

ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 1447-CN5LE6
Issue Date: March 23, 2023

1147012 Ontario Limited
477 Hwy 77, Municipality of Leamington,
Ontario, N8H 3V6

Site Location: Uni Fab and Condominium Garage
469 - 477 Highway 77
Municipality of Leamington,
County of Essex,
Ontario, N8H 3V6

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

establishment, usage and operation of non-municipal Works, for the treatment of sanitary sewage from the Uni-Fab Metal Fabrication Facility and Garage Condominiums (staff accommodation) and disposal of treated effluent to a dry ditch, a tributary to the Pelee Creek Drain via a Sewage Treatment Plant Final Effluent disposal facilities as follows:

Classification of Sewage Treatment Plant: Tertiary

Details of Service Area:

- **Type of Occupancy:** Employees of a Metal Fabrication Facility and Occupants of a Condo Garage.
- **Type and Number of Units:**
 - Metal fabrication facility phase 1 - 4 existing and expansion (250 population equivalent),
 - Metal fabrication facility phase 5 future expansion (30 population equivalent),
 - Metal fabrication facility loading dock (12 population equivalent),
 - Condo Garage (132 population equivalent)

- Overall Contingency (56 population equivalent)

Design Capacity of Sewage Treatment Plant:

Design Capacity with All Treatment Trains in Operation	Upon Completion of Construction of All Proposed Works
Annual Average Daily Influent Flow	36 m ³ /d

Proposed Works:

Sanitary Sewage Pumping Stations

Pumping Station #1:

- existing pump station to bring in sewage from the phase 3 and phase 5 buildings via a 50 mm forcemain from the pumps rated at 1.6 L/s at a TDH of 3.7 m to the flow equalization tank;

Pumping Station #2:

- pump station with pumps rated at 1.6 L/s at a TDH of 7.4 m to convey sewage from the proposed Garage Condominium via a 50 mm diameter forcemain to discharge into the flow the equalization tank;

Moving Bed Biofilm Reactor (MBBR) Wastewater Treatment Plant consisting of:

Flow Equalization Tank (EQ/PS1):

- One (1) in-ground precast concrete tank, having a flow equalization volume of approximately 33.50 cubic metres, equipped with a liquid level control system with high level visual/audible alarms and two (2) submersible grinder pumps (one duty, one stand-by) each rated at 1.67 litres per second over a total dynamic head (TDH) of 3.2 metres;

Primary Treatment System (sludge storage and clarifier tank):

- One (1) in-ground 2-compartment precast concrete primary sedimentation tank (SS1/PC), having a total storage capacity of approximately 55 cubic metres and consisting of a 36.7 cubic metre primary sludge storage chamber and a 18.3 cubic metre primary clarifier chamber, complete with two (2) effluent filters, receiving effluent from the flow equalization tank (EQ/PS1) described above, nitrified effluent recycle flow from the moving bed biofilm reactor MBBR-2 and waste activated sludge from the final clarifier (FC) described below; discharging Primary Effluent by gravity to the the moving bed biofilm reactor MBBR-1 secondary treatment system described later on;
- Sludge accumulated in the primary sedimentation tank (SS1/PC) shall be periodically transported for

off-site disposal at an approved receiving facility;

Influent Flow Measurement and Sampling Point:

- Influent flow measurement device on the discharge piping of the flow equalization tank (EQ/PS1);
- Sampling of Influent from the flow equalization tank (EQ/PS1);

Secondary MBBR Treatment System:

