3: primary clarifier with a working volume of 22.7 m³ receiving effluent from Tank 2 by gravity, providing additional settling and conditioning of the wastewater including pre-anoxic denitrification, discharging effluent by gravity to Bioreactor 1 (Tank 4) described below.

Secondary Treatment System (Tanks 4, 5 and 6)

Secondary Treatment is provided through a moving bed biofilm reactor (MBBR) treatment system described below:

- Tank 4: Bioreactor 1 with a working volume of 18.1 m³ receiving effluent from Tank 3 (primary clarifier) and equipped with approximately 6.5 m³ of carrier media having specific surface area of 500 m²/m³, one (1) 6" inlet flap-check valve, one (1) 6" media retention screens, five 4-port aeration manifolds and 20 x 1 m fine bubble aerators. Effluent from Bioreactor 1 discharging by gravity to Bioreactor 2 (Tank 5) described below.
- Tank 5 Bioreactor 2 with a working volume of 17.6 m³ receiving effluent from Bioreactor 1 and equipped with 6.5 m³ of carrier media having specific surface area of 500 m²/m³, two (2) 6" media retention screens, five 4-port aeration manifolds, 20 x 1 m fine bubble aerators and a 0.3 HP recirculation pump returns part of the process mixed liquor at up to 3 x design flow to the Sludge Storage Tank (Tank 2) to facilitate pre-anoxic denitrification in the secondary process. Supplemental carbon dosing is not included to support pre-anoxic denitrification; however, is included for tertiary denitrification. Effluent from Bioreactor 2 discharges by gravity to Secondary Clarifier.
- Tank 6a: Secondary Clarifier. Effluent from Bioreactor 2 flows by gravity to the Secondary Clarifier with a working volume of 10.2 m³ equipped with two (2) sloped wall hoppers, one (1) surface skimmer pump of 0.3 HP, and two (2) sludge return pumps of 0.3 HP each. Sludge settles to the bottom of the hoppers is returned to the Sludge Storage tank (Tank 2) along with any floating sludge removed by the skimmer pump. Effluent from Secondary Clarifier discharges to Anoxic Bioreactor (Tank 6b) described below.

Post Secondary Treatment System (Tanks 6b, 7a, 7b and 8)

• Tank 6b (anoxic bioreactor for Tertiary Denitrification): having a working volume of 6.9 m³ receiving effluent from secondary clarifier discussed above to remove any residual nitrate nitrogen to the design objective. The Anoxic Bioreactor is an MBBR containing 2.4 m³ of specially designed plastic carrier media having a specific surface area of 500 m²/m³ and two (2) 6" media retention screen. Denitrifying bacteria attach to the carrier media consume nitrate and nitrite in the secondary effluent using supplemental carbon as an energy source under low oxygen conditions. The Anoxic Bioreactor sized to remove a minimum of 8 mg/L of residual nitrate at design flow (0.48 kgNO₃/d) based on a recommended loading rate of 0.5 gNO₃/m²-d.

- Supplemental carbon dosing is flow paced based on the influent Equalization Pump operation and proportioned to limit residual nitrate based on effluent nitrate performance. The carbon supplement is intermittently mixed with the influent to the reactor via 0.3 HP mixing pump. The Anoxic Bioreactor is fully mixed periodically using coarse bubble diffusers and a dedicated blower to remove any excess biomass while limiting the oxygen added. For this mixing Anoxic Bioreactor is equipped with two (2) 3 port aeration manifolds and six (6) coarse bubble diffusers, and aeration piping.
- Effluent from the Anoxic Bioreactor may contain residual CBOD5 and TSS. To ensure the effluent meets the required criteria, further aerobic treatment and clarification is provided by diverting effluent from anoxic bioreactor to Bioreactor 3 (Tank 7b) described blow.
- Tank 7b (Bioreactor 3 for tertiary effluent polishing): with a working volume of 6.7 m³ equipped with 2.4 m³ of carrier media having specific surface area of 500 m²/m³, two (2) 3-port aeration manifolds, six (6) fine bubble diffusers, two (2) 6" media retention screens, aeration piping and one (1) 6" carbon vent filter, receiving effluent from Anoxic Bioreactor discussed above. Bioreactor 3 acts as an aerobic MBBR polisher to consume any excess carbon from the tertiary process, working on the same treatment principles as the two main bioreactors in Tanks 4 and 5. Effluent from Bioreactor 3 flows to Tertiary Clarifier (Tank 7a) by gravity described below.
- Tank 7a (The Tertiary Clarifier): with a working volume of 8.9 m³, equipped with two (2) sloped wall hopper, one (1) surface skimmer, and two (2) sludge return pumps of 0.3 HP each. Tertiary sludge settles to the bottom of the hoppers is returned to the Sludge Storage tank (Tank 2) along with any floating sludge removed by the skimmer pump. Effluent from Tertiary Clarifier goes to Floc Reactor (Tank 8) discussed below for phosphorus removal.
- Tank 8 (Floc Reactor for Phosphorus Removal): having a working volume of 2.2 m³, coagulant (Clariphos or approved equivalent) is used to eliminate phosphorus by chemical precipitation. Flocculent mixed effluent flows to Tertiary Clarifier (Tank 7a) discussed above for sludge settlement. Effluent from Tertiary Clarifier goes to Effluent Pump Tank (Tank 9) described below.

