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

ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 2904-BRGL4L

Issue Date: October 6, 2020

2289797 Ontario Inc.
540316 Sideroad 80
Grey Highlands, Ontario
N0C 1H0

Site Location: Mobile Facility

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:

- one (1) in-situ remediation process to treat contaminated soil/groundwater by the application of non-hazardous Remedial Amendment(s) into the contaminated soil/groundwater by injection;

all in accordance with the Environmental Compliance Approval Application submitted by 2289797 Ontario Inc., dated September 27, 2019 and signed by Dennis Owens, Senior Microbiologist/Chemist; the supporting information as well as additional information in support of the application, provided by Dennis Owens, Sustainable Water Technologies.

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

1. "*Approval*" means this Environmental Compliance Approval, including the application and supporting documentation listed above;
2. "*Bioaugmentation*" means the use of currently exogenous, specialized microbes or genetically engineered microbes to optimize bioremediation;
3. "*Biostimulation Compound(s)*" means any chemical amendment, nutrient amendment or pH adjustment chemical used in the *Process* to enhance bioremediation, as listed in *Schedule B* of this *Approval*, and as described in this *Approval* including the material safety data sheets (MSDS) submitted with the application, to the extent approved by this *Approval*;
4. "*Chemical Reagent(s)*" means any oxidant or reductant used in the *Process* as listed in *Schedule B* of this *Approval*, and as described in this *Approval* including the material safety data sheets (MSDS) submitted with the application, to the

extent approved by this *Approval*;

5. "*Company*" means 2289797 Ontario Inc., that is responsible for the construction or operation of the *Facility* and includes any successors and assigns;
6. "*District Manager*" means the District Manager of the appropriate local district office of the *Ministry*, where the *Facility* is geographically located;
7. "*EPA*" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended ;
8. "*Equipment*" means the equipment associated with the in-situ remediation described in the *Company's* application, this *Approval* and in the supporting documentation submitted with the application, to the extent approved by this *Approval*;
9. "*Manual*" means a document or a set of documents that provide written instructions to staff of the *Company*;
10. "*Ministry*" means the ministry of the government of Ontario responsible for the *EPA* and includes all officials, employees or other persons acting on its behalf;
11. "*Monitoring Plan*" means a written monitoring plan developed for the *Site* as described in Condition 4;
12. "*Operations and Maintenance Manual*" means the written operations and maintenance manual developed for the *Company* as described in Condition 3;
13. "*Process*" means the in-situ remediation processes as described in the *Company's* application, this *Approval*, and in the supporting documentation submitted with the application, to the extent approved by this *Approval*;
14. "*Publication NPC-300*" means the *Ministry* Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", August 2013, as amended;
15. "*Remedial Amendment(s)*" means any *Biostimulation Compound* or *Chemical Reagent* used in the *Process* with the intent to reduce the soil and/or groundwater concentrations of the *Target Compounds* at the *Site*;
16. "*Remedial Work Plan*" means a plan, developed for the *Site*, prepared as a single document as described in Condition 2;
17. "*Schedule*" means the schedules attached to, and forming part of, this *Approval*, namely:
 - Schedule A - Form 1 - Soil/Groundwater Remediation Process Notice of Intended Location
 - Schedule B - Remedial Amendments;
18. "*Site*" means any property or properties described in a completed *Schedule A* at

which the *Process* is operated;

19. "*Soil, Groundwater and Sediment Standards*" means the *Ministry* publication "Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act" dated April 15, 2011, as may be amended;
20. "*SPCP*" means the written Spill Prevention and Contingency Plan developed for the *Company* as described in Condition 5;
21. "*Supporting Documents*" means the *Ministry* publications that accompany the Soil, Groundwater and Sediment Standards including "Guide for Completing Phase II Environmental Site Assessment under Ontario Regulation 153/04" dated June 2011, as amended; and
22. "*Target Compound(s)*" means the hydrocarbons, chlorinated solvents, herbicides/pesticides or other compounds listed in the *Soil, Groundwater and Sediment Standards* that the *Process* is designed to treat as part of the *Remedial Work Plan*.

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. Performance Requirements

1. The *Company* shall, at all times, design and operate the *Process* with the intent to reduce the soil/groundwater concentrations of the *Target Compounds* to comply with the appropriate criteria provided in the *Soil, Groundwater and Sediment Standards*, appropriate worker health and safety criteria, or *Site* specific criteria developed in accordance with the *Supporting Documents*.
2. The *Company* shall, ensure that the noise emissions from the *Process* at the *Site* comply with the limits set out in *Ministry Publication NPC-300*.
3. The *Company* shall, before commencement of operation of the *Process* at the *Site*, prepare the following:
 - a. a *Remedial Work Plan*;
 - b. a *Monitoring Plan*; and
 - c. an *Operations and Maintenance Manual*.
4. The *Company* shall, at all times, unless otherwise agreed in writing by the *District Manager*, design and operate the *Process* so that no *Remedial*

Amendments, Target Compounds, or their decomposition compounds, are permitted to migrate off-*Site* in groundwater or soil vapour, as a result of the *Process*, at concentrations greater than the applicable criteria provided in the *Soil, Groundwater and Sediment Standards*, appropriate worker health and safety criteria or *Site* specific criteria.

