

**WASTEWATER SYSTEM AND POTABLE WATER SUPPLY
INNOVATIVE AND ALTERNATIVE (I/A) TECHNOLOGY
GENERAL USE APPROVAL****LAWS/REGULATIONS INVOLVED**10 V.S.A. Chapter 64, Potable Water Supply and Wastewater System Permit
Wastewater System and Potable Water Supply Rules, Effective November 6, 2023

Applicant and **Geomatrix Systems, LLC** **Approval Number:** **2023-01-R1**
I/A Approval Recipient: 114 Mill Rock Road East
Old Saybrook, CT 06475 **Date Issued:** **04/28/2025**
Date Expires: **05/01/2027**

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This permit is for the following gravelless pipe with 6 inches of specified sand I/A technology models:

Product Name	Model Number(s)	Design Flow (gpd)
GeoMat™ Flat Leaching System	600	see Design Manual
GeoMat™ Flat Leaching System	1200	see Design Manual
GeoMat™ Flat Leaching System	3900	see Design Manual

The technologies listed in this I/A Approval are used to receive and discharge low-strength effluent into the native soil as part of a soil-based combined treatment and disposal wastewater system. The technologies, consisting of a subsurface, gravelless pipe distribution system, placed on a substrate of at least 6 vertical inches of specified sand, are hereby approved under the requirements of the regulations named above subject to the following conditions.

1. GENERAL

- 1.1 The technologies listed in this I/A Approval may be used as part of a soil-based wastewater system, subject to the jurisdiction of, and permitted pursuant to, the referenced Rules, provided the conditions of this I/A Approval are met.
- 1.2 Failure by the I/A Approval Recipient to comply with these conditions is grounds for the Secretary to revoke, or to decline to renew, this I/A Approval.
- 1.3 This I/A Approval shall expire on **May 1, 2027**. Applications for renewal of this I/A Approval shall be submitted to the Division by March 1, 2027, to avoid a lapse in approval. The renewal request shall be submitted on a form prepared by the Secretary and shall include: a description of any changes to the equipment, technical specifications and drawings, installation requirements, and operation and maintenance manuals.
- 1.4 No changes shall be made to the approved technology without prior review and approval by the Secretary.
- 1.5 This I/A Approval is based on the design, operation, and maintenance manuals submitted by the Applicant to the Secretary. Misrepresentation in the application material is grounds for the Secretary to revoke this I/A Approval.



- 1.6 If the Rules are revised during the effective term of this I/A Approval, it shall be revised as needed to conform to the revisions.
- 1.7 Site-specific permission for the use of this technology is required in the form of a Wastewater System and Potable Water Supply Permit (WW Permit).
- 1.8 This I/A Approval is not a representation or guarantee of the effectiveness, efficiency, or operation of the approved technology.
- 1.9 This I/A Approval is limited to treating septic tank effluent that is characterized as low strength according to §1-805(b) of the Rules.
- 1.10 This approval is based on information submitted by the Applicant indicating that the technology, with the inclusion of 6 vertical inches of specified sand, will treat the effluent to reduce the biochemical oxygen demand (BOD) to 30 mg/L or less and total suspended solids (TSS) to 30 mg/L or less, and will effectively distribute the effluent.
- 1.11 Upon issuance of a site-specific WW Permit, each corresponding Vermont landowner in interest shall be shown a copy of this Wastewater System and Potable Water Supply Innovative and Alternative (I/A) Technology General Use Approval, the Operation and Maintenance manuals, and projected maintenance costs, prior to the installation of any permitted unit.
- 1.12 All components of the technology shall be warrantied for at least the first two (2) years following the commencement of use of the technology unit. The I/A Approval Recipient shall have an inventory of replacement parts available locally or available for delivery within 24 hours.
- 1.13 All conditions set forth in WW Permits that include the use of the approved technology shall remain in effect and may surpass the conditions set herein.
- 1.14 A WW Permit that approves the use of a technology approved by this I/A Approval remains valid for the use of the technology identified in the WW Permit even if this I/A Approval expires.