Effluent Pump Tank (Tank 9)

• Tank 9 (Effluent Pump Tank): with a working volume of 18.1 m³ equipped with two (2) 0.6 HP pumps set to dose the downstream Type A dispersal bed described below on a demand basis at a rate of 1,250 L over a period not exceeding 15 minutes.

Supplementary Treatment System

• Process control building containing process control panels, two 3 HP regenerative air blowers for Bioreactors 1 and 2, one 1.5 HP regenerative air blower for Bioreactor 3, coagulant dosing system with one chemical dosing pump and 680 L storage tank, carbon dosing system with one chemical dosing pump and 680 L storage tank, carbon dosing system with one chemical dosing pump and 50 mm diameter ultrasonic effluent flow meter.

Sludge Management System

• Sludge accumulated in the online Sludge Storage Tank (Tank 2) and Primary Clarifier (Tank 3) shall be periodically transported for off-site disposal at an approved receiving facility.

Final Effluent Flow Measurement and Sampling Point

- Final Effluent flow measurement device at the Effluent Pump Tank
- Sampling of Final Effluent from the Effluent Pump Tank prior to discharge to the Type A dispersal bed;

Final Effluent Disposal Facilities

Effluent will be disposed to the subsurface through a 4,200 m² Type 'A' dispersal bed. (Q = 58,000 litres per day; maximum daily total flow) consists of:

- Sub-grade of 300 mm depth: The sub-grade will be graded to ensure even distribution of effluent over the underlying soil and scarified to a minimum depth of 300 mm to improve absorption in the underlying soil.
- Sand Layer: The base of the Type 'A' dispersal bed will consist of a 4,200 m² (42 m x 100 m) sand layer with a minimum depth of 300 mm, which will provide a loading rate of 14.3 L/m²/day. The sand layer will consist of imported sand with a T-time ranging from 6 to 10 min/cm and less than 5% fines passing through a 0.074 mm (No. 200) sieve in accordance with OBC, underlying the stone layer described below.
- Stone layer: Stone layer comprised of five stone layers raised beds with 10 m spacing between beds, each bed of 240 m² (6 m x 40 m) stone layers, with a minimum depth of 250 mm, and protected by permeable geo-textile fabric, and gradation of stones shall follow the OBC specifications. Effluent will be evenly distributed through each stone layer through a network of ten (10) 18.8 m long and 75 mm diameter perforated pipes. The combined area of the five stone layers is 1,200 m².
- Effluent Distribution: Effluent from the sewage treatment plant's effluent pump chamber will be pumped to each stone bed via a 50 mm diameter forcemain. A five (5)-outlet automatic distribution valve will direct effluent to each of the five stone layers on a rotating basis. The effluent pump chamber controls will be set to dose the stone layers on a demand basis at a rate of 1,250 L/cycle. This configuration will result in 48 pump cycles per day when the system is operating at its 60,000 L/day capacity.
- **Drainage;** To mitigate the risk of hydraulically overloading the dispersal bed, the surface of the bed will be graded to shed runoff. Swales around the perimeter of the bed will collect and convey surface water away from the bed.
- Contaminant Attenuation Zone (CAZ): an area of 2.82 ha downgradient of the dispersal bed up to

property boundary shall act as a contaminant attenuation zone as shown on Drawing TB-1 in Design Brief (page 105).

including all other mechanical system, electrical system, instrumentation and control system, standby power system, piping, pumps, valves and appurtenances essential for the proper, safe and reliable operation of the aforementioned Works in accordance with this Approval, in the context of process performance and general principles of wastewater engineering only.

STORMWATER MANAGEMENT

the establishment of stormwater management Works to service the proposed Sauble Sunset Retirement Residence development at the above Site Location, for the collection, transmission, treatment and disposal of stormwater runoff from a total catchment area of 6.41 hectares, to provide:

- "Enhanced" water quality treatment in the form of 80% total suspended solids (TSS) removal for the site discharge;
- erosion protection by controlling the post-development 25 mm storm runoff to pre-development levels and by providing a detention time between 24-48 hours to protect the downstream drainage system from erosion;
- to attenuate post-development peak flows to pre-development peak flows for all storm events up to and including the 100-year storm event, and
- to safely convey flows corresponding to regional storm through the development to the designated outlet to prevent on-site flooding, ultimately discharging to an existing grass-lined east-west on-site triangular ditch that runs along the current northerly property limit and will feed the Wetland Restoration Zone identified in the Natural Heritage Environmental Impact Study prepared by AWS Environmental Consulting Inc. (December 2019). The existing swale conveys flows in an easterly direction where it discharges to the roadside ditch of D Line. The roadside ditch then conveys flows north to where it eventually crosses easterly under the D line via a CSP culvert and is ultimately conveyed east by the Bannister Drain system,

The stormwater management works consist of the following:

