

ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 3807-BEKKZ2

Issue Date: September 6, 2019

581777 Ontario Limited
3006 Lobsinger Line Heidelberg
Wellesley, Ontario
N0B 2M1

Site Location: Heidelberg Restaurant Tavern & Motel
3006 Lobsinger Line Heidelberg
Wellesley Township, Regional Municipality of Waterloo
N0B 2Y0

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:

installation of new on-site sewage works for the treatment and disposal of sanitary wastewater and kitchen wastewater generated from an existing restaurant, motel and residence located at the above location, with a maximum daily flow of 16,600 L/day, consisting of the following:

Grease Interceptors

- Two (2) 4,500 L new grease interceptor tanks in series, receiving wastewater from the restaurant kitchen and discharging into the existing 30,000 L restaurant Septic Tank as described below;

Septic Tanks and Pump Chambers

- One (1) existing 30,000 L Septic Tank, receiving wastewater from the restaurant and effluent from the grease interceptors, equipped with an effluent pump chamber complete with effluent pump, discharging to the proposed flow equalization tank as described below;

- One (1) existing 10,125 L Septic Tank, receiving wastewater from the motel and residence, discharging by gravity to the existing 800 L pump chamber equipped with an effluent pump, discharging to the proposed flow equalization tank as described below;

Flow Equalization Tank

- One (1) new flow equalization tank, with a capacity of 14,850 L, equipped with duplex 0.5 hp vortex sewage

pumps rated at 68 L/min at 6 m TDH, receiving effluent from the existing motel pump chamber and restaurant pump chamber and discharging to the online sludge storage tank/primary clarifier;

Sludge Storage Tank/Primary Clarifier

- One (1) new 35,185 L two-compartment precast concrete tank, with the 2/3rd chamber operating as the online sludge storage tank, receiving effluent from the flow equalization tank, sludge from the intermediate and secondary clarifiers, and treated effluent from Bioreactor #2, discharging into the 1/3rd chamber operating as the primary clarifier;

Moving Bed Bioreactor #1

- One (1) new moving bed bioreactor (Bioreactor #1) containing RH 20 plastic carrier media in its 9,000 L tank, equipped with fine bubble diffusers, receiving effluent from the primary clarifier and discharging to the intermediate clarifier;

Intermediate Clarifier

- One (1) new 12,600 L intermediate clarifier tank, equipped with sloped wall hoppers, sludge return pumps, surface skimmer assembly and skimmer pumps to return accumulated sludge to the online sludge storage tank, receiving effluent from the Bioreactor #1 and discharging to Bioreactor #2;

Moving Bed Bioreactor #2

- One (1) new moving bed bioreactor (Bioreactor #2) for nitrification, containing RH 20 plastic carrier media in its 9,000 L tank, equipped with one (1) recirculation pump rated at 57 L/min at 5.5 m TDH to recirculate a portion of Bioreactor #2 effluent back to sludge storage tank to re-introduce nitrified effluent into an anoxic zone to promote denitrification, discharging the remaining portion of treated effluent to secondary clarifier;

Secondary Clarifier

- One (1) new 10,900 L secondary clarifier tank, equipped with sloped wall hoppers, sludge return pumps, surface skimmer assembly and skimmer pumps to return accumulated sludge to the online sludge storage tank, receiving effluent from the Bioreactor #2 and discharging to denitrification unit;

Denitrification Unit/Polisher Bioreactor

- One (1) new 5,400 L two-compartment precast concrete tank, with the 2/3rd chamber operating as the denitrification unit complete with RH20 carrier media, receiving effluent from secondary clarifier and discharging to the 1/3rd chamber operating as the tertiary polisher bioreactor complete with RH20 carrier media and fine bubble diffusers, discharging to the final clarifier;

Supplemental Carbon Source Dosing System for Denitrification

- One (1) new supplemental carbon source dosing system including a chemical storage tank, containment tank,

chemical pump and tubing, dosing carbon source to the denitrification unit;

Final Clarifier

- One (1) new 12,600 L final clarifier tank, receiving effluent from the tertiary polisher bioreactor and discharging to the disposal pump tank;

Disposal Pump Tank

- One (1) new 10,900 L disposal pump tank, equipped with duplex effluent pumps rated at 170 L/min at 14 m TDH, discharging effluent to the shallow buried trenches;

Shallow Buried Trench Subsurface Disposal System

- One (1) set of shallow buried trench disposal system, consisting 528 m of infiltrator chambers with 32 mm diameter pressure piping with orifices for effluent distribution, installed as four (4) zones of six (6) runs of 22 m spaced 2.5 m apart, with 300 mm of sand below bottom of chamber, sand backfill, and topsoil and grass, complete with inspection ports at the end of each run;

- Four-outlet automatic rotating valve to sequentially dose each of the four zones of shallow buried trenches;

All other controls, electrical equipment, instrumentation, piping, valves and appurtenances essential for the proper operation of the aforementioned sewage works;

All in accordance with the supporting documents set out in Schedule "A" attached to this Approval.

