Ontario

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

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 5837-BSGKNT
Issue Date: July 23, 2021

Cervini Farms (1993) Inc.
307 Highway 77, Rural Route No. 2, Leamington,
Ontario, N8H 3V5

Site Location: Lakeside Produce
731 Essex Road 14, Municipality of Leamington,
County of Essex.

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 upgraded and expanded non-municipal sewage works, for the treatment of sanitary sewage from the existing, proposed and future bunkhouses, greenhouse ranges and accessory warehouse and office facilities and disposal of effluent into an intermittent flow ditch tributary to the (west branch of Reid Drain along Highway 77) Silver Creek Drain to Ruscom River within the Ruscom River Watershed via a Sewage Treatment Plant and Final Effluent disposal facilities as follows:

Classification of Sewage Treatment Plant: Tertiary

Details of Service Area:

- **Type of Occupancy:** Greenhouse Development to service a total of 264 persons.
- **Type and Number of Units:**
  - Three (3) existing bunkhouses 1, 2 and 3 for Phases 1 and 2 (48 on-site workers in each); total 144 persons
  - Two (2) proposed bunkhouses 4 and 5 for future Phase 3 and Phase 4 (48 persons in bunkhouse 4 and 72 persons in bunkhouse 5); and
  - Existing and proposed accessory warehouse and office facilities (60 off-site workers and 12 loading docks accessed by transportation personnel).

Design Capacity of Sewage Treatment Plant:

Design Capacity with all Treatment Trains in Operation	Prior to Completion of Construction of All Proposed Works	Upon Completion of Construction of All Proposed Works
Maximum Daily Flow	36,000 litres per day	75,000 litres per day

Influent and Imported Sewage

In Collection System	Sanitary Sewage
At Sewage Treatment Plant	None

PROPOSED AND EXISTING WORKS

Phase 1 (East) Existing Wastewater Treatment System (12 m3 /d)

The existing Waterloo Biofilter System servicing Phase 1 and Bunkhouse #1 currently discharges to the Phase 2 sewage system's closed loop Waterloo Biofilter Tank secondary effluent redirected by forcemain to primary effluent pump station EQ/PS2.

Phase 2 (Mid) Existing Pre-Treatment System (24 m3 /d)

Existing pre-treatment tankage servicing the Phase 2 Bunkhouses #2 and #3 will be maintained, including two (2) 6,950 L fats-oil-grease (FOG) interceptors and two (2) 29,500 L septic tanks arranged in series. The 29.5 m3 septic tanks will provide primary sludge storage, primary clarification and secondary sludge storage functions, discharging by gravity sewer to primary effluent pump station EQ/PS2.

Phase 3 and 4 (West) Proposed Pre-Treatment System (39 m3 /d)

Pre-treatment facilities proposed for future Phases 3 and 4 greenhouses/Bunkhouses #4 and #5 include:

Fats, Oil and Grease (FOG) Interceptor (OG4): One (1) 17.7 m3 (3,900 IGAL) pre-cast oil interceptor tank designed to receive kitchen waste streams only from the Phase 3 and 4 foreign worker's quarters, providing capture and containment of fats, oils and greases (FOG) generated within the kitchen waste stream. Storage of congealed and co-thickened FOG captured in the oil interceptor chambers will require periodic removal and off-site haulage to an approved waste receiving and renewable energy facility;

Flow Equalization Tank (EQ/PS4): One 31.8 m3 equalization tank with an active stage volume of 19.2 m3 (24.0 hours retention) and contingency storage of 12.6 m3 (18.0 hours), housing duplex sewage transfer (grinder) pumps designed to equalize and temporarily store diurnal and instantaneous peak sewage flows, facilitating even distribution to plant on a cyclical basis, to achieve a continuous feed rate condition at average day flow (ADF) over 24 hours; and

Primary Sedimentation Tank (SS1.5/PC): One 60.0 m3 precast, 2-chamber primary sedimentation tank dedicated to primary sludge storage and clarification, designed to provide settlement, integral storage and anaerobic digestion of primary solids, with corresponding primary reductions of 5-day biochemical oxygen demand (BOD5) and total suspended solids (TSS), with gravity discharge of primary effluent to equalization tank/pump station EQ/PS2. Storage of thickened solids in the anaerobic stage of the primary sedimentation tank achieves partial sludge digestion, with periodic removal and off-site haulage required, to an approved septage receiving facility such as the Leamington PCP.

