



## Underground Injection Control Permit

### Issued to

Greens Farms Academy, Inc.  
35 Beachside Avenue  
Westport, CT 06880

**Site Name:** Greens Farms Academy  
**Site Address:** 35 Beachside Avenue  
Westport, CT 06880

**Permit No.:** UI0000525

**Watershed:** Southwest Shoreline

**Issuance Date:**

**Effective Date:** 1st day of the calendar  
month following the Issuance Date

**Expiration Date:** 10 years from Issuance  
Date

### 1.0 GENERAL PROVISIONS

- 1.1 This permit is issued in accordance with section 1421 of the Federal Safe Drinking Water Act 42 USC 300h et. seq., section 22a-430 of Chapter 446k, Connecticut General Statutes ("Conn. Gen. Stat."), and Regulations of Connecticut State Agencies ("Regs. Conn. State Agencies") adopted thereunder, as amended.
- 1.2 Greens Farms Academy, Inc. ("Permittee"), shall comply with all conditions of this permit including the following sections of the Regs. Conn. State Agencies which have been adopted pursuant to section 22a-430 of the Conn. Gen. Stat. and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(11)(C), (D) of section 22a-430-3.

#### Section 22a-430-3 General Conditions

- (a) Definitions
- (b) General
- (c) Inspection and Entry
- (d) Effect of a Permit
- (e) Duty to Comply
- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate
- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass
- (l) Effluent Limitation Violations (Upsets)
- (m) Enforcement

- (n) Resource Conservation
- (o) Spill Prevention and Control
- (p) Instrumentation, Alarms, Flow Recorders
- (q) Equalization

Section 22a-430-4 Procedures and Criteria

- (a) Duty to Apply
- (b) Duty to Reapply
- (c) Application Requirements
- (d) Preliminary Review
- (e) Tentative Determination
- (f) Draft Permits, Fact Sheets
- (g) Public Notice, Notice of Hearing
- (h) Public Comments
- (i) Final Determination
- (j) Public Hearings
- (k) Submission of Plans and Specifications. Approval
- (l) Establishing Effluent Limitations and Conditions
- (m) Case by Case Determinations
- (n) Permit issuance or renewal
- (o) Permit Transfer
- (p) Permit revocation, denial or modification
- (r) Treatment Requirements for Metals and Cyanide

## **2.0 COMMISSIONER'S DECISION**

- 2.1** The Commissioner has made a final determination and found that the system installed for the treatment of the discharge will protect the waters of the state from pollution. The Commissioner's decision is based on Application No. 202309494 for permit issuance, received on December 18, 2023, and the administrative record established in the processing of that application. This permit supersedes the General Permit to Discharge from Subsurface Discharge Systems Permit No. GSSD000111.
- 2.2** From the effective date of this permit, for a term not to exceed ten (10) years and until this permit expires or is modified or revoked, the Commissioner hereby authorizes the Permittee to discharge a maximum daily flow of twelve thousand four hundred (12,400) gallons per day of domestic sewage to waters of the state in accordance with the terms and conditions of this permit, the above referenced application, and all modifications and approvals issued by the Commissioner or the Commissioner's authorized agent for the discharges and/or activities authorized by, or associated with, this permit following the issuance date of this permit.
- 2.3** The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or

other provisions that may be authorized under the Federal Safe Drinking Water Act or the Conn. Gen. Stat. or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Safe Drinking Water Act or Connecticut General Statutes or regulations adopted thereunder, which are then applicable.

- 2.4** The Permittee shall assure that ground water affected by the subject discharge shall conform to the Connecticut Water Quality Standards.
- 2.5** The Permittee shall develop, retain and implement an Operations and Maintenance Plan ("Plan") in accordance with section 22a-430 of the Regs. Conn. State Agencies. The Plan shall be retained on site and made immediately (within forty-eight (48) hours) available upon request.
- 2.6** The use of any sewage system additive as defined in section 22a-460(g) of the Conn. Gen. Stat. is prohibited unless such additive complies with section 22a-461 of the Conn. Gen. Stat. The Commissioner in no way certifies the safety or effectiveness of any sewage system additive.
- 2.7** Oils, greases, industrial or commercial wastes, toxic chemicals, or other substances that will adversely affect the operation of the subsurface sewage treatment and disposal system, or which may pollute ground or surface water, shall not be discharged to the subsurface sewage treatment and disposal system.
- 2.8** The Permittee shall operate and maintain all processes as installed in accordance with the approved plans and specifications and as outlined in the associated operation and maintenance manual. This includes but is not limited to all recycle pumping systems, aeration equipment, mixing equipment, denitrification chambers, chemical feed systems, or any other process equipment necessary for the optimal removal of pollutants. The Permittee shall neither bypass nor fail to operate any of the approved equipment or processes without the written approval of the Commissioner.
- 2.9** The Permittee shall comply with Section 22a-416-1 through Section 22a-416-10 of the Regs. Conn. State Agencies concerning operator certification. Unless a different classification of certified operator is required under a separate written approval issued by the Commissioner, the Permittee shall ensure that the wastewater treatment facility is operated by a person with a valid and effective certification in the State of Connecticut, at a minimum, as a facility Class II operator pursuant to Section 22a-416(d) of the Conn. Gen. Stat. and the regulations adopted thereunder. The Permittee shall ensure that the wastewater treatment facility is operated by such an operator with such qualifications throughout the entire life of the wastewater treatment facility.