2. DOCUMENTS

- 2.1 The approval of this I/A technology is based on the following documents submitted by the Applicant:

Title	Submission Date	Revision
VT-ANR Innovative and Alternative Technology Approval Renewal Application	02/28/2025	-
VT GeoMat™ Leaching Systems Design Manual for Filtrate Effluent Treatment	09/12/2022	03/01/2023

- 2.2 Use of the I/A technology in any way not depicted or described in the referenced documents, or otherwise not identified and authorized by this I/A Approval, is not allowed without prior approval by the Drinking Water and Groundwater Protection Division.

3. SERVICE PROVIDER

- 3.1 The I/A Approval Recipient shall contract with and maintain a minimum of three entities as Service Providers for the State of Vermont (Vermont Service Provider) to perform the inspections, maintenance, and repairs to the technology required by this permit and by the conditions of the associated WW Permit. The Vermont Service Providers must be based in Vermont or in a neighboring state or province, and be ready and willing to provide service to all the installed technologies in Vermont, regardless of where in Vermont a unit is located.
- 3.2 The I/A Approval Recipient shall provide to the Secretary the names, mailing addresses, email addresses, and phone numbers of three or more Vermont Service Providers, prior to the Division issuing a WW Permit for use of the technology.

- 3.3 The I/A Approval Recipient shall maintain with the Secretary the names and contact information for all Vermont Service Providers, and shall notify the Secretary within 30 days after the removal of an existing, or the addition of a new, Vermont Service Provider. Failure to maintain a minimum of three Vermont Service Providers will result in the Secretary prohibiting the issuance of a WW Permit with the approved technology.
- 3.4 The I/A Approval Recipient shall provide training to each Vermont Service Provider for the proper installation, operation, maintenance, and repair of each approved technology.
- 3.5 Vermont Service Providers must follow the terms and conditions of this I/A Approval, and the associated WW Permits, for inspection, maintenance, and reporting requirements.
- 3.6 Maintenance and inspections of the approved technology must be performed by a Vermont Service Provider trained and authorized by the I/A Approval Recipient. Reports of such inspections shall be provided to the I/A Approval Recipient, landowner, and Division in a timely manner so that they can ensure that the corresponding conditions of the I/A Approval and WW Permit are met.
- 3.7 Maintenance and inspections performed by Vermont Service Providers shall be in accordance with the operation and maintenance manual submitted as part of the I/A Approval application, as provided in trainings by the I/A Approval Recipient, and as specified in the WW Permits issued by this Division.
- 3.8 Any performance issues with this technology including, but not limited to, premature failure of the system, must be reported to the I/A Approval Recipient by a Vermont Service Provider within 72 hours, so that the I/A Approval Recipient may be involved in the determination of the cause and be able to meet reporting requirements to the Division.

4. REPORTS

- 4.1 The I/A Approval Recipient shall submit electronically, by April 1st of each year, an annual report to the Division containing the following information for the previous 12-month period ending December 31st:
 - A. the entities who are distributing the permitted technology in the State of Vermont;
 - B. a listing of each permitted technology installed in Vermont during the previous calendar year with the following information:
 - i. assigned WW Permit number;
 - ii. the property's SPAN number;
 - iii. the distributor who sold the installed technology;
 - iv. the name of the Vermont-licensed Designer providing the installation certification;
 - v. the name of the contracted and authorized Vermont Service Provider inspecting the technology at the time of installation;
 - vi. the date installed; and
 - vii. the date of initial use of the technology (beginning of 2-year warrantee period).
 - C. an analysis of all sites that were deemed to have a performance issue involving the technology, including but not limited to, premature failure of the system. with:
 - i. the corresponding WW Permit number;
 - ii. the property's SPAN number;
 - iii. the name of the installer;
 - iv. the name of the Vermont-licensed Designer who was involved in the determination that there was a performance issue with the system;
 - v. the name of the Vermont-licensed Designer who provided the installation certification;
 - vi. the date installed;
 - vii. the date a performance issue was determined to exist;
 - viii. a description of the performance issue;