- One (1) in-ground 3 chamber tank having a total volume of 35 cubic metres with 2 moving bed biofilm reactor (MBBR) cells, operating in series as MBBR-1 and MBBR-2 and final clarifier (FC) as described below:
 - Two (2) MBBR compartment is to contain 8 cubic metres of engineered plastic carrier media providing 4,000 square metres of media surface area; equipped with fine bubble membrane diffusers installed longitudinally on one side of each reactor, two (2) blowers each rated at 30 normal cubic metres per hour, and one (1) effluent recirculation pump that discharges nitrified effluent recycle flow from MBBR-2 to the primary sedimentation tank (SS1/PC), rated at 1.50 litres per second over a TDH of 0.65 metres; receiving effluent from the primary sedimentation tank (SS1/PC) and discharging Secondary Effluent to the final clarifier (FC) chamber;
 - One (1) final clarifier (FC) chamber, having a total surface area of approximately 6.9 square metres with a hopper bottom and overall dimensions of 3.0 metres by 2.3 metres by 2.7 metres (H), equipped with a sludge withdrawal pump and a surface skimmer pump that discharge waste activated sludge into the primary sedimentation tank (SS1/PC), receiving effluent from the moving bed biofilm reactors, and discharging by gravity to an intermediate effluent pump station (PS2) as described below:

Intermediate Effluent Pump Station (PS2)

- One (1) intermediate pump station (PS2) of 11.365 cubic metre volume, equipped with a liquid level control system with high level visual/audible alarms and two (2) submersible effluent pumps (one duty, one stand-by) each rated at 1.0 litres per second over a TDH of 18.2 metres, receiving Secondary Effluent from the final clarifier (FC) and discharging via a 50 millimetre diameter forcemain to the tertiary treatment system as described below;

Tertiary Treatment System

- Two (2) bag filters (pre-filters), operating in series and each rated at 6.9 litres per second, containing 100 micron and 50 micron polypropylene filters for pre-filtration, discharging to the NextSand filter described below:
- One (1) NextSand Filter (or Equivalent Equipment), operating at a filter feed rate of 1.0 litres

per second for supplementary solids polishing and particulate phosphorus removal, discharging filtered effluent via a 50 millimetre diameter discharge pipe into an ultraviolet (UV) disinfection system described later on, with filter reject from the filter discharged by gravity to the flow equalization tank (EQ/PS1);

Supplementary Treatment System

Alkalinity Addition

- One (1) alkalinity dosing system for biological nitrification, consisting of one (1) alkalinity storage tank with secondary containment and one (1) metering pump, dosing sodium carbonate (Na_2CO_3) or approved alternate into the sludge storage chamber of the primary sedimentation tank (SS1/PC);

Phosphorus Removal:

- one (1) coagulant dosing system for phosphorus reduction, consisting of one (1) coagulant storage tank with secondary containment and two (2) metering pumps, dosing coagulant (alum, PAC or approved alternate into SS1/PC); the effluent discharge piping of the moving bed biofilm reactor MBBR-2 and discharge piping of the intermediate pump station (PS2) (provisional);

Disinfection System

- One (1) ultraviolet disinfection system, with a Peak Hourly Flow Rate of 6.8 cubic metres per hour (1.88 L/s), equipped with two (2) UV lamp modules each having two (2) lamps, discharging to the Final Effluent disposal facilities described below;

Final Effluent Flow Measurement and Sampling Point

- Final Effluent flow measurement device on the discharge piping of the UV disinfection system;
- Sampling of Final Effluent downstream of the UV disinfection system;

Final Effluent Disposal Facilities

- One (1) 150 millimetre diameter effluent discharge pipe, discharging Final Effluent from the Sewage Treatment Plant to a dry stormwater detention pond area and finally into the tributary of Pelee Creek Drain;

Decommissioning: Works Servicing an existing phase 3 area septic bed:

- Existing Works (septic tank and subsurface disposal bed, etc.) servicing the facility to be

abandoned/decommissioned in place in accordance with Condition 8;