### **3.0 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

- 3.1** The Permittee's existing discharges shall not exceed and shall otherwise conform to the specific terms and conditions listed in this permit which are incorporated into this permit as Attachment 1.
- 3.1.1** The discharges are restricted by and shall be monitored in accordance with Table A.
- 3.1.2** The Permittee's discharge is restricted by and shall monitor the ground water in accordance with Table B.
- 3.1.3** The Permittee shall monitor, inspect, and maintain the treatment facilities in accordance with Table C. The results of all inspections and maintenance requirements shall be kept on-site and made immediately available to the DEEP upon request.
- 3.2** Upon the Commissioner's written approval in accordance with Paragraph 5.4 of this permit, The Permittee's discharge post-alternative treatment upgrade shall not exceed and shall otherwise conform to the specific terms and conditions listed in this permit which are incorporated into this permit as Attachment 2.
- 3.2.1** The discharges are restricted by and shall be monitored in accordance with Tables D through F.
- 3.2.2** The Permittee's discharge is restricted by and shall monitor the ground water in accordance with Table G.
- 3.2.3** The Permittee shall monitor, inspect, and maintain the treatment facilities in accordance with Tables H and I. The results of all inspections and maintenance requirements shall be kept on-site and made immediately available to the DEEP upon request.
- 3.3** The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall attached to the Discharge Monitoring Report ("DMR") the total flow and number of hours of discharge for the day of sample collection and the average daily flow for each sampling month.
- 3.4** Samples shall be taken prior to combining with wastewaters of any other type and after all approved treatment units, if applicable. All samples taken shall be representative of the discharge during standard operating conditions.
- 3.5** In cases where limits and sample type are specified but sampling is not required, the limits specified shall apply to all samples which may be collected and analyzed by the Permittee, or other parties.
- 3.6** The monitoring and sampling required within this permit is the minimum for reporting purposes only. More frequent monitoring and sampling of the treatment

system may be required to operate the facility as required by the Operation and Maintenance Plan.

#### **4.0 SAMPLE COLLECTION AND HANDLING, ANALYTICAL TECHNIQUES, AND REPORTING REQUIREMENTS**

- 4.1** Chemical analyses to determine compliance with effluent limits and conditions established in this permit shall be performed using the methods approved by the Environmental Protection Agency pursuant to 40 CFR 136 unless an alternative method has been approved in writing in accordance with 40 CFR 136.4 or as provided in section 22a-430-3(j)(7) of the Regs. Conn. State Agencies. Chemicals which do not have methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with methods specified in this permit or prescribed by the Commissioner.
- 4.2** If any sample analysis indicates that an effluent limitation specified in Section 3.0 of this permit has been exceeded, in addition to the notification requirements, a second sample of the effluent shall be collected and analyzed for the parameter(s) in question and the results shall be reported to the Commissioner within thirty (30) days of the exceedance and submitted as an attachment with the next DMR. Resampling for a permit violation is in addition to routine required sampling.
- 4.3** If this permit requires monitoring of a discharge on a calendar basis (e.g. monthly, quarterly, etc.) but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR, indicating "NO DISCHARGE". For those Permittees whose required monitoring is discharge dependent (e.g. per batch), the minimum reporting frequency is monthly. Therefore, if there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.
- 4.4** The Permittee shall report the results of chemical analysis and treatment facilities monitoring required on the DMR in accordance with this permit. Except for continuous monitoring, any monitoring required more frequently than monthly shall be reported as an attachment to the DMR.
- 4.5** The DMR shall be submitted by the last day of the following month in which the samples are taken.
- 4.6** The Permittee shall report electronically using NetDMR, a web-based tool that allows Permittees to electronically submit DMRs and other required reports through a secure internet connection. All reports required under the permit, including any monitoring conducted more frequently than monthly or any additional monitoring conducted in accordance with 40 CFR 136, shall be submitted to the Department as an electronic attachment to the DMR in NetDMR.

**4.6.1** Information on NetDMR is available on the DEEP's website at [www.ct.gov/deep/netdmr](http://www.ct.gov/deep/netdmr).

**4.6.2** NetDMR can be access at the following online website address, as amended: <https://netdmr.epa.gov/netdmr/public/home.htm>

## **5.0 COMPLIANCE SCHEDULE**

**5.1** Within thirty (30) days after issuance of this permit:

**5.1.1** The Permittee shall record a copy thereof on the land records in the Town of Westport. On or before thirty (30) days after such recording, the Permittee shall submit written verification to the Commissioner that this permit has been recorded on the land records in the Town of Westport.

**5.1.2** The Permittee shall submit a Subscriber's Agreement for the Commissioner's review to submit their DMR's via NetDMR in accordance with Paragraph 4.6 of this permit.

**5.2** Within six (6) months after issuance of this permit, the Permittee shall submit for the Commissioner's review and written approval, plans and specifications for the installation of the alternative sewage treatment system.

**5.3** Within six (6) months of the issuance date of this permit, the Permittee shall submit for the Commissioner's review and written approval a Groundwater Monitoring Plan. The plan shall identify proposed upgradient and downgradient monitoring wells for the on-site treatment systems utilizing the groundwater contour map, The plan shall also include a construction schedule for installation of the wells not to exceed one (1) year.

The Permittee shall install the monitoring wells and implement the approved Groundwater Monitoring Plan unless the Permittee provides a clear and technically defensible demonstration based on the manufacturer design specifications, pilot test data, or engineering models of the Klean-Tu (NitROE) technology that the alternative treatment system, will consistently meet all effluent limitations and end-of-pipe compliance requirements, such that groundwater monitoring is not necessary to ensure protection of the groundwater resource. This demonstration shall be subject to the Commissioner's review and written approval.

The Permittee shall initiate groundwater monitoring within one (1) month of well installation, in full compliance with the permit terms, conditions, and the next scheduled monitoring period specified in the permit.

**5.4** Within six (6) months of issuance of the permit, submit an Abandonment Plan for the closure of the five (5) existing conventional systems and monitoring wells.