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

"Approval" means this entire document and any schedules attached to it, and the application;

"BOD₅" (also known as TBOD₅) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;

"CBOD₅" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;

"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;

"District Manager" means the District Manager of the Guelph District Office of the Ministry;

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

"Equivalent Equipment" means a substituted equipment or like-for-like equipment that meets the required quality and performance standards of a named equipment;

"Licensed Installer" means a person who holds a licence under Article 2.12.3.1 of the Ontario Building Code;

"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;

"Owner" means 581777 Ontario Limited and its successors and assignees;

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

"Works" means the sewage works described in the Owner's application, and this Approval.

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. EXPIRY OF APPROVAL

(1) The approval issued by this Approval will cease to apply to those parts of the Works which have not been constructed within five (5) years of the date of this Approval.

3. CHANGE OF OWNER

(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 Information Act, R.S.O. 1990, c. C39 shall be included in the notification to the District Manager;

(2) In the event of any change in ownership of the Works, other than a change to a successor municipality, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the District Manager and the Director.

4. CONSTRUCTION

(1) The Owner shall ensure that the construction of the works is supervised by a Licensed Installer as defined in the Ontario Building Code or a Professional Engineer, as defined in the Professional Engineers Act.

(2) Upon construction of the Works, the Owner shall prepare a statement, certified by a Licensed Installer or a Professional Engineer, that the Works are constructed in accordance with this Approval, and upon request, shall make the written statement available for inspection by Ministry staff and staff of the local municipality.

5. EFFLUENT OBJECTIVES

(1) The Owner shall use best efforts to design, construct and operate the Proposed Works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent being discharged from the biological treatment system to the shallow buried trench subsurface disposal system.

Table 1 - Effluent Objectives (for samples collected from the Disposal Pump Tank)	
Effluent Parameter	Monthly Average Concentration Objective (milligrams per litre unless otherwise indicated)
CBOD ₅	10.0
Total Suspended Solids	10.0
Total Inorganic Nitrogen	10.0

(2) The Owner shall use best efforts to:

- (a) maintain the pH of the effluent from the Works within the range of 6.5 to 9.0 inclusive, at all times;
- (b) operate the Works below the maximum daily flow approved for the Works.

(3) The Owner shall include in all reports submitted in accordance with Condition 8, a summary of the efforts made and results achieved under this Condition.

6. OPERATIONS AND MAINTENANCE

(1) The Owner shall prepare an Operations Manual within six (6) months of the start up of the Works, that includes, but is not necessarily limited to, the following information:

- (a) operating procedures for routine operation of the Works;
- (b) procedures for the inspection and calibration of monitoring equipment;
- (c) inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary.
- (d) repair and maintenance programs, including the frequency of repair and maintenance for the sewage Works;
- (e) contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the District Manager; and
- (f) complaint procedures for receiving and responding to public complaints.

(2) The Owner shall maintain the Operations Manual current and retain a copy at the location of the Works for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.

(3) The Owner shall ensure that at all times, the Works and related equipment and appurtenances which

are installed or used to achieve compliance with this Approval are properly operated and maintained.

(4) The Owner shall sign a Service and Maintenance Agreement with the manufacturer or approved agent of the RH20 moving bed bioreactor treatment system. The maintenance agreement must be retained at the site for as long as the Works are in operation, kept current and made available for inspection by the Ministry staff.

(5) The Owner shall receive from the manufacturer or distributor of RH20 moving bed bioreactors printed literature that describes the unit in detail and provides complete instructions regarding the operation, servicing, and maintenance requirements of the unit and its related components necessary to ensure the continued proper operation in accordance with the original design and specifications.

(6) The Owner shall ensure that the treatment system is at minimum inspected annually by RH20 moving bed bioreactor manufacturer authorized personnel, and maintained according to the manufacturer's recommendations;

(7) The Owner shall ensure that the septic tank(s) is pumped out every 3-5 years or when the tank is 1/3 full of solids and the effluent filter(s) is cleaned out at minimum once a year (or more often if required).

(8) 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.

(9) The Owner shall ensure that the drainage operations in the subsurface disposal bed on the property are observed on a monthly basis for breakouts and results recorded in a log book.

(10) The Owner shall ensure that in the event a breakout is observed from the subsurface disposal bed, the discharge to the bed is immediately discontinued and the incident immediately reported verbally to the District Manager, followed by a written report within one (1) week. The Owner shall also ensure that during the time remedial actions are taking place the discharge from the Works is collected and disposed off-site through a licensed waste hauler to an approved waste disposal site.

(11) The Owner, prior to the start-up of the Works, shall test the proposed effluent dosing pumps installed upstream of leaching beds to verify capacity and pump(s) running time as per this Approval, so the Works will operate within the rated capacity approved by this Approval.