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

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

1. "Annual Average Daily Influent Flow" means the cumulative total sewage flow of Influent to the Sewage Treatment Plant during a calendar year divided by the number of days during which sewage was flowing to the Sewage Treatment Plant that year;
2. "Approval" means this entire Environmental Compliance Approval and any Schedules attached to it;
3. "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;
4. "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;
5. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works is geographically located;
6. "*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);
7. "EPA" means the *Environmental Protection Act* , R.S.O. 1990, c.E.19;
8. "Equivalent Equipment" means alternate piece(s) of equipment that meets the design requirements and performance specifications of the piece(s) of equipment to be substituted;
9. "Existing Works" means those portions of the Works included in the Approval that have been constructed previously;
10. "Final Effluent" means effluent that is discharged to the environment through the approved effluent disposal facilities, 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. "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;
15. "Monthly Average Effluent Concentration" is the mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month, calculated and reported as per the methodology specified in Schedule D;
16. "Monthly Geometric Mean Density" is the mean of all Single Sample Results of *E.coli* measurement in the samples taken during a calendar month, calculated and reported as per the methodology specified in Schedule D;
17. "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;
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 1147012 Ontario Limited, including any successors and assignees;
20. "OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40;
21. "Preliminary Treatment System" means all facilities in the Sewage Treatment Plant associated with screening and grit removal;
22. "Proposed Works" means those portions of the Works included in the Approval that are under construction or to be constructed;
23. "Secondary Treatment System" means all facilities in the Sewage Treatment Plant associated with biological treatment, secondary sedimentation and phosphorus removal unit processes;
24. "Sewage Treatment Plant" means all the facilities related to sewage treatment within the sewage treatment plant site excluding the Final Effluent disposal facilities;
25. "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;

26. "Works" means the approved sewage works, and includes Proposed Works, and Existing 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.

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.

4. EFFLUENT OBJECTIVES

1. The Owner shall design and undertake everything practicable to operate the Works with the objective that the concentrations of the materials named as Effluent Objectives parameters listed in the table included in **Schedule B** are met.
2. Final Effluent 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.
3. Annual Average Daily Influent Flow is within the Design Capacity of the Sewage Treatment Plant.

5. COMPLIANCE LIMITS

1. The Owner shall operate and maintain the Sewage Treatment Plant such that compliance limits for the

Final Effluent Limit parameters listed in the table(s) included in **Schedule B** are met.

2. The Owner shall operate and maintain the Sewage Treatment Plant such that the Final Effluent is disinfected continuously year-round.

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. The Owner shall prepare/update the operations manual for the 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. procedures for the inspection and calibration of monitoring equipment;
 - e. 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.
 - f. 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;
 - g. procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.
3. 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.
4. The Owner shall ensure that the Operating Agency fulfils the requirements under O. Reg. 129/04, as amended for the Works, including the classification of facilities, licensing of operators and operating

standards.

5. The Owner shall ensure that the septic tanks be inspected **at least twice per year** by a qualified person, and the sewage sludge accumulated in the septic tanks be periodically withdrawn at the frequency required to maintain efficiency of the treatment system. The effluent filters in septic tanks shall be cleaned out at least once every six (6) months, when the tank is pumped out, or as determined by the Operating Agency, whichever comes first.
6. The Owner or the Operating Authority 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.
7. 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 measures.
8. 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 C** 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. Monthly means once every month;
 - iii. Annually means once every year;

- 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 C** in respect to any parameter may, after one (1) year 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 monitor and record the flow rate and daily quantity using flow measuring devices or other methods of measurement as approved below calibrated 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.
 4. 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 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:
 - 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 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;
 - c. a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year;
 - d. a summary of all operating issues encountered and corrective actions taken;
 - e. 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;
 - f. a summary of any effluent quality assurance or control measures undertaken;
 - g. 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;
 - h. 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; a description of efforts made and results achieved in meeting the Design Objectives Condition;
 - i. 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;
 - j. a summary of any complaints received and any steps taken to address the complaints;
 - k. a summary of all other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events;

- l. 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;
- m. any other information the District Manager requires from time to time.