- 5.5** Within two (2) years after receiving the Commissioner's written approval for the installation of the alternative sewage treatment system required by Paragraph 5.2 of this permit, the Permittee shall provide verification of system installation. The Permittee shall submit as-built drawings within thirty (30) days of installation and submit a written request to begin discharge under this permit for the Commissioner's review and written approval.
- 5.6** Within three (3) months after the issuance of the approval to begin discharging pursuant to Paragraph 5.5, the Permittee shall verify in writing to the Commissioner that the alternative treatment sewage system is operating in accordance with the approved plans and specifications and is achieving compliance with all permit limits and conditions. The Permittee shall obtain written concurrence from the design engineer, the technology provider and the wastewater treatment facility operator who will be responsible for the operation of the wastewater treatment facility.
- 5.7** Within one (1) year of providing compliance with terms and conditions of this permit the Permittee may submit a written request pursuant to this permit, to increase the design flow for the Commissioner's review and written approval. Upon the Commissioner's written approval, the Permittee shall comply with requirements of Paragraph 3.2 of this permit.
- 5.8** Starting two (2) years after the issuance date of this permit, and at a two (2) year frequency thereafter, the Permittee shall submit the results of a Permit Compliance Audit ("Audit") to the Commissioner. Each Audit must be conducted within sixty (60) days prior to the submittal date. The compliance Audits shall be performed by a professional engineer licensed to practice in the state of Connecticut with the appropriate education, experience and training that is relevant to the work required.
- 5.8.1** Each Audit shall evaluate compliance with all permit terms and conditions for the preceding two-year period. The evaluation shall review all pertinent records and documents as necessary, including DMRs, laboratory reports, operations and maintenance plans, performance logs/records, equipment specifications, maintenance schedules, engineering drawings, and spare parts inventory.
- 5.8.2** Each Audit report shall include a description of all records and documents used in the evaluation, a summary of compliance with permit terms and conditions, and detailed descriptions of all remedial actions taken or proposed to address each violation or deficiency discovered.
- 5.8.3** The 4<sup>th</sup> (fourth) Audit report shall also include detailed findings from a physical inspection of each on-site sewage treatment and disposal system and an evaluation of the performance and operation of each such system. In the event of a system malfunction or failure, the Permittee shall prepare and submit a remedial plan identifying action proposed and/or implemented to

correct the malfunction or failure for the Commissioner's review and written approval.

**5.8.4** A copy of each Audit report shall be submitted to the Aspetuck Health District.

**5.8.5** In the event that the Permittee becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this section of the permit or of any document required hereunder, the Permittee shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, minimized to the greatest extent possible. In so notifying the Commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates, which may be approved in writing by the Commissioner. Notification by the Permittee shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the Commissioner in writing.

**5.9** Within fourteen (14) days of the date the Permittee becomes aware of a change in any information submitted to the Commissioner under this section of the permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the Commissioner.

## **6.0 RECORD KEEPING**

**6.1** Records required by this permit shall be retained on-site, or at the Permittee's principal place of business in Connecticut, as required by section 22a-430-3(j)(9)(B) of the Regs. Conn. State Agencies.

**6.2** The Permittee shall retain records and all reports required by the permit for a period of at least ten (10) years after expiration of this permit.

**6.3** The Commissioner may extend this period as he or she deems necessary upon written notice to the Permittee, and this period is automatically extended for as long as a Permittee is under an active order from the Commissioner under Chapter 446K of the Conn. Gen. Stat. or if the Permittee is in litigation for any violation of any permit or order issued by the Commissioner under Chapter 446K of the Conn. Gen. Stat.

**6.4** All records shall be made available to the Commissioner immediately (within twenty-four (24) hours) upon request.

## **7.0 RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENT**

- 7.1** In accordance with Section 22a-430-3(j)(8), 22a-430-3(j)(11)(D), 22a-430-3(k)(4), and 22a-430-3(i)(3) of the Regs. Conn. State Agencies, the Permittee shall notify the Commissioner of the following actual or anticipated noncompliance with the terms or conditions of this permit within two hours of becoming aware of the circumstances. All other actual or anticipated violations of the permit shall be reported to the Commissioner within twenty-four (24) hours of becoming aware of the circumstances:
- 7.1.1** A noncompliance that is greater than two times an effluent limitation;
  - 7.1.2** A noncompliance of any minimum or maximum daily limitation or excursion beyond a minimum or maximum daily range;
  - 7.1.3** Any condition that may endanger human health or the environment, including but not limited to noncompliance with WET limitations;
  - 7.1.4** Any condition that may endanger the operation of a POTW, including sludge handling and disposal;
  - 7.1.5** A failure or malfunction of monitoring equipment used to comply with the monitoring requirements of this permit;
  - 7.1.6** Any actual or potential bypass of the Permittee's collection system or treatment facilities; or
  - 7.1.7** Expansions or significant alterations of any wastewater collection, treatment facility, or its method of operation for the purpose of correcting or avoiding a permit violation.
- 7.2** Notifications shall be submitted via the Commissioner's online Noncompliance Notification Portal:  
<https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements..>
- 7.3** Within five (5) days of any notification of noncompliance in accordance with Paragraph 7.1 of this permit, the Permittee shall submit a follow-up report within five (5) days of the noncompliance using the Commissioner's online Noncompliance Follow-up Report Portal:  
<https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements..>

The follow-up report shall contain, at a minimum, the following information: (i) A description of the noncompliance and its cause; (ii) the period of noncompliance, including exact dates and times; (iii) if the noncompliance has not been corrected, the anticipated time it is expected to continue; and (iv) steps taken or planned to correct

the noncompliance and reduce, eliminate and prevent recurrence of the noncompliance.