- Storm sewer system consisting of approximately 277 m of sewer ranging from 300 mm diameter to 525 mm diameter;
- Hybrid detention pond/wetland SWM facility (named as SWM-1) managing runoff from sub-catchment 201 with 3.79 ha catchment area and 57% imperviousness. The pond has 581 m³ of permanent pool storage, 364 m³ of extended detention storage, and 1,741 m³ of active storage, a primary outlet consisting of a Hickenbottom perforated riser with a 50 mm diameter orifice and a 200 mm diameter reverse grade outlet pipe, a secondary outlet consisting of a 1,200 mm by 600 mm (Type A) ditch inlet with a 3:1 grate slope and 600 mm diameter outlet pipe and an emergency overflow consisting of a 3.5 m wide trapezoidal broad-crested weir with 10:1 (H:V) side slopes. Regular discharge from the pond goes to an existing onsite ditch at Outlet#1, flowing eastward where it mixes with the flows coming

from sub-catchment #203 and sub-catchment #202 and ultimately discharges to an outlet channel feeding the Wetland Restoration Zone (see Drawing No. DP-2 on page 21 of the stormwater management report).

- Wetland SWM Facility (names as SWM-2) managing runoff from sub-catchment 202 with 0.66 ha catchment area and 99% imperviousness. The pond has 127 m³ of permanent pool storage, 547 m³ of extended detention storage, and 1,027 m³ of active storage, a primary outlet consisting of a 50 mm diameter orifice plate and a secondary outlet consisting of 3.5 m wide trapezoidal broad-crested weir with 4:1 (H:V) side slopes, discharging to an existing onsite ditch flowing northeasterly direction and empties at Outlet#2 and then flowing eastward to an outlet channel feeding the Wetland Restoration Zone (see Drawing No. DP-2 on page 21 of the stormwater management report).
- Overland flow area managing flow from sub-catchment 203 with drainage area of 1.96 ha with 0% imperviousness. Part of the overland runoff flows northward to the existing grass-lined onsite trapezoidal swale and the rest of the overland flow from catchment 203 drains northeastward as sheet flow to the exiting grass-lined east-west onsite triangular ditch. Flow from sub-catchment 203 is passively managed from a water quantity control and water quality treatment perspective.
- Existing grass-lined east-west onsite triangular ditch with a depth ranging between 0.10 m and 0.60 m, with an average longitudinal slope of 0.32%, and varying side slopes (maximum 2.5:1) designed to carry runoff from all storm events up to and including the 100-year storm event and regional storm to avoid flooding of the property.
- Existing grass-lined onsite trapezoidal swale with varying bottom width flowing northeasterly direction with a depth ranging between 0.10 m to 0.60 m with an average longitudinal slope of 0.20% and varying side slopes (maximum 2.5:1) designed to carry runoff from all storm events up to and including the 100-year storm event and regional storm to avoid flooding of the property.

all in accordance with the submitted supporting documents listed in Schedule A.

For the purpose of this environmental compliance approval, the following definitions apply:

- 1. "Approval" means this entire Environmental Compliance Approval and any Schedules attached to it;
- 2. "BOD5" (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demands;
- 3. "Bypass" means diversion of sewage around one or more treatment processes, excluding Preliminary Treatment System, within the Sewage Treatment Plant with the diverted sewage flows being returned to the Sewage Treatment Plant treatment train upstream of the Final Effluent sampling point(s) and discharged via the approved effluent disposal facilities;
- 4. "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;

- 5. "Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;
- 6. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works is geographically located;
- 7. "EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19;
- 8. "Equivalent Equipment" means a substituted equipment or like-for-like equipment that meets the required quality and performance standards of a named equipment;
- 9. "E. coli" refers to coliform bacteria that possess the enzyme beta-glucuronidase and are capable of cleaving a fluorogenic or chromogenic substrate with the corresponding release of a fluorogen or chromogen, that produces fluorescence under long wavelength (366 nm) UV light, or color development, respectively. Enumeration methods include tube, membrane filter, or multi-well procedures. Depending on the method selected, incubation temperatures include 35.5 + 0.5 °C or 44.5 + 0.2 °C (to enumerate thermotolerant species). Depending on the procedure used, data are reported as either colony forming units (CFU) per 100 mL (for membrane filtration methods) or as most probable number (MPN) per 100 mL (for tube or multi-well methods);) of equipment that meets the design requirements and performance specifications of the piece(s) of equipment to be substituted;
- 10. "Final Effluent" means effluent that is discharged to the environment through the approved effluent disposal facilities, including all Bypasses, that are required to meet the compliance limits stipulated in the Approval for the Sewage Treatment Plant at the Final Effluent sampling point(s);
- 11. "Grab Sample" means an individual sample of at least 1000 millilitres collected in an appropriate container at a randomly selected time over a period of time not exceeding 15 minutes;
- 12. "Influent" means flows to the Sewage Treatment Plant from the collection system;
- 13. "Licensed Engineering Practitioner" means a person who holds a licence, limited licence or temporary licence under the *Professional Engineers Act*, R.S.O. 1990, c. P.28;
- 14. "Maximum Daily Flow" (also referred to as Peak Daily Flow Rate or Maximum Day Flow) means the largest volume of flow to be received during a one-day period for which the sewage treatment process unit or equipment is designed to handle;
- 15. "Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;
- 16. "Normal Operating Condition" means the condition when all unit process(es), excluding Preliminary Treatment System, in a treatment train is operating within its design capacity;
- 17. "OBC" means the Ontario Building Code, Ontario Regulation 332/12 (Building Code) as amended to January 1, 2015, made under the *Building Code Act*, 1992, S.O. 1992, c. 23;