Phase 1 to 4 Primary Effluent Flow Equalization Tank (75 m3 /d)

Primary Effluent Equalization/Pump Station (EQ/PS2): Reuse of an existing pre-cast flow balancing tank as a 31.8 m3 primary effluent equalization tank/pump station, complete with duplex submersible effluent pumps, which is to receive primary effluent from distinct PH1, PH2 and PH3-4 pre-treatment works, for equalized conveyance to the moving bed biofilm reactor (MBBR) wastewater treatment facility (WWTF). Wastewater will be conveyed from the primary effluent pump station (EQ/PS2) to the MBBR system via 50 mm diameter PVC forcemain, facilitating even distribution on a cyclical basis, to mimic a continuous feed rate condition at average day flow (ADF) plus nitrified effluent recycle over 24 hours.

Phase 1 to 4 Moving Bed Biofilm Reactor WWTF (75 m3 /d) Influent Flow Measurement:
Provision of an influent flow meter at the primary effluent equalization/pump station (EQ/PS2) discharge piping to the MBBR WWTF, with remote display feature for the measurement and recording of influent flows generated within the Phase 1 to 4 workers quarters, office/warehouse washrooms and greenhouse range washrooms, following pre-treatment (FOG removal and primary sedimentation) and conveyance by 50 mm forcemain to the proposed MBBR WWTF.

Alkalinity Addition: Provision for alkalinity supplement through manual or automated addition of an alkali such as sodium bi-carbonate or soda ash, injected into the primary effluent equalization tank (EQ/PS2) or MBBR influent location, as required to support biological nitrification;

Moving Bed Biofilm Reactor (MBBR): Provision of a moving bed biofilm reactor (MBBR) biological treatment system designed for organic oxidation (CBOD5 reduction) and nitrification to secondary treatment levels, with nitrified effluent recycled back to primary sedimentation tanks (SS1/PC) for pre-anoxic denitrification utilizing the soluble BOD fraction as substrate;

Nitrified Effluent Recycle: Provision for nitrified effluent recycle (up to 200% of projected ADF) to the primary sedimentation tanks, utilizing two submersible effluent pumps within the MBBR, for enhanced pre-anoxic denitrification and process maintenance under low feed conditions;

Phosphorus Reduction: Provision for the addition of an approved chemical precipitant (alum, PAC, RE300 or alternate) to an aerated coagulant mixing chamber, for the precipitation of soluble phosphorus, solids agglomeration and settling within the final clarifier, upstream of the tertiary filtration process;

Final Clarifier: Provision of a 10.0 m2 final clarifier designed for settlement of secondary or biological solids and phosphorus precipitate following the addition of a chemical precipitant (alum, PAC, RE300 or equal) upstream, complete with aerated coagulant mixing chamber, submersible sludge pumps and surface skimmer pump for return of secondary sludge to off-line sludge storage tanks for anaerobic digestion, thickening, compaction and storage, with final clarifier effluent discharged by gravity to intermediate pump station PS4;

Secondary Sludge Storage Tank (SS2): Existing Biofilter Tank #1 having 31,800 L capacity to be used as sludge storage tank to accept waste activated sludge from the Final Clarifier, and discharging supernatant to primary sedimentation tank SS1.3/PC;

Filter Feed Intermediate Pump Station (PS4): Provision of filter feed intermediate pump station (PS4) to convey secondary effluent discharged from the final clarifier to an elevated flash mix channel within the Tertiary Treatment and Control Room, for gravity discharge to a roller cloth filter;

Effluent Flow Measurement: Provision of a flow meter with local display and operator interface on the discharge piping extending from intermediate pump station PS4 into the tertiary treatment and control room, for the measurement of final effluent discharge;

Secondary Chemical Addition: Provision for secondary chemical addition (precipitant or precipitant flocculant) to the filter feed discharge piping for the precipitation of residual soluble phosphorus and the agglomeration of residual solids (i.e. pin floc) following final clarification;

Tertiary Filtration: Provision of a gravity feed roller cloth filter with 20 micron roughing membrane and 5 micron polishing membrane, for supplementary solids polishing and particulate phosphorus removal following final clarification, with gravity filtrate discharge to an ultraviolet (UV) disinfection system;

Ultraviolet Disinfection: Provision of an ultra-violet disinfection treatment unit within the tertiary treatment and control room for final wastewater disinfection prior to effluent discharge by pump station and forcemain to the dry-ditch receiver.