- 7.4** Within thirty (30) days of any notification of facility modifications reported in accordance with Paragraph 7.1 of this permit, the Permittee shall submit a written follow-up report by submitting a “Facility and Wastewater Treatment System Modification Request for Determination” for the review and approval of the Commissioner. The report shall fully describe the changes made to the facility and reasons therefor.
- 7.5** Notification of an actual or anticipated noncompliance or facility modification does not stay any term or condition of this permit.
- 7.6** In accordance with Section 22a-430-3(j)(11)(D) of the Regs. Conn. State Agencies, the Permittee shall notify the Commissioner within seventy-two (72) hours and in writing within thirty (30) days when he or she knows or has reason to believe that the concentration in the discharge of any substance listed in the application, or any toxic substance as listed in Appendix B or D of Regs. Conn. State Agencies Section 22a-430-4, has exceeded or will exceed the highest of the following levels: (1) One hundred micrograms per liter; (2) Two hundred micrograms per liter for acrolein and acrylonitrile, five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter for antimony; (3) An alternative level specified by the commissioner, provided such level shall not exceed the level which can be achieved by the Permittee’s treatment system; or (4) A level two times the level specified in the Permittee’s application.

The initial 72-hour notification shall be submitted via the Commissioner’s online Noncompliance Notification Portal. Follow-up reporting within thirty (30) days shall be submitted via the Commissioner’s online Noncompliance Follow-up Report Portal. The Non-Compliance Notification Portal is available at the Commissioner’s

## **8.0 STANDARD CONDITIONS**

### **8.1 Annual Fee**

An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the Regs. Conn. State Agencies.

### **8.2 Inspection and Entry**

The Commissioner or his or her authorized representative may take any actions authorized by sections 22a-6 (5), 22a-425 or 22a-336 of the Conn. Gen. Stat. as amended.

**8.3 Submission of Documents**

Any document required to be submitted to the Commissioner under this section of the permit will, unless otherwise specified in this permit or in writing by the Commissioner, be directed to:

[DEEP.UICPermitting@ct.gov](mailto:DEEP.UICPermitting@ct.gov)

With the subject line: "ATTN: UIC Permit No. UI0000525"

**8.4 Violations**

Violations of any of the terms, conditions, or limitations contained in this permit may subject the Permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the Conn. Gen. Stat. and Regs. Conn. State Agencies.

**8.5 Enforcement**

The Commissioner may take any enforcement action provided by law, including but not limited to seeking injunctions, penalties and forfeitures as provided in sections 22a-6, 22a-7, 22a-430, 22a-432, 22a-435, 22a-438 and 22a-471 of the Conn. Gen. Stat. as amended, for any violations or acts of noncompliance with chapter 446k of the Conn. Gen. Stat. or any regulation, order, permit or approval issued thereunder.

**8.6 Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

**8.7 No Assurance**

No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the Permittee pursuant to this permit will result in compliance or prevent or abate pollution.

**8.8 Relief**

Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.

**8.9 Duty to Provide Information**

The Commissioner may require any Permittee to provide within a reasonable time (thirty (30) days) any information which the Commissioner may request to determine whether cause exists for modifying or revoking the permit or to determine compliance with the permit, including but not limited to copies of records required to be kept by the Permittee.

**8.10 Duty to Comply**

The Permittee shall comply with all terms and conditions of the permit. Any permit noncompliance constitutes a violation of Chapter 446k of the Conn. Gen. Stat. Permit noncompliance is grounds for enforcement action, permit revocation or modification, or denial of a permit renewal application.

**8.11 Duty to Mitigate**

The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of the permit or any discharge which has a reasonable likelihood of adversely affecting human health or the environment.

**8.12 Sludge Disposal**

The Permittee shall dispose of screenings, sludges, chemicals and oils and any solid or liquid wastes resulting from the wastewater treatment processes at locations approved by the Commissioner for disposal of such materials, or by means of a waste hauler licensed under the provisions of the Conn. Gen. Stat.

**8.13 Resource Conservation**

All Permittees shall implement and maintain practices and/or facilities which, to the maximum extent practicable, result in the minimum amount of wastewater discharged. Such results may be achieved by methods including but not limited to water conservation, resource recovery, waste recycling, wastewater reuse, and material or product substitution. Excessive use of water or the addition of water to dilute an effluent in order to meet any permit limitations or conditions is prohibited.

**8.14 Spill Prevention and Control**

The Permittee shall maintain practices, procedures and facilities designed to prevent, minimize and control spills, leaks or such other unplanned releases of all toxic or hazardous substances and any other substances as the Commissioner deems necessary to prevent pollution of the waters of the state. Such requirements shall, unless otherwise allowed by the Commissioner, apply to all facilities used for storing, handling transferring, loading or unloading such substances, including manufacturing areas.

The requirements of this section do not apply to facility components or systems already covered by plans prepared or approved under the Resource Conservation and Recovery Act and the Spill Prevention, Control and Countermeasure program.

**8.15 Duty to Reapply**

The permit will be effective for a fixed term not to exceed ten (10) years and the Permittee shall reapply for permit coverage one hundred eighty (180) days prior to

the expiration date of the permit.

#### **8.16 Equalization**

All treatment facilities shall be designed to prevent upsets, malfunctions or instances of noncompliance resulting from variations in wastewater strength or flow rate, and shall include, as the Commissioner deems necessary, equalization facilities separate from the treatment facilities.

#### **8.17 Bypass**

The Permittee shall not at any time bypass the collection system or treatment facilities or any part thereof unless such bypass is unanticipated, unavoidable, and necessary to prevent loss of life, personal injury or severe property damage, and there were no feasible alternatives to the bypass, including but not limited to the use of auxiliary or back-up treatment facilities, retention of untreated wastes, stopping the discharges, or maintenance during normal periods of equipment downtime; or the Permittee receives prior written approval of the bypass from the Commissioner in order to perform essential maintenance, and the bypass does not cause effluent limitations to be exceeded.