- 18. "Operating Agency" means the Owner, person or the entity that is authorized by the Owner for the management, operation, maintenance, or alteration of the Works in accordance with this Approval;
- 19. "Owner" means Sauble Sunsets GP Limited , including any successors and assignees;
- 20. "OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40;
- 21. "Peak Daily Flow Rate" (also referred to as Maximum Daily Flow or Maximum Day Flow) means the largest volume of flow to be received during a one-day period for which the sewage treatment process unit or equipment is designed to handle;
- 22. "Preliminary Treatment System" means all facilities in the Sewage Treatment Plant associated with screening and grit removal;
- 23. "Primary Effluent" means the effluent from the Primary Treatment System;
- 24. "Primary Treatment System" means all facilities in the Sewage Treatment Plant associated with the primary sedimentation unit process and includes chemically enhanced primary treatment;
- 25. "Proposed Works" means those portions of the Works included in the Approval that are under construction or to be constructed;
- 26. "Responsibility Agreement" means a legal agreement between a municipality and developer which stipulate the conditions under which communal services will be constructed, operated and maintained, as well as, the action to be undertaken by the municipality in the event of default;
- 27. "Secondary Effluent" means the effluent from the Secondary Treatment System;
- 28. "Secondary Treatment System" means all facilities in the Sewage Treatment Plant associated with biological treatment, secondary sedimentation and phosphorus removal unit processes;
- 29. "Sewage Treatment Plant" means all the facilities related to sewage treatment within the sewage treatment plant site excluding the Final Effluent disposal facilities;
- 30. "Single Sample Result" means the test result of a parameter in the effluent discharged on any day, as measured by a probe, analyzer or in a composite or grab sample, as required;
- 31. "Works" means the approved sewage works, and includes Proposed Works.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL PROVISIONS

- 1. The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the terms and conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- 2. The Owner shall design, construct, operate and maintain the Works in accordance with the conditions of this Approval.
- 3. Where there is a conflict between a provision of any document referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence.
- 4. The issuance of, and compliance with the conditions of this Approval does not:
 - a. relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain approval from the local conservation authority necessary to construct or operate the Works; or
 - b. limit in any way the authority of the Ministry to require certain steps be taken to require the Owner to furnish any further information related to compliance with this Approval.

2. CHANGE OF OWNER AND OPERATING AGENCY

- 1. The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:
 - a. change of address of Owner;
 - b. change of Owner, including address of new owner;
 - c. change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Business Names Act, R.S.O. 1990, c. B.17* shall be included in the notification;
 - d. change of name of the corporation and a copy of the most current information filed under the *Corporations Information Act, R.S.O. 1990, c. C.39* shall be included in the notification.
- 2. The Owner shall notify the District Manager, in writing, of any of the following changes within thirty (30) days of the change occurring:
 - a. change of address of the Operating Agency;
 - b. change of the Operating Agency, including address of the new Operating Agency.
- 3. In the event of any change in ownership of the Works, the Owner shall notify the succeeding owner in

writing, of the existence of this Approval, and forward a copy of the notice to the District Manager.

4. The Owner shall ensure that all communications made pursuant to this condition refer to the number of this Approval.

3. CONSTRUCTION OF PROPOSED WORKS

- 1. All Proposed Works in this Approval shall be constructed and installed and must commence operation within five (5) years of issuance of this Approval, after which time the Approval ceases to apply in respect of any portions of the Works not in operation. In the event that the construction, installation and/or operation of any portion of the Proposed Works is anticipated to be delayed beyond the time period stipulated, the Owner shall submit to the Director an application to amend the Approval to extend this time period, at least six (6) months prior to the end of the period. The amendment application shall include the reason(s) for the delay and whether there is any design change(s).
- 2. Upon completion of construction of the Proposed Works, the Owner shall prepare and submit a written statement to the District Manager, certified by a Licensed Engineering Practitioner, that the Proposed Works is constructed in accordance with this Approval.
- 3. One (1) week prior to the commencement of the operation of the Proposed Works, the Owner shall notify the District Manager (in writing) of the pending start-up date.
- 4. Within one (1) year of completion of construction of the Proposed Works, a set of record drawings of the Works shall be prepared or updated. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be readily accessible for reference at the Works.
- 5. The Owner shall ensure that the treatment technologies are installed in accordance with the manufacturer's installation manual.
- 6. The Owner shall ensure that the Works are constructed such that minimum horizontal clearance distances as specified in the OBC are satisfied.
- 7. The Owner shall ensure that an imported soil that is required for construction of any subsurface disposal bed as per this Approval is tested and verified by the Licensed Engineering Practitioner for the percolation time (T) prior to delivering to the site location and the written records are kept at the site.

4. DESIGN OBJECTIVES

- 1. The Owner shall design and undertake everything practicable to operate the Sewage Treatment Plant in accordance with the Final Effluent parameters design objectives listed in the table in **Schedule B**.
- 2. The Owner shall design and undertake everything practicable to operate the stormwater management Works that effluent from the Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or

discolouration on the receiving waters.