- ix. potential/known causes of the performance issue;
 - x. a listing of the required repair/remediation; and
 - xi. identification of changes to the technology specification.
- 4.2 The I/A Approval Recipient shall ensure that the Vermont Service Providers for each of the permitted systems utilizing this technology installed in Vermont are submitting to the Division the following reports;
 - A. an initial report of an inspection conducted within 60 days of initial usage;
 - B. inspection reports of the I/A technology conducted every April/May and October/November for the first two years of usage; and
 - C. inspection reports of the I/A technology conducted annually in the months of April or May following the initial two years of usage.
- 4.3 Maintenance and inspections reports shall be submitted on the Secretary-approved inspection report form and be signed and dated by the Vermont Service Provider.
- 4.4 Inspection reports by the Vermont Service Providers shall include, but not be limited to, a description of the treated effluent from the system (which may include a laboratory analysis of the BOD and TSS of the effluent and influent to the system, if unable to determine the treated effluent is successfully reaching filtrate standards upon visual and olfactory inspection) and a summary of all known problems, damages, and/or failures of the technology to comply with this approval and operating requirements for the technology, including:
 - A. a description of any problems, defects, damages, and/or failures;
 - B. potential/known causes of any problems, defects, damages, and/or failures;
 - C. a statement of system operability including whether or not the technology is operating in compliance with this approval and operating specifications following repairs or corrections of any problems, defects, damages, and/or failures;
 - D. a listing of the required repair/remediation;
 - E. identification of changes to the technology specifications; and
 - F. any observed failure of the wastewater system including wastewater exposed to the open air, wastewater pooling on the surface of the ground, wastewater discharging directly to surface water, or wastewater backing up into the building or structure.
- 4.5 Problems, defects, damages, and/or failures of the technology identified during an inspection per Conditions 4.2, 4.3, and 4.4 of this I/A Approval must be reported immediately by the Vermont Service Provider to the landowner, and within 30 days to this Division.
- 4.6 Maintenance and inspections shall be performed in accordance with the permitted operation and maintenance manual that are specified in the WW Permits issued by this Division.

5. DESIGN SPECIFICATIONS

- 5.1 The design of a wastewater system using the approved technology shall identify the specific approved model and shall not be replaced with any other model without an amendment to the WW Permit.
- 5.2 Technologies shall be equipped with anti-flotation devices. The I/A Approval Recipient may specify whether or not the anti-flotation devices are required if a designer demonstrates flotation will not occur, or if the designer proposes, in a WW Permit application for the use of the technology, an alternative method to stabilize the technology that complies with the I/A Approval Recipient's requirements for installation.

5.3 Technology model choice and sizing shall be in accordance with the I/A Approval Recipient's technical requirements, as approved by the Secretary in this I/A Approval. Sizing of each unit shall be based on the calculated design flow per §1-803 of the Rules and as specified in the minimum requirements described in the referenced Design Manual.

6. INSTALLATION SPECIFICATIONS

- 6.1 The approved technology shall be installed under the guidance of a Vermont-licensed Designer.
- 6.2 The installation of each technology shall be in accordance with the I/A Approval Recipient's technical requirements, as approved by the Secretary.

Any person aggrieved by this I/A Approval may appeal to the Environmental Court within 30 days of the date of issuance of this permit in accordance with 10 V.S.A. Chapter 220 and the Vermont Rules of Environmental Court Proceedings.

Julia S. Moore, Secretary
Agency of Natural Resources

By



David R. Swift, Environmental Analyst - Wastewater Technical Services
Drinking Water and Groundwater Protection Division

Dated at Rutland, Vermont this 28th day of April, 2025