In the event such a bypass is necessary, the Permittee shall to the extent possible minimize or halt production and/or all discharges until the facility is restored or an alternative method of treatment is provided.

In order to prevent a bypass, the Permittee may schedule maintenance during periods when no discharge is occurring or employ any necessary means, including but not limited to duplicate units and systems or alternative collection and treatment or pretreatment schemes. Any such means shall insure that the effluent limitations specified in the permit are achieved; be approved by the director in writing prior to its use, which approval shall include an alternative schedule for monitoring if appropriate; and be discontinued upon completion of the performance of the essential maintenance.

The Permittee shall provide notice to the director not less than twenty-four (24) hours prior to the use of any alternative scheme and monitor and record the quality and quantity of the discharge in accordance with permit terms and conditions or an approved alternative schedule. Such monitoring shall be submitted with the next monitoring report required by the permit and shall not be used to meet routine scheduled monitoring report requirements of the permit.

If any bypass occurs or may occur, the permittee shall, within two hours of becoming aware of such condition or need, notify DEEP 24-hour Emergency Response Unit at 860-424-3338 or 866-337-7745 and submit within five days a written report including the cause of the problem, duration including dates and times and corrective action taken or planned to prevent other such occurrences. Information about incident reporting can be found on DEEP's Emergency Response and Spill Prevention website

<https://portal.ct.gov/deep/emergency-response-and-spill-prevention/emergency-response-and-spill-pre...>

In addition, if the Permittee has reason to believe that any effluent limitation specified in the permit may be violated, the Permittee shall immediately take steps to prevent or correct such violation, including but not limited to employing an alternative scheme of collection or treatment, and/or control the production of the wastewater and shall monitor and record the quality and quantity of the discharge in accordance with the permit terms and conditions or an approved alternative schedule. Such monitoring shall be submitted with the next monitoring report required by the permit and shall not be used to meet the routine monitoring requirements of the permit.

#### **8.18 Proper Operation and Maintenance**

The Permittee shall at all times properly operate and maintain all facilities and systems and parts thereof for wastewater collection, storage, treatment and control which are installed or used by the Permittee to achieve compliance with the terms and conditions of the permit. Proper operation and maintenance includes but is not limited to effective performance, adequate funding, and adequate operator staffing and training, including the employment of certified operators as may be required by the Commissioner pursuant to sections 22a-416-1 through 22a-416-10 of the Regs. Conn. State Agencies, as amended, and adequate laboratory and process controls, including appropriate quality assurance procedures.

In accordance with sections 22a-416 through 22a-471 of the Conn. Gen. Stat. as amended, the Permittee is required to install and operate a back-up or auxiliary facilities or similar systems or the inventory of spare parts and appurtenances.

#### **8.19 Instrumentation, Alarms, and Flow Records**

Except for batch treatment systems unless required by the Commissioner, process wastewater treatment systems shall include instrumentation to automatically and continuously indicate, record and/or control those functions of the system and characteristics of the discharge which the Commissioner deems necessary to assure protection of the waters of the State.

If continuous flow measurement equipment is not present at a given outfall or discharge location, you may estimate flows and retain records in accordance with this permit the following information: (1) A description of the methodology used to estimate flow (for each applicable outfall); (2) Documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations should be provided; and (3) A description of the factors (e.g. batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

## **8.20 Signatory Requirements**

All permit applications and permit modification requests submitted to the Commissioner shall be signed as follows:

For a corporation: by a responsible corporate officer. For the purposes of this section, a responsible corporate officer means: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than two hundred fifty persons or having gross annual sales or expenditures exceeding twenty-five million dollars (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

For a municipality, State, Federal, or other public agency; by either a principal executive officer or a ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

All reports required by permits, and other information submitted to the Commissioner shall be signed by a person described above of this section or by a duly authorized representative of that person. A person is a duly authorized representative only if:

The authorization is made in writing by a person described above;

The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, position or equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and

The written authorization is submitted to the Commissioner.

If an authorization under this subsection is no longer accurate because a different individual or position has assumed the applicable responsibility, a new authorization satisfying the requirements of this section must be submitted to the Commissioner prior to or together with any reports or other information to be signed by an authorized representative.

Any person signing a document under this section shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

“I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute.”

**8.21 False Statements**

Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under section 22a-438 or 22a-131a of the Conn. Gen. Stat. or in accordance with section 22a-6, under section 53a-157 of the Conn. Gen. Stat.

**8.22 Correction of Inaccuracies**

Within fourteen (14) days after the date a Permittee becomes aware of a change in any of the information submitted pursuant to this permit or becomes aware that any such information is inaccurate or misleading or that any relevant information has been omitted, such Permittee shall correct the inaccurate or misleading information or supply the omitted information in writing to the Commissioner. Such information shall be certified in accordance with Paragraph 8.20 of this permit.

**8.23 Transfer of Authorization**

The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner. To request such approval, the Permittee and proposed transferee shall register such proposed transfer with the Commissioner at least thirty (30) days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure, by the transferee, to obtain the Commissioner's approval prior to commencing such discharge may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the Conn. Gen. Stat. and Regs. Conn. State Agencies.

**8.24 Other Applicable Law**

Nothing in this permit shall relieve the Permittee of the obligation to comply with any other applicable federal, state and local law, including but not limited to the obligation to obtain any other authorizations required by such law.