5. COMPLIANCE LIMITS

1. The Owner shall operate and maintain the Sewage Treatment Plant such that compliance limits for the Final Effluent parameters listed in the table included in **Schedule C** are met.

6. OPERATION AND MAINTENANCE

- 1. The Owner shall ensure that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate staffing and training, including training in all procedures and other requirements of this Approval and the OWRA and relevant regulations made under the OWRA, process controls and alarms and the use of process chemicals and other substances used in the Works.
- 2. If applicable, any proposed storm sewers or other stormwater conveyance in this Approval can be constructed but not operated until the proposed stormwater management facilities in this Approval or any other Approval that are designed to service the storm sewers or other stormwater conveyance are in operation.
- 3. The Owner shall make all necessary investigations, take all necessary steps and obtain all necessary approvals so as to ensure that the physical structure, siting and operations of the Works do not constitute a safety or health hazard to the general public.
- 4. The Owner shall prepare/update the operations manual for the **Sanitary Sewage Treatment and Disposal Works** within six (6) months of completion of construction of the Proposed Works, that includes, but not necessarily limited to, the following information:
 - a. operating procedures for the Works under Normal Operating Conditions;
 - b. inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
 - c. repair and maintenance programs, including the frequency of repair and maintenance for the Works;
 - d. cleaning frequency of accumulated sludge from the sludge tank, primary clarifier, and equalization tank;
 - e. procedures for the inspection and calibration of monitoring equipment;
 - f. operating procedures for the Works to handle situations outside Normal Operating Conditions and emergency situations such as a structural, mechanical or electrical failure, or an unforeseen flow condition;
 - g. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures

for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the Spills Action Centre (SAC) and District Manager;

- h. procedures for receiving, responding and recording public complaints, including recording any follow up actions taken.
- 5. The Owner shall prepare/update the operations manual for the **Stormwater Management Works** within six (6) months of completion of construction of the Proposed Works, that includes, but not necessarily limited to, the following information:
 - a. operating and maintenance procedures for routine operation of the Works;
 - b. inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
 - c. repair and maintenance programs, including the frequency of repair and maintenance for the Works;
 - d. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the Spills Action Centre (SAC) and District Manager;
 - e. procedures for receiving, responding and recording public complaints, including recording any follow up actions taken.
- 6. The Owner shall maintain an up to date operations manual and make the manual readily accessible for reference at the Works for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.
- 7. The Owner shall ensure that the Operating Agency fulfills the requirements under O. Reg. 129/04, as amended for the Works, including the classification of facilities, licensing of operators and operating standards.
- 8. The Owner shall maintain a logbook to record the results of all inspections, repair and maintenance undertaken, calibrations, monitoring and spill response or contingency measures undertaken and shall make the logbook available for inspection by Ministry staff. The logbook shall include the following:
 - a. the name of the operator making the entry; and
 - b. the date and results of each inspection, repair, maintenance, calibration, monitoring, spill response and contingency measure.
- 9. The Owner shall, upon the construction, prepare and make available for inspection by Ministry staff, a maintenance agreement with the manufacturer for the treatment process/technology. The maintenance agreement must be retained at the site and kept current for the operational life of the Works.
- 10. The Owner shall ensure that grass-cutting is maintained regularly over the subsurface disposal bed(s),

and that adequate steps are taken to ensure that the area of the underground works is protected from vehicle traffic.

- 11. The Owner shall visually inspect the general area where Works are located for break-out once every month during the operating season.
- 12. In the event a break-out is observed from a subsurface disposal bed, the Owner shall do the following:
 - a. sewage discharge to that subsurface disposal system shall be discontinued;
 - b. the incident shall be **immediately** reported verbally to the Spills Action Centre (SAC) at (416) 325-3000 or 1-800-268-6060;
 - c. submit a written report to the District Manager within one (1) week of the break-out;
 - d. access to the break-out area shall be restricted until remedial actions are complete;
 - e. during the time remedial actions are taking place the sewage generated at the site shall not be allowed to discharge to the environment; and
 - f. sewage generated at the site shall be safely collected and disposed of through a licensed waste hauler to an approved sewage disposal site.
- The owner shall install three (3) groundwater monitoring wells between the dispersal bed and the eastern property boundary within the plume and collect samples at the frequency specified in Schedule D, by means of the specified sample type, analyze for each parameter listed and record all results;
- 14. The Owner shall have a valid written agreement with a hauler who is in possession of a Waste Management Systems Approval, for the treatment and disposal of the sludge generated from the Works, at all times during operation of the Works.
- 15. The Owner shall undertake an inspection of the condition of the stormwater management Works, at least once a year, and undertake any necessary cleaning and maintenance to ensure that sediment, debris and excessive decaying vegetation are removed from the Works to prevent the excessive build-up of sediment, oil/grit, debris and/or decaying vegetation, to avoid reduction of the capacity and/or permeability of the Works, as applicable. The Owner shall also regularly inspect and clean out the inlet to and outlet from the Works to ensure that these are not obstructed.
- 16. The Owner shall ensure the grease interceptors be cleaned out at least once per year, or more frequently as determined by the Works operator, for removal of fats, oil and grease from the kitchen wastewater.
- 17. The Owner shall ensure that flow of treated effluent discharged into the subsurface sewage system does not exceed 58,000 litres per day.
- 18. The Owner shall retain for a minimum of **five (5) years** from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this

Approval.