9. DECOMMISSIONING OF UN-USED WORKS

1. The Owner shall properly abandon any portion of unused Existing Works, as directed below, and upon completion of decommissioning report in writing to the District Manager:
 - a. any sewage pipes leading from building structures to unused Works components shall be disconnected and capped;
 - b. any unused septic tanks, holding tanks and pump chambers shall be completely emptied of its content by a licensed hauler and either be removed, crushed and backfilled, or be filled with granular material;
 - c. if the area of the existing leaching bed is going to be used for the purposes of construction of a replacement bed or other structure, all distribution pipes and surrounding material must be removed by a licensed hauler and disposed off site at an approved waste disposal site; otherwise the existing leaching bed may be abandoned in place after disconnecting, if there are no other plans to use the area for other purposes.

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 that prior to the commencement of construction of the portion of the Works that are approved in principle only, the Director will have the opportunity to review detailed design drawings, specifications and an engineer's report containing detailed design calculations for that portion of the Works, to determine capability to comply with the Ministry's requirements stipulated in the terms and conditions of the Approval, 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 is imposed to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to

trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliance limits of Condition 5 are exceeded.

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 any components of un-used Works are properly decommissioned.

Schedule A

1. Application for Environmental Compliance Approval submitted by Richard Pellerin, P.Eng., of Sco-Terra Consulting Group Limited dated February 8, 2022 and received on December 9, 2022 for the proposed sewage treatment system, including design report, final plans and specifications.
2. Design Brief, Uni Fab Condomonium / Greenhouse Development MBBR Wastewater Treatment System, dated February 2022, prepared by Sco-Terra Consulting Group Limited

Schedule B

Final Effluent Objectives and Compliance Limits

Concentration Limits upon completion of construction of all Proposed Works

Surface Water Discharge to the Pelee Creek Drain south of Uni-Fab				
Parameter	Effluent Design Objective		Effluent Compliance Limit	
	Summer	Winter	Summer	Winter
cBOD ₅	5	5	10	15
Suspended Solids (mg/L)	5	5	10	15
Total Phosphorus (mg/L)	0.2	0.2	0.3	0.3
Total Ammonia-N (mg/L)	1	2	2	3
*E. coli (CFU/100 ml)	< 50/100 ml	< 50/100 ml	< 100/100 ml	< 100/100 ml

*If the MPN method is utilized for *E. coli* analysis the limit shall be 100 MPN/100 mL; the E.coli. objectives and limits are calculated as Monthly Geometric Mean Density specified in Schedule D.

**The objectives and limits of effluent concentration of parameters are calculated as monthly average as defined in Schedule D.

Schedule C

Monitoring Program

Influent - Influent sampling point at the Equalization Tank - single sample results

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

Final Effluent - Final Effluent sampling point at the Outlet of UV treatment

Parameters	Sample Type	Minimum Frequency
CBOD5	8 hour composite	Weekly
Total Suspended Solids	8 hour composite	Weekly
Total Phosphorus	8 hour composite	Weekly
Total Ammonia Nitrogen	8 hour composite	Weekly
Total Kjeldahl Nitrogen	8 hour composite	Weekly
Nitrate as Nitrogen	8 hour composite	Weekly
Nitrite as Nitrogen	8 hour composite	Weekly
E. coli	Grab	Weekly
pH*	Grab/Probe/Analyzer	Weekly
Temperature*	Grab/Probe/Analyzer	Weekly

*pH and temperature of the Final Effluent shall be determined in the field at the time of sampling for Total Ammonia Nitrogen.