**8.25 Other Rights**

This permit is subject to and does not derogate any present or future rights or powers of the State of Connecticut and conveys no rights in real or personal property nor any exclusive privileges and is subject to all public and private rights and to any federal, state, and local laws pertinent to the property or activity affected by such permit. In conducting any activity authorized hereunder, the Permittee may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this state. The issuance of this permit shall not create any presumption that this permit should or will be renewed.

**8.26 Effect of a Permit**

The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege, authorize any injury to persons or property or invasion of other private rights, authorize any infringement of the Conn. Gen. Stat., Regs. Conn. State Agencies or municipal ordinances or affect the responsibility of the Permittee to obtain all applicable federal, State and municipal authorizations or permits for the discharge and activities which generate the discharge.

**9.0 Commissioner's Powers**

**9.1 Abatement of Violations**

The Commissioner may take any action provided by law to abate a violation of this general permit, including the commencement of proceedings to collect penalties for such violation. The Commissioner may, by summary proceedings or otherwise and for any reason provided by law, including violation of this general permit, revoke a Permittee's authorization hereunder in accordance with sections 22a-3a-2 through 22a-3a-6, inclusive, of the Regs. Conn. State Agencies. Nothing herein shall be construed to affect any remedy available to the Commissioner by law.

The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Conn. Gen. Stat. or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Conn. Gen. Stat. or regulations adopted thereunder which are then applicable.

**9.2 Permit Revocation, Suspension, or Modification**

The Commissioner may, for any reason provided by law, by summary proceedings or otherwise, revoke or suspend this permit or modify to establish any appropriate

conditions, schedules of compliance, or other provisions which may be necessary to protect human health or the environment.

### **9.3 Permit Actions**

The Commissioner may modify or revoke a permit during its term for cause as provided in subsection (p) of section 22a-430-4 of the Regs. Conn. State Agencies. Notification of facility modifications does not stay any permit term or condition.

## **10.0 DEFINITIONS**

**10.1** The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the Conn. Gen. Stat. and sections 22a-430-3(a) and 22a-430-6 of the Regs. Conn. State Agencies.

**10.2** In addition to the above, the following definitions shall apply to this permit:

“Annual”, in the context of a sampling frequency, shall mean the sample must be taken in the month of March.

“Average” means the arithmetic average.

“Average daily concentration” means the average concentration of a substance in a daily composite sample.

“Average daily flow” means the average of all total daily flows measured during any calendar month.

“Average monthly concentration” means the average concentration of a substance as measured by the average of all daily composite samples or grab sample averages taken during any calendar month.

“Average monthly limit” means the highest allowable average of all grab samples taken during any calendar month.

“Continuous”, as a sample frequency, means data points must be collected and recorded by a continuous monitoring device in at least one-minute intervals for as long as a discharge occurs.

“Day” means the twenty-four hour period commencing at 12:00 a.m., and, unless specified as "business day" shall mean calendar day.

“Discharge” means the emission of any water, substance or material into the waters of the state, whether or not such substance causes pollution as defined in section 22a-423 of the Connecticut General Statutes.

“Domestic sewage” means sewage that consists of water and human excretions or other waterborne wastes incidental to the occupancy of a residential building or a non-residential building but not including manufacturing process water, cooling water, wastewater from water softening equipment, commercial laundry wastewater, blowdown from heating or cooling equipment, water from cellar or floor drains or surface water from roofs, paved surface or yard drains.

“Effluent limitation” means (1) any numerical limitation imposed by the Commissioner on quantities, discharge rates or concentrations of any water, substance or material discharged to the waters of the State or (2) any limitation imposed by the Commissioner on any other measure of the quality or quantity of the discharge.

“Grab sample” means an individual sample collected in less than fifteen minutes.

“Ground waters” means those waters of the state which naturally exist or flow below the surface of the ground and waters flowing through earth materials beneath the ground surface.

“Injection” means the subsurface emplacement of fluids by gravity or greater pressure through a well.

“Instantaneous”, as a sample type, means a grab sample collected with automatic equipment or in-line analysis with automated instrumentation.

“Maximum concentration” means the maximum concentration at any time as determined by a grab sample.

“Maximum daily concentration” means the maximum concentration as measured in a daily composite sample or a grab sample average.

“Maximum daily flow” means the greatest volume of wastewater to be discharged over an operating day, not to exceed the design flow rate.

“Maximum daily quantity” means the maximum quantity of waste generated during an operating day.

“mg/l” means milligrams per liter.

“Non-point source” means any unconfined and diffuse source of pollution such as stormwater or snowmelt runoff, atmospheric deposition, or ground water not conveyed to a surface water discharge point within a discrete conveyance.

“Permittee” means any person who or municipality which is authorized by this permit.

“Pollutant” means any water, substance or material for which the permit in question specifies an effluent limitation.

“Quarterly”, in the context of a sampling frequency, shall mean sampling is required during each calendar quarter ending on the last day of March, June, September and December.

“Safe Drinking Water Act” or “SDWA” means the federal Safe Drinking Water Act, 42 U.S.C. 300f et seq. and applicable regulations promulgated thereunder.

“Subsurface sewage disposal system” means a system receiving domestic sewage consisting of a house sewer, a septic tank followed by a leaching system, any necessary pumps or siphons, and any groundwater control system on which the operation of the leaching system is dependent, as amended.

“Sufficiently sensitive” means using a sufficiently sensitive analytical method as defined in 40 CFR §122.44(i)(1)(iv).

“Three times per year”, in the context of a maintenance frequency, shall mean the maintenance must be performed at least three (3) times during the period of May to November.

“Twice per month”, when used as a sample frequency, shall mean two samples per calendar month collected no less than twelve (12) days apart.

“Twelve month rolling average”, means the average monthly concentration of the current month’s samples averaged with average monthly concentrations from each of the previous eleven months.