7. MONITORING AND RECORDING

- 1. The Owner shall, upon commencement of operation of the Works, carry out a scheduled monitoring program of collecting samples at the required sampling points, at the frequency specified or higher, by means of the specified sample type and analyzed for each parameter listed in the tables under the monitoring program included in **Schedule D** and record all results, as follows:
 - a. all samples and measurements are to be taken at a time and in a location characteristic of the quality and quantity of the sewage stream over the time period being monitored.
 - b. definitions and preparation requirements for each sample type are included in document referenced in Paragraph 2.b.
 - c. definitions for frequency:
 - i. Weekly means once every week;
 - ii. Quarterly means once every three months;
 - d. a schedule of the day of the week/month for the scheduled sampling shall be created. The sampling schedule shall be revised and updated every year through rotation of the day of the week for the scheduled sampling program, except when the actual scheduled monitoring frequency is three (3) or more times per week.
 - e. The measurement frequencies specified in Schedule D in respect to any parameter may, after three (3) years of monitoring in accordance with this Condition, be modified by the Director in writing.
- 2. The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following documents and all analysis shall be conducted by a laboratory accredited to the ISO/IEC:17025 standard or as directed by the District Manager:
 - a. the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended;
 - b. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended;
 - c. the publication "Standard Methods for the Examination of Water and Wastewater", as amended; and
 - d. for any parameters not mentioned in the documents referenced in Paragraphs 2.a, 2.b and 2.c, the written approval of the District Manager shall be obtained prior to sampling.
- 3. The Owner shall establish predevelopment groundwater conditions prior to commencement of discharging final effluent to the dispersal bed by collecting two (2) groundwater samples from each monitoring well and analysed and recorded for the parameters described in Table 4 in Schedule D. Each

sampling event shall be separated by a minimum of 60 days, but not more than 180 days.

- 4. The Owner shall monitor and record the flow rate and daily quantity using flow measuring devices or other methods of measurement as approved below calibrated **annually** to an accuracy within plus or minus 15 per cent (+/- 15%) of the actual flowrate of the following:
 - a. Influent flow to the Sewage Treatment Plant by continuous flow measuring devices and instrumentations/pumping rates;
 - b. Final Effluent discharged from the Sewage Treatment Plant by continuous flow measuring devices and instrumentations/pumping rates;
- 5. The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

8. REPORTING

- 1. The Owner shall report to the District Manager orally as soon as possible any non-compliance with the compliance limits, and in writing within seven (7) days of non-compliance.
- 2. In addition to the obligations under Part X of the EPA and O. Reg. 675/98 (Classification and Exemption of Spills and Reporting of Discharges) made under the EPA, the Owner shall, within fifteen (15) days of the occurrence of any reportable spill as provided in Part X of the EPA and O. Reg. 675/98, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and a schedule of implementation.
- 3. The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
- 4. The Owner shall prepare performance reports for the operations of the **Sanitary Sewage Treatment & Disposal and Stormwater Management Works** on a calendar year basis and submit to the District Manager in an electronic format by March 31 of the calendar year following the period being reported upon. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period (Note: Items a, b, c, d, e, h, i, j & k) apply to the sanitary sewage treatment & disposal Works only and the rest of the items apply to both):
 - a. a summary and interpretation of all Influent monitoring data, and a review of the historical trend of the sewage characteristics and flow rates;
 - b. a summary and interpretation of all flow data and results achieved in not exceeding the maximum daily flow discharged into the subsurface disposal system;
 - c. a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, and a comparison to the design objectives and compliance limits in this Approval, including an

overview of the success and adequacy of the Works;

- d. a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year;
- e. a summary and interpretation of groundwater monitoring data including shallow groundwater flow direction, interpretation of analytical results and comparison with the guideline values;
- f. a summary and interpretation of surface water monitoring data, interpretation of analytical results and comparison with the guideline values (i.e., PWQO & CWQG where applicable) including precipitation recorded in the preceding 48 hours of a sampling event at closest Environment Canada weather station(s);
- g. a summary of all operating issues encountered and corrective actions taken;
- h. a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;
- i. a summary of any effluent quality assurance or control measures undertaken;
- j. a summary of the calibration and maintenance carried out on all Influent and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;
- k. a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions when any of the design objectives is not achieved more than 50% of the time in a year or there is an increasing trend in deterioration of Final Effluent quality;
- 1. a tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- m. a summary of any complaints received and any steps taken to address the complaints;
- n. a summary of all other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events;
- o. any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es) / equipment groups in the Proposed Works;
- p. any other information the District Manager requires from time to time.

9. RESPONSIBILITY AGREEMENT

1. The Owner shall enter into a duly signed Responsibility Agreement with the Town of South Bruce Peninsula prior to the construction of the Works approved herein in accordance with the Ministry

Procedure D-5-2 entitled "Application of Municipal Responsibility for Communal Water and Sewage Services".