Sludge/Biosolids – Primary sedimentation tank (SS1/PC)

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

Schedule D

Methodology for Calculating Monthly Average Effluent Concentration and Geometric Mean Density of Effluent E.Coli Concentration

1. Monthly Average Effluent Concentration

- Step 1: Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month and proceed as follows depending on the result of the calculation:
- a. If the arithmetic mean does not exceed the compliance limit for the contaminant, then report and use this arithmetic mean as the Monthly Average Effluent Concentration for this parameter where applicable in this Approval;
 - b. If the arithmetic mean exceeds the compliance limit for the contaminant and there was no Bypass Event during the calendar month, then report and use this arithmetic mean as the Monthly Average Effluent Concentration for this parameter where applicable in this Approval;
 - c. If the arithmetic mean exceeds the compliance limit for the contaminant and there was Bypass Event(s) during the calendar month, then proceed to Step 2;
 - d. If the arithmetic mean does not exceed the compliance limit for the contaminant and there was Bypass Event(s) during the calendar month, the Owner may still elect to proceed to Step 2 calculation of the flow-weighted arithmetic mean.
- Step 2: Calculate the flow-weighted arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month and proceed depending on the result of the calculation:
- a. Group No Bypass Days (**NBPD**) data and Bypass Days (**BPD**) data during a calendar month separately;
 - b. Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured on all NBPD during a calendar month and record it as **Monthly Average NBPD Effluent Concentration**;
 - c. Obtain the “**Total Monthly NBPD Flow**” which is the total amount of Final Effluent discharged on all NBPD during the calendar month;
 - d. Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured on all BPD during a calendar month

and record it as **Monthly Average BPD Effluent Concentration**;

- e. Obtain the “**Total Monthly BPD Flow**” which is the total amount of Final Effluent discharged on all BPD during the calendar month;
- f. Calculate the flow-weighted arithmetic mean using the following formula:

$$\frac{[(\text{Monthly Average NBPD Effluent Concentration} \times \text{Total Monthly NBPD Flow}) + (\text{Monthly Average BPD Effluent Concentration} \times \text{Total Monthly BPD Flow})]}{(\text{Total Monthly NBPD Flow} + \text{Total Monthly BPD Flow})}$$

It should be noted that in this method, if there are no Bypass Event for the month, the calculated result would be the same as the non-flow-weighted arithmetic mean method;

- g. Report and use the lesser of the flow-weighted arithmetic mean obtained in Step 2 and the arithmetic mean obtained in Step 1 as the Monthly Average Effluent Concentration for this parameter where applicable in this Approval.

2. Methodology for Calculating Monthly Geometric Mean Density of Effluent E.Coli Concentration

Geometric mean is defined as the n^{th} root of the product of n numbers. In the context of calculating Monthly Geometric Mean Density for *E. coli*, the following formula shall be used:

$$\sqrt[n]{x_1 x_2 x_3 \cdots x_n} \quad \text{in which,}$$

" n " is the number of samples collected during the calendar month; and

" x " is the value of each Single Sample Result.

For example, four weekly grab samples were collected and tested for *E. coli* during the calendar month. The *E. coli* densities in the Final Effluent were found below:

Sample Number	<i>E. coli</i> Densities* (CFU/100 mL)
1	10
2	100
3	300
4	50

The Geometric Mean Density for these data:

$$\sqrt[4]{10 \times 100 \times 300 \times 50} = 62$$

*If a particular result is zero (0), then a value of one (1) will be substituted into the calculation of the Monthly Geometric Mean Density. If the MPN method is utilized for E. coli analysis, values in the table shall be MPN/100 mL.

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:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

The Minister of the Environment,
Conservation and Parks
777 Bay Street, 5th Floor
Toronto, Ontario
M7A 2J3

and

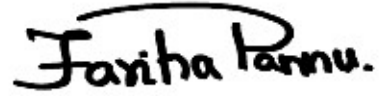
The Director appointed for the purposes of
Part II.1 of the *Environmental Protection Act*
Ministry of the Environment,
Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* 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 23rd day of March, 2023



Fariha Pannu, P.Eng.

Director

appointed for the purposes of Part II.1 of the
Environmental Protection Act

MN/

c: Area Manager, MECP Windsor

c: District Manager, MECP Sarnia

Richard Pellerin, P.Eng., Sco-Terra Consulting Group Limited