Final Effluent Pump Station (PS5): Provision of a final effluent pump station with duplex effluent pumps for the conveyance of final effluent by 50 mm diameter forcemain, to the east ditch along Highway 77 which flows north to a culvert under-crossing Highway 77 with outlet to the Reid Drain West Branch, tributary to the Ruscom River.

Existing Works to be abandoned or removed:

- one (1) subsurface disposal bed consisting of 1,250 sq. m of sand area: abandon in place or pipes disposed off site and areas filled up.

- two (2) raised beds on an area of approximately 450 square meter: abandon in place or all pipes disposed off site and area filled up;

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;

all as per the application and submitted documents as listed in the **schedule A.**

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

1. "Approval" means this entire Approval document and any Schedules to it, including the application and Supporting Documentation;

2. "Annual Maximum Daily Influent Flow" means the maximum Influent collected in a single day during a calendar year;

3. "BOD_5" (also known as $TBOD_5$) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;

4. "$CBOD_5$" 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.I of the EPA;

6. "Composite Sample" means a sample made up of at least 24 individual flow proportional samples taken approximately one hour apart, collected over a time period of 24 consecutive hours;

7. "District Manager" means the District Manager of the Sarnia District Office;

8. "EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;

9. "Existing Works" means those portions of the Works included in the Approval that have been constructed previously;

10. "*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);

11. "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);

12. "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;

13. "Influent" means flows to the Sewage Treatment Plant from the collection system;

14. "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.

15. "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;

16. "Normal Operating Condition" means the condition when all unit process(es) in a treatment train is operating within its design capacity;

17. "Operating Authority" 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;

18. “Sewage Treatment Plant" means all the facilities related to sewage treatment within the sewage treatment plant site excluding the Final Effluent disposal facilities;

19. “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;

20. “Licensed Engineering Practitioner” means a person who holds a licence, limited licence or temporary licence under the PEO;

21. "Licensed Installer" means a person who is registered under the OBC to construct, install, repair, service, clean or empty on-site sewage systems;

22. "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;

23. "Owner" means Cervini Farms (1993) Inc. and its successors and assignees;

24. "OWRA" means the *Ontario Water Resources Act* , R.S.O. 1990, c. O.40, as amended;

25. "Proposed Works" means those portions of the Works included in the Approval that are under construction or to be constructed;

26. "Supporting Documentation" means the documents listed in Schedule A of this Approval;

27. "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 conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

2. Except as otherwise provided by these conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with the description given in this Approval,and the application for approval of the Works.

3. Where there is a conflict between a provision of any document in the schedule referred to in this Approval and the conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the documents in the schedule, the document bearing the most recent date shall prevail.

4. Where there is a conflict between the documents listed in the Schedule submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

5. The Conditions of this Approval are severable. If any Condition of this Approval,or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

2. CHANGE OF OWNER AND OPERATING AUTHORITY

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 Owner;

    b. change of address of the 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.B17 shall be included in the notification to the District Manager;

d. change of name of the corporation where the Owner is or at any time becomes a corporation, and a copy of the most current information filed under the *Corporations Informations Act* , R.S.O. 1990, c. C39 shall be included in the notification to the District Manager;

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 Operating Authority;

b. change of Operating Authority, including address of new Operating Authority.

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 and the Director.

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. DESIGN OBJECTIVES

1. The Owner shall design and undertake everything practicable to operate the Sewage Treatment Plant in accordance with the following objectives:

a. 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.

b. Annual Maximum Daily Influent Flow is within the Maximum Daily Flow 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 parameters listed in the **Table 1** 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 Authority 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 the oil and 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 prior to discharging the sewage to the septic tanks or other treatment processes.

6. 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 Authority, whichever comes first.

7. 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.

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.