2. The Owner shall provide written confirmation that the Responsibility Agreement was entered into, including the effective date of the Responsibility Agreement, to the Director and the District Manager.

10. CERTIFICATE OF REQUIREMENT

- 1. Pursuant to Section 197 of the EPA, no person having an interest in the Property, shall deal with the Property in any way without first giving a copy of this Approval to each person acquiring an interest in the Property as a result of the dealing.
- 2. The Owner shall:
 - a. within sixty (60) days of the date of the issuance of this Approval, submit to the Director for their review, two copies of a completed Certificate of Requirement and a registerable description of the Property; and
 - b. within ten (10) calendar days of receiving the Certificate of Requirement authorized by the Director, register the Certificate of Requirement in the appropriate Land Registry Office on title to the Property and submit to the Director the duplicate registered copy immediately following registration.
 - c. For the purposes of this condition, Property shall mean the property located at 701 Main Street, Sauble Beach (sanitary sewage collection, treatment, and disposal works and stormwater collection and management works) and Plan 3M119 Blocks 27 & 28; Incl RP3R 4216 Parts 1 & 2, South Bruce Peninsula, Township of Amabel, contains Contaminant Attenuation Zone.

11. EROSION AND SEDIMENT CONTROL

- 1. The Owner shall install and maintain temporary sediment and erosion control measures duringconstruction and conduct inspections once every two (2) weeks and after each significant storm event (a significant storm event is defined as a minimum of 25 millimetres of rain in any 24 hours period). The inspections and maintenance of the temporary sediment and erosion control measures shall continue until they are no longer required and at which time they shall be removed and all disturbed areas reinstated properly.
- 2. The Owner shall maintain records of inspections and maintenance which shall be made available for inspection by the Ministry, upon request. The record shall include the name of the inspector, date of inspection, and the remedial measures, if any, undertaken to maintain the temporary sediment and erosion control measures.
- 3. The Owner shall install permanent erosion control measures for the culvert inlets/outlets, emergency

overflow weir, and SWM facilities according to applicable engineering standard.

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

- 1. Condition 1 regarding general provisions is imposed to ensure that the Works are constructed and operated in the manner in which they were described and upon which approval was granted.
- 2. Condition 2 regarding change of Owner and Operating Agency is included to ensure that the Ministry records are kept accurate and current with respect to ownership and Operating Agency of the Works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the Works in compliance with it.
- 3. Condition 3 regarding construction of Proposed Works/record drawings is included to ensure that the Works are constructed in a timely manner so that standards applicable at the time of Approval of the Works are still applicable at the time of construction to ensure the ongoing protection of the environment, and also ensure that the Works are constructed in accordance with the Approval and that record drawings of the Works "as constructed" are updated and maintained for future references.
- 4. Condition 4 regarding design objectives is imposed to establish non-enforceable design objectives to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.
- 5. Condition 5 regarding compliance limits is imposed to ensure that the Final Effluent discharged from the Works to the environment meets the Ministry's effluent quality requirements.
- 6. Condition 6 regarding operation and maintenance is included to require that the Works be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the Owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the Owner's operation of the Works.
- 7. Condition 7 regarding monitoring and recording is included to enable the Owner to evaluate and demonstrate the performance of the Works, on a continual basis, so that the Works are properly operated and maintained at a level which is consistent with the design objectives and compliance limits.
- 8. Condition 8 regarding reporting is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for this Approval.
- 9. Condition 9 is included to ensure that there is a Responsibility Agreement in place between the Owner and the Municipality prior to construction of the Works so that, in the event that the Owner is unable to continue

to provide sewage service, the Municipality may be able to assume ownership and operation of the Works.

- 10. Condition 10 is included in order to require the Owner to give notice of this Approval to potential future owners of the property before the property is dealt with.
- 11. Condition 11 regarding erosion and sediment control is included as installation, regular inspection and maintenance of the sediment and erosion control measures are required to mitigate the impact on the downstream receiving watercourse during construction and operation.

Schedule A

- 1. Application for Environmental Compliance Approval for Municipal and Private Sewage Works, dated June 16, 2022 submitted by John Cathrae, President of Sauble Sunsets GP Limited, received on June 17, 2022, including Environmental Study Report, design report, final plans and specifications.
- 2. Sauble Sunsets Retirement Residences Sewage Works Design Brief, dated June 17, 2022, prepared by Tatham Engineering Limited.
- 3. Sauble Sunsets Retirement Residences Stormwater Management Report, dated September 28, 2021, prepared by Tatham Engineering Limited.
- 4. Geotechnical and Hydrogeological Investigation Report for the proposed Sauble Sunsets Retirement Development, prepared by Peto MacCallum Ltd., dated April 28, 2021.