5. Bioaugmentation is not permitted by this *Approval*.

2. Remedial Work Plan

1. The *Company* shall, before commencement of operation of the *Process* at the *Site*, prepare a *Remedial Work Plan* designed with specific application for the *Site* that specifies, as a minimum:

- a. the remedial objectives established for the *Site*;
- b. an overview of the work to be undertaken by the *Company*;
- c. a description of the *Site*;
- d. locations of on-*Site* and off-*Site* receptors and potential migration pathways;
- e. a *Site* plan overview of the extent of contamination at the *Site*;
- f. locations of the proposed *Equipment* and points of application of the *Process*;
- g. land uses at the *Site* and in the immediate surrounding vicinity;
- h. overview of the *Site* geology and hydrogeology, and expected chemical reactions resulting from the operation of the *Process*; and
- i. alternative remedial measures to be undertaken in the event that the *Process* is not successful to meet the *Remedial Work Plan* objectives.

3. Operations and Maintenance Manual

1. The *Company* shall, before commencement of operation of the *Process* at the *Site*, prepare and implement a *Site* specific *Operations and Maintenance Manual* for the *Equipment* and *Process* that specifies, as a minimum:

- a. major components of the *Equipment* to be used in the *Process*;
- b. frequency of inspections and scheduled maintenance for the *Equipment*;
- c. the *SPCP* procedures to prevent spills relating to the *Process*;
- d. procedures to prevent and/or minimize odourous and noise emissions;
- e. procedures to prevent and/or minimize the build-up of hazardous decomposition compounds with respect to appropriate worker health and safety criteria for the *Site*;

- f. procedures to prevent any upset conditions and contingency measures to address any off-*Site* migration;
- g. procedures to record the amount of *Remedial Amendments* each time these materials are utilized by the *Process*;
- h. procedures to record and respond to environmental complaints; and
- i. steps to be carried out for the discontinuation of the *Process*.

4. **Monitoring Plan**

1. The *Company* shall, before commencement of operation of the *Process* at the *Site*, design and implement a *Monitoring Plan*, in accordance with the *Supporting Documents*, for the soil/groundwater at the *Site* to document that the Performance Requirements outlined in Condition 1 are not exceeded and that the *Remedial Work Plan* objectives are achieved. The *Monitoring Plan* shall specify, as a minimum:
 - a. the *Monitoring Plan* objectives;
 - b. a list of analytical and/or indicator parameters;
 - c. a *Site*-specific evaluation of the potential impact of the *Process* to assess whether groundwater, and/or surface water monitoring is required;
 - d. a soil vapour monitoring program, when applicable, to assess the levels of hazardous decomposition compounds at the *Site* with respect to appropriate worker health and safety criteria for the *Site*;
 - e. identification of potential migration pathways on-*Site* and off-*Site*;
 - f. procedures for monitoring any potential off-*Site* migration;
 - g. approximate monitoring locations and frequency of the monitoring, prior to, during and after the *Process*; and
 - h. sampling methodology and QA/QC procedures, when applicable.

5. **Spill Prevention and Contingency Plan**

1. The *Company* shall prepare, and implement a written spill prevention and contingency plan (*SPCP*) that is applicable to the *Process* at the *Site*. The *SPCP* shall include appropriate measures to mitigate spills that may result from the *Process*, including different spill sizes, types of contaminants, and receiving environments (including land, natural waterways, and municipal sewers). The *SPCP* shall include as a minimum the following information commensurate with the risk of spills at the *Site*:
 - a. containment procedures;

- b. treatment, neutralization and/or clean up procedures;
 - c. disposal procedures that are in accordance with the *EPA*, and/or municipal by-laws and other legislation as applicable;
 - d. securement of necessary equipment;
 - e. notification procedures; and
 - f. details of the training procedures.
2. The *Company* shall ensure that employees and agents of the *Company* have been trained on the *SPCP* prior to commencement of the *Process* at the *Site*.
 3. The *Company* shall review and update the *SPCP* from time to time as needed.

6. Notification Requirements

1. The *Company* shall notify the *District Manager* at least ten (10) calendar days, or at such other time as may be agreed to in writing by the *District Manager*, before commencement of operation of the *Process* at any *Site* by submitting a completed Form 1, set out in *Schedule A* of this *Approval*, with attachments, to the *District Manager*.
2. The *Company* shall notify the *District Manager*, in writing, forthwith if the *Process* is not carried out in accordance with the Performance Requirements outlined in Condition 1.
3. The *Company* shall notify the *District Manager*, in writing, forthwith within two (2) business days of each complaint that the *Company* receives resulting from the operation of the *Process* at the *Site*. The notification shall include the information described in paragraph (f) of Condition 7.