“Well” means a bored, drilled, or driven shaft, or a dug hole, the depth of which is greater than its largest surface dimension or a commercial subsurface sewage disposal system, household subsurface sewage disposal system, or other subsurface sewage disposal system.

This permit is hereby issued on

\_\_\_\_\_  
TBD  
Date

\_\_\_\_\_  
DRAFT  
Emma Cimino  
Deputy Commissioner  
Department of Energy and  
Environmental Protection

Draft

**ATTACHMENT 1**  
**Existing Operating Conditions**

| <b>TABLE A</b><br><b>Summary of Design Flows</b><br><b>Existing Subsurface Disposal System for Conventional Treatment Systems</b> |                |                    |                                  |                                  |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------|----------------------------------|----------------------------------|
| <b>Previous DSN</b>                                                                                                               | <b>New DSN</b> | <b>System Name</b> | <b>Average Design Flow (gpd)</b> | <b>Maximum Design Flow (gpd)</b> |
| 301-1                                                                                                                             | C01            | Primary System     | 1,333                            | 2,000                            |
| 301-2                                                                                                                             | C02            | Secondary System   | 150                              | 900                              |
| 301-3                                                                                                                             | C03            | Tertiary System    | 3,225                            | 4,838                            |
| 301-4                                                                                                                             | C04            | Quaternary System  | 1,652                            | 2,477                            |
| 301-5                                                                                                                             | C05            | Headmaster System  | 400                              | 600                              |
| 301-6                                                                                                                             | C06            | Winter Sports      | 233                              | 350                              |
| <b>Total Design Flow</b>                                                                                                          |                |                    | <b>7,443</b>                     | <b>11,165</b>                    |

**TABLE B**  
**Existing Groundwater Monitoring**

| <b>Discharge Serial Nos:</b><br>C01, C02, C03, C04, C05, and C06                                                                                                 |             |                 | <b>Monitoring Location:</b> GW and GV                            |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|------------------------------------------------------------------|---------------|
| <b>Groundwater Monitoring Location No.<sup>2</sup>:</b><br>MW-3a, MW-4, MW-5, MW-7, MMI-10, OW-5, OW-6, OW-9                                                     |             |                 | <b>Description:</b> Downgradient and upgradient monitoring wells |               |
| Parameter                                                                                                                                                        | NetDMR Code | Units           | Frequency of Sampling                                            | Sample Type   |
| Total Coliform                                                                                                                                                   | 74055       | Col/100ml       | Quarterly                                                        | Grab          |
| Groundwater Depth<br>(Standard depth below                                                                                                                       | 72019       | Ft              | Quarterly                                                        | Instantaneous |
| Ammonia Nitrogen                                                                                                                                                 | 00610       | mg/L            | Quarterly                                                        | Grab          |
| Nitrate Nitrogen                                                                                                                                                 | 00620       | mg/L            | Quarterly                                                        | Grab          |
| Nitrite Nitrogen                                                                                                                                                 | 00615       | mg/L            | Quarterly                                                        | Grab          |
| Total Kjeldahl Nitrogen                                                                                                                                          | 00625       | mg/L            | Quarterly                                                        | Grab          |
| Total Nitrogen                                                                                                                                                   | 00600       | mg/L            | Quarterly                                                        | Grab          |
| pH <sup>1</sup>                                                                                                                                                  | 00400       | S.U.            | Quarterly                                                        | Grab          |
| Total Phosphorous                                                                                                                                                | 00666       | mg/L            | Quarterly                                                        | Grab          |
| <b>Footnotes:</b><br>1. For the parameter pH, the daily minimum limit is 6.0 S.U. and the daily maximum limit is 9.0 S.U.<br>2. Groundwater Monitoring Well key: |             |                 |                                                                  |               |
| <b>Monitoring Well No.</b>                                                                                                                                       |             | <b>Location</b> |                                                                  |               |
| MW-7 OW-9                                                                                                                                                        |             | Upgradient      |                                                                  |               |
| MW-3a, MW-4, MW-5 MMI-10, OW-5, OW-6                                                                                                                             |             | Downgradient    |                                                                  |               |

| <b>TABLE C</b><br><b>Inspection, Monitoring and Maintenance Requirements</b><br><b>For Existing Conventional Treatment Systems</b>                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------|
| <b>Discharge Serial No.: C01 through C06</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                              | <b>Monitoring Location: S</b> |
| <b>Wastewater Description: Domestic Sewage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              |                               |
| <b>Inspection, Monitoring, or Maintenance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Discharge Serial Nos.</b> | <b>Minimum Frequency</b>      |
| Depth of sludge in septic tanks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | All Systems                  | During pump-out               |
| Pump out the septic tanks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | All Systems                  | Every 5 years                 |
| Mechanical inspection of the septic tank baffles and effluent filters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | All Systems                  | During pump-out               |
| Pump out grease trap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | C01, C03, C04                | Quarterly                     |
| Pump out the pump chambers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | C01, C02, C03, C04, C05      | Every 5 years                 |
| Clean Septic tank effluent filters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | All systems                  | During pump-out               |
| Test Run of emergency Generator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | C01, C02, C03, C04           | Quarterly                     |
| Mechanical inspection of alarm conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | C01, C02, C03, C04           | Monthly                       |
| Mechanical inspection of valve chambers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | C01, C02, C03, C04           | Monthly                       |
| Visual inspection of distribution chambers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | C01, C02, C03, C04           | Quarterly                     |
| Visual inspection of surface condition of leaching field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | All Systems                  | Quarterly                     |
| Depth of ponding in leaching field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | All Systems                  | Quarterly                     |
| Mow grass over leaching field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | All Systems                  | Three times per year          |
| Water meter readings of water usage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | All Systems                  | Weekly                        |
| <b>Additional Notes:</b> <ol style="list-style-type: none"> <li>1. All inspection, monitoring, and maintenance required in this table shall be reported annually by the end of each January as an attachment to the December DMR.</li> <li>2. The Aspetuck Health District Sanitarian shall be notified at least one week prior to pumping of septic tanks and grease traps. Verification of all pump outs shall be attached to the monitoring report and a copy of the report shall be sent to the Aspetuck Health District Director of Health.</li> </ol> |                              |                               |