Schedule B

Final Effluent Design Objectives

Final Effluent Parameter	Averaging Calculator	Objective
		(milligrams per litre unless otherwise
		indicated)
CBOD5	Single Sample Result	10
Total Suspended Solids	Single Sample Result	10
Total Phosphorus	Single Sample Result	1
Total Inorganic Nitrogen (TIN)	Single Sample Result	4
pН	Single Sample Result	6.5 - 8.5 inclusive

Schedule C

Final Effluent Compliance Limits

Final Effluent Parameter	Averaging Calculator	Limits
		(milligrams per litre unless otherwise
		indicated)
CBOD5	Single Sample Result	10
Total Suspended Solids	Single Sample Result	10
Total Phosphorus	Single Sample Result	1
Total Inorganic Nitrogen (TIN)	Single Sample Result	4
pН	Single Sample Result	6.5 - 8.5 inclusive

Schedule D

Monitoring Program

Table 1 Influent (sampling from Tank 1 – Flow Equalization Tank)

Parameters	Sample Type	Minimum Frequency
BOD5	grab	Monthly
Total Suspended Solids	grab	Monthly
Total Phosphorus	grab	Monthly
Total Kjeldahl Nitrogen	grab	Monthly

 Table 2 Final Effluent (sampling from Tank 9 - Effluent Pump Tank)

Parameters	Sample Type	Minimum Frequency
CBOD5	grab	Monthly
Total Suspended Solids	grab	Monthly
Total Phosphorus	grab	Monthly
Total Ammonia Nitrogen (TAN)	grab	Monthly
Total Kjeldahl Nitrogen	grab	Monthly
Nitrate as Nitrogen (NO3-N)	grab	Monthly
Nitrite as Nitrogen (NO2-N)	grab	Monthly
TIN (TAN+NO3-N+NO2-N)	Calculated	Monthly

Parameters	Sample Type	Minimum Frequency
Total Solids	Grab	Before each sludge removal event
Total Phosphorus	Grab	Before each sludge removal event
Total Ammonia Nitrogen	Grab	Before each sludge removal event
Nitrate as Nitrogen	Grab	Before each sludge removal event
Metal Scan	Grab	Before each sludge removal event
- Arsenic		
- Cadmium		
- Cobalt		
- Chromium		
- Copper		
- Lead		
- Mercury		
- Molybdenum		
- Nickel		
- Potassium		
- Selenium		
- Zinc		

Table 3 Sludge/Biosolids – holding tank/truck loading bay

Table 4 Groundwater Monitoring

Well ID, description	MW1; near-field monitoring well immediately downgradient of the leaching bed;
and UTM coordinates	UTM Zone 17, E 479,863m, N 4,942,018 m;
	MW2; far-field monitoring well downgradient of the leaching bed at eastern property
	boundary; UTM Zone 17, E 479,937 m, N 4,942,260 m
	MW3; far-field monitoring well downgradient of the leaching bed at eastern property
	boundary, south of MW2; UTM Zone 17, 479,940 m, N 4,942,122 m
Parameters	Total Phosphorus, Orthophosphate, Total Suspended Solids, Nitrate-Nitrogen,
	Nitrite-Nitrogen, Total Ammonia Nitrogen, Total Kjeldhal Nitrogen, Total Inorganic
	Nitrogen (calculated), Un-ionized Ammonia (calculated), Total Nitrogen (calculated),
	Field parameters: Water Level, Temperature, pH, Conductivity and
	Ovidation Deduction Detential (ODD)
	Oxidation-Reduction Potential (OKP)
Sample Type	Grab/Probe/Analyser

Note: (a) Monitoring wells are shown on the drawing TB-1 submitted to the Ministry on October 11, 2022 showing all three wells and their coordinates;

(b) Lithological unit(s) in which the well screens will be located, screening depths etc. shall be finalized in consultation with the District Manager before well construction.

Table 5 Surface Water Monitoring

Station ID, description and UTM coordinates	SW1; on the outlet ditch that is directing flow from the site to the road side ditch along D-Line; UTM Zone 17, E 479,943 m, N 4,942,018 m;
Parameters	Total Phosphorus, Orthophosphate, Total Suspended Solids, Nitrate-Nitrogen, Nitrite-Nitrogen, Total Ammonia Nitrogen, Total Kjeldhal Nitrogen, Total Inorganic Nitrogen (calculated), Un-ionized Ammonia (calculated), Total Nitrogen (calculated), and Oil & Grease
	Field parameters: Flow, Water Level, Temperature, pH, Conductivity and Dissolved oxygen
Sample Type	Grab/Probe/Analyzer; after a rain event of at least 10 mm of rain
Minimum Frequency	Quarterly

Note: Surface water monitoring station is shown on the drawing TB-1 submitted to the Ministry on October 11, 2022.

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me, the Ontario Land Tribunal and in accordance with Section 47 of the *Environmental Bill of Rights*, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this notice, require a

hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the *Environmental Protection Act* provides that the notice requiring the hearing ("the Hearing") shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

- 1. The name of the appellant;
- 2. The address of the appellant;
- 3. The environmental compliance approval number;
- 4. The date of the environmental compliance approval;
- 5. The name of the Director, and;
- 6. The municipality or municipalities within which the project is to be engaged in.

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

This Notice must be served upon:

* Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.gov.on.ca

This instrument is subject to Section 38 of the *Environmental Bill of Rights*, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at https://ero.ontario.ca/, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 9th day of December, 2022

Fariha Parnu.

Fariha Pannu, P.Eng. Director appointed for the purposes of Part II.1 of the *Environmental Protection Act*

MK/

c: District Manager, MECP Owen Sound Eric Watkin, Tatham Engineering Limited