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 1.c

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/month 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 two (2) 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 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;

b. Final Effluent discharged from the Sewage Treatment Plant by continuous flow measuring

devices and instrumentations.

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. One week prior to the start up of the operation of the Works, the Owner shall notify the District Manager (in writing) of the pending start up date.

2. 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.

3. 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", 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 schedule of implementation.

4. The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.

5. The Owner shall prepare performance reports on a calendar year basis and submit to the District Manager 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 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 a required in this Approval or recommended by the manufacturer;

h. 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;

i. a summary of any complaints received and any steps taken to address the complaints;

j. a summary of all situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events;

k. 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;

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

9. DECOMMISSIONING OF UN-USED SEWAGE WORKS

1. The Owner shall properly abandon any portion of unused existing sewage 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 sewage 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 is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work pursuant to this Approval the

existence of this Approval.

2. Condition 2 regarding change of Owner and Operating Authority is included to ensure that the Ministry records are kept accurate and current with respect to ownership and Operating Authority 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 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 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 any components of unused Works are properly decommissioned.

Schedule A

1. Memorandum with revised description of sewage works and draft of the approval submitted on November 6, 2020 by Richard Pellerin, P.Eng. of Sco-Terra Consulting Group Limited.

2. Environmental Compliance Approval Application submitted dated June 12, 2020 along with Design Brief, and drawings prepared and signed off by Richard Pellerin, P.Eng. of Sco-Terra Consulting Group Limited.

3. Environmental Compliance Approval Application submitted by Sandra Swanton, P.Eng. of K. Smart Associates Limited dated December 6, 2017 along with Design Brief, dated December 13, 2017 and drawings prepared and singed off by Sandra Swanton, P.Eng. of K. Smart Associates Limited.

Schedule B

Final Effluent Compliance Limits

Effluent Parameter	**Summer Time** (May 01 to October 31)	**Winter Time** (November 01 to April 30)
Parameters	**Monthly Average Concentration** (milligrams per litre unless otherwise indicated)	**Monthly Average Concentration** (milligrams per litre unless otherwise indicated)
Column 1	*Column 2*	*Column 3*
CBOD5	10	15
Total Suspended Solids	10	15
Total Phosphorous	0.3	0.3
Total Ammonia Nitrogen (TAN) *2	2	3
E.coli	<100 cfu /100 ml*3	100 cfu /100 ml*3

Note*1 : The limit of E.coli. is calculated as Monthly Geometric Mean Density.

Note*2 : During the commissioning stage within six (6) months of the date of start-up, an interim compliance limit applies for the Total Ammonia Nitrogen (TAN) as: 4.0 milligrams per litre during Summer (May 01 to October 31), or 6.0 milligrams per litre during Winter (November 01 to April 3).

Note*3 : If the MPN method is utilized for E. coli analysis, the limit shall be 100 MPN/100 millilitres.

Schedule C Monitoring Program
Influent Monitoring

Sampling Location	upstream of the Treatment System from Equalization Tanks **(EQ/PS2)**

Parameters Minimum	Sample Type	Frequency
BOD5	Grab	Monthly
Total Suspended Solids	Grab	Monthly
Total Phosphorus	Grab	Monthly
Total Ammonia Nitrogen	Grab	Monthly
Total Kjeldahl Nitrogen	Grab	Monthly
pH	Grab/Probe/Analyzer	Monthly

Final Effluent Monitoring Sample Location at PS5

Parameters	Sample Type	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
E.Coli	Grab	Weekly
pH	Grab/Probe/Analyzer	Weekly
Temperature	Grab/Probe/Analyzer	Weekly

Sludge/Biosolids Monitoring – holding tank/truck loading bay

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 for: Arsenic,Cadmium, Cobalt,Chromium, Copper,Lead,Mercury Molybdenum,Nickel, Potassium, Selenium and Zinc.	Grab	Annually

Schedule D

Methodology for Calculating and Reporting Monthly Geometric Mean Density

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:

$$\sqrt[n]{x_1 x_2 x_3 \cdots x_n}$$

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	*E. coli* 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.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 4609-AVLL9S issued on March 19, 2018

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring 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.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

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:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

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 Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca**

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 July, 2021

Fariha Pannu.

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