7. Record Keeping Requirements

1. The *Company* shall, for each *Site*, retain for a minimum of five (5) years from the date of their creation, all reports, records, and information as described in this *Approval*, related to or resulting from the operation of the *Process* at the *Site* including:
 - a. the *Remedial Work Plan*;
 - b. the *Monitoring Plan*;
 - c. records about the type and quantity of *Remedial Amendments* used in the *Process*;
 - d. records about the inspection, maintenance, and repair of the major components of the *Equipment* related to the *Process*;
 - e. all monitoring results including any verification sampling; and

- f. records about complaints, including:
 - i. a description of the time and date of the complaint and of the incident to which the complaint relates;
 - ii. the nature of the complaint and the address of the complainant, if known;
 - iii. weather conditions at the time of the incident to which the complaint relates;
 - iv. a description of the measures taken to determine the possible causes of the complaint and the steps taken to investigate and deal with the cause of the incident to which the complaint relates and the steps taken and/or to be taken to prevent a similar occurrence in the future; and
 - v. a written response to the complainant, if known.

SCHEDULE A - Form 1 - SOIL/GROUNDWATER REMEDIATION PROCESS NOTICE OF INTENDED LOCATION

1. Owner and/or Operator information
 - a. *Company* name :
 - b. Environmental Compliance Approval (Air) number:
 - c. Contact Person :
 - d. Telephone Number :
2. Proposed Location
 - a. Municipality:
 - b. Street Address or Lot and Concession number:
3. Land use in the immediate vicinity of the *Site*:
4. Operating schedule
 - a. Date of commencement:
 - b. Estimated duration:
 - c. Hours of Operation:
5. List of Required Attachments - Please attach the following to the completed Form 1:
 - a. A plan showing the area(s) within the *Site* where the *Process* is going to be operated;

- b. A copy of the most recent safety data sheet (SDS) for each *Remedial Amendment* to be used at the *Site*;
- c. An overview of the *Process* to be used at the *Site*, including a description of the technology (or technologies) and delivery method(s) to be used; and
- d. An overview of the *Site* specific *Remedial Work Plan*, the *Monitoring Plan* and the *Operations and Maintenance Manual* that have been drafted and will be finalized before commencement of operation of the *Process* at the *Site* and will be implemented at the *Site* as required by this *Approval*.

SCHEDULE B - REMEDIAL AMENDMENTS

The following sets out the *Remedial Amendments* that have been submitted and approved at the time of the issuance of this *Approval*. The product name is followed by the manufacturer name.

SWT-L - Stabilized Hydrogen Peroxide 17%, 50% - manufactured by Sustainable Water Technologies;

SWT-CA Oxidizer - manufactured by Sustainable Water Technologies;

SWT-S Oxidizer - manufactured by Sustainable Water Technologies;

SWT-PS - Sodium peroxydisulfate - manufactured by Sustainable Water Technologies;

RemOx L ISCO Reagent (sodium permanganate) - manufactured by Carus Nalon / Carus Chemical Company;

RemOx S-F ISCO Reagent (potassium permanganate) - manufactured by Carus Nalon / Carus Chemical Company;

RemOx L-D ISCO Reagent (sodium permanganate) - manufactured by Carus Nalon / Carus Chemical Company;

RemOx S ISCO Reagent (potassium permanganate) - manufactured by Carus Nalon / Carus Chemical Company;

SWT-AC-7 (activated carbon) - manufactured by Carbon Activated Corp; and

SWT-AC-NPKO (activated carbon) - manufactured by Carbon Activated Corp.

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

1. Condition No. 1 is included to outline the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the *Process*.
- 2.
3. Condition No. 2 is included to require the *Company* to gather accurate information and prepare a work plan prior to carrying out the *Process* at the *Site* and so that compliance with the *EPA* and this *Approval* can be verified.
- 4.
5. Condition No. 3 is included to emphasize that the *Equipment* and *Process* must be operated according to a procedure that will result in compliance with the *EPA*, the regulations, and this *Approval*.
- 6.
7. Condition No. 4 is included to require the *Company* to gather accurate information so that the environmental impact and subsequent compliance with the *EPA*, the regulations, and this *Approval* can be verified.
- 8.
9. Condition No. 5 is included to require the *Company* to prevent and mitigate spills thereby minimizing adverse environmental impacts.
- 10.
11. Condition No. 6 is included to require the *Company* to notify the *Ministry* so that the environmental impact and subsequent compliance with the *EPA*, the regulations, and this *Approval* can be verified.
- 12.
13. Condition No. 7 is included to require the *Company* to retain records and provide information to the *Ministry* so that the environmental impact and subsequent compliance with the *EPA*, the regulations, and this *Approval* can be verified.

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
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*** 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 October,
2020

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

NB/
c: District Manager, MECP Owen Sound
Dennis Owens, Sustainable Water Technologies