(12) The Owner shall employ for the overall operation of the Works a person who possesses the level of training and experience sufficient to allow safe and environmentally sound operation of the Works.

(13) The Owner shall maintain a logbook to record the results of Operation and Maintenance activities specified in the above subclauses, and shall keep the logbook at the site and make it available for inspection by the Ministry staff.

(14) 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.

7. MONITORING AND RECORDING

The Owner shall, upon commencement of operation of the Works, carry out the following monitoring program:

(1) All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.

(2) For the purposes of this condition, the following definitions apply:

(a) Bi-weekly means once every two weeks;

(b) Quarterly means once every three months;

(3) Samples shall be collected at the following sampling points, at the frequency specified, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 2 - Raw Sewage Monitoring (Samples to be collected at the outlet of Flow Equalization Tank)		
Parameters	Sample Type	Frequency
BOD ₅	Grab	Quarterly
Total Suspended Solids	Grab	Quarterly
Ammonia	Grab	Quarterly
Total Kjeldahl Nitrogen	Grab	Quarterly
Alkalinity	Grab	Quarterly
pH	Grab	Quarterly

Table 3 - Effluent Monitoring (Samples to be collected at the Disposal Pump Tank)		
Parameters	Sample Type	Frequency
CBOD ₅	Grab	Bi-weekly
Total Suspended Solids	Grab	Bi-weekly
Total Inorganic Nitrogen (Ammonia-N, Nitrate-N, Nitrite-N)	Grab	Bi-weekly
Temperature	Grab	Bi-weekly
pH	Grab	Bi-weekly

(4) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

(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 from time to time by more recently published editions;

(b) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;

(c) the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions.

(d) for any parameters not mentioned in the documents referenced in (a), (b) and (c), the written approval of the District Manager shall be obtained prior to sampling.

(5) The temperature and pH of the effluent from the Works shall be determined in the field at the time of sampling for Total Ammonia Nitrogen.

(6) The Owner shall measure and record the daily volume of effluent being discharged from the sewage treatment system.

(7) The measurement frequency (Bi-weekly) for effluent monitoring specified in this Condition, Subsection (3), above, may, after a minimum of **two (2) years** of monitoring with results showing consistent compliance with the effluent objectives, be reduced to Quarterly by the Director at the request of Owner.

(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 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) In addition to the obligations under Part X of the Environmental Protection Act, the Owner shall, within 10 working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and 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, and submit to the District manager, a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

- (a) a summary and interpretation of all monitoring data and a comparison to the effluent objectives outlined in Condition 5, including an overview of the success and adequacy of the Works;
- (b) a tabulation of the daily volumes of effluent disposed through the sewage treatment systems during the reporting period;
- (c) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 5;
- (d) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works; and
- (e) a description of any operating problems encountered and corrective actions taken.
- (f) a summary and interpretation of all flow data and results achieved in meeting the maximum daily flows for each sewage Works as approved under this Approval.
- (g) a summary of any complaints received during the reporting period and any steps taken to address the complaints;
- (h) a summary of all spill or abnormal discharge events; and
- (i) any other information the District Manager requires from time to time.

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 is included to ensure that, when the Works are constructed, the Works will meet the standards that apply at the time of construction to ensure the ongoing protection of the environment.
3. Condition 3 is included to ensure that the Ministry records are kept accurate and current with respect to the approved 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.
4. Condition 4 is included to ensure that the Works are constructed in accordance with the approval and that record drawings of the Works "as Constructed" are maintained for future references.
5. Condition 5 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.
6. Condition 6 is included to require that the Works be properly operated, maintained, and equipped such that the environment is protected. As well, the inclusion of an operations manual, maintenance agreement with the manufacturer for the treatment process/technology and a complete set of "as constructed" drawings governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the owner and made available to the Ministry. Such a information 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 work.
7. Condition 7 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 specified in the Approval and that the Works does not cause any impairment to the receiving watercourse.
8. Condition 8 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 all the terms and conditions outlined in this Approval, so that the Ministry can work with the Owner in resolving any problems in a timely manner.

SCHEDULE "A"

1. Environmental Compliance Approval Application for Municipal and Private Sewage Works, submitted by K. Smart Associates Limited, dated July 3, 2019 and received at the Ministry on July 24, 2019.
2. Wastewater Treatment System Design Brief, along with drawings, dated July 17, 2019, and prepared by K. Smart Associates Limited.
3. Technical Memorandum titled Heidelberg Tavern & Motel Scoped Hydrogeological Assessment for Sewage System, dated May 9, 2019, and prepared by K. Smart Associates Limited.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review 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 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:

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

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 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**

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 6th day of September, 2019



Youssouf Kalogo, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

YZ/

c: District Manager, MECP Guelph District Office
Sandra Swanton, K. Smart Associates Limited