**ATTACHMENT 2**  
**Post Upgrade Operating Conditions**

| TABLE D                                                                                                                                                                                                                |              |                          |                                      |             |                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------|--------------------------------------|-------------|-------------------------------|
| Domestic Wastewater: Influent to Alternative Treatment System                                                                                                                                                          |              |                          |                                      |             |                               |
| Discharge Serial No. A01                                                                                                                                                                                               |              |                          | Monitoring Location: ST <sup>1</sup> |             |                               |
| Wastewater Description: Domestic sewage influent to the treatment system                                                                                                                                               |              |                          |                                      |             |                               |
| Monitoring Location Description: Septic Tank Effluent                                                                                                                                                                  |              |                          |                                      |             |                               |
| Flow/Time Based Monitoring                                                                                                                                                                                             |              |                          |                                      |             |                               |
| Parameter                                                                                                                                                                                                              | Units        | Average Daily Flow Limit | Maximum Daily Flow                   | Sample Type | Sample Frequency              |
| Flow Rate <sup>2</sup>                                                                                                                                                                                                 | gpd          | 6,492                    | 9,738                                | Totalizer   | Continuous                    |
| Flow Rate <sup>6</sup>                                                                                                                                                                                                 | gpd          | 7,800                    | 11,800                               | Totalizer   | Continuous                    |
| Instantaneous Monitoring                                                                                                                                                                                               |              |                          |                                      |             |                               |
| Parameter                                                                                                                                                                                                              | NetD MR Code | Units                    | Average Monthly Limit <sup>2,3</sup> | Sample Type | Sample Frequency <sup>4</sup> |
| Biochemical Oxygen Demand <sub>5day</sub>                                                                                                                                                                              | 00310        | mg/L                     | Report                               | Grab        | Twice per month               |
| Total Suspended Solids                                                                                                                                                                                                 | 00530        | mg/L                     | Report                               | Grab        | Twice per month               |
| Total Kjeldahl Nitrogen                                                                                                                                                                                                | 00625        | mg/L                     | Report                               | Grab        | Twice per month               |
| pH                                                                                                                                                                                                                     | 00400        | S.U.                     | Report                               | Grab        | Twice per month               |
| Footnotes:                                                                                                                                                                                                             |              |                          |                                      |             |                               |
| 1. Monitoring location as depicted on as-built plan.                                                                                                                                                                   |              |                          |                                      |             |                               |
| 2. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month. |              |                          |                                      |             |                               |
| 3. “Report” in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.                                                         |              |                          |                                      |             |                               |
| 4. The pH shall be reported as the minimum and the maximum value for the month.                                                                                                                                        |              |                          |                                      |             |                               |
| 5. Sample shall be taken twice per month on two different calendar days.                                                                                                                                               |              |                          |                                      |             |                               |
| 6. After one (1) year of providing compliance with terms and conditions of this permit the Permittee may be permitted to increase the flow.                                                                            |              |                          |                                      |             |                               |

| TABLE E                                                         |                    |       |                                          |                                          |                    |                                  |
|-----------------------------------------------------------------|--------------------|-------|------------------------------------------|------------------------------------------|--------------------|----------------------------------|
| Domestic Wastewater: Effluent from Alternative Treatment System |                    |       |                                          |                                          |                    |                                  |
| Discharge Serial No.: A01                                       |                    |       |                                          | Monitoring Location: E                   |                    |                                  |
| Wastewater Description: Pretreated Domestic Sewage Effluent     |                    |       |                                          |                                          |                    |                                  |
| Monitoring Location Description: NitROE Effluent                |                    |       |                                          |                                          |                    |                                  |
| FLOW/TIME BASED MONITORING                                      |                    |       |                                          |                                          |                    |                                  |
| Parameter                                                       | NetD<br>MR<br>Code | Units | Average<br>Daily<br>Flow<br>Limit        | Maximum<br>Daily<br>Flow<br>Limit        | Sample<br>Type     | Sample<br>Frequency              |
| Flow Rate <sup>1</sup>                                          |                    | gpd   | 6,492                                    | 9,738                                    | Totalizer          | Continuous                       |
| Flow Rate <sup>9</sup>                                          |                    | gpd   | 7,800                                    | 11,800                                   | Totalizer          | Continuous                       |
| INSTANTANEOUS MONITORING                                        |                    |       |                                          |                                          |                    |                                  |
| Parameter                                                       | NetDMR Code        | Units | Average<br>Monthly<br>Limit <sup>2</sup> | Maximum<br>Daily<br>Limit <sup>4,5</sup> | Sample<br>Type     | Sample<br>Frequency <sup>4</sup> |
| Biochemical<br>Oxygen<br>Demand <sup>5-day</sup>                | 00310              | mg/L  | 10                                       | 10                                       | 24-hr<br>composite | weekly                           |
| Total<br>Suspended<br>Solids                                    | 00530              | mg/L  | 5                                        | 5                                        | 24-hr<br>composite | weekly                           |
| Total Nitrogen <sup>8</sup>                                     | 00600              | mg/L  | 10 <sup>3</sup>                          | Report                                   | 24-hr<br>composite | monthly                          |
| Ammonia                                                         | 00610              | mg/L  | Report                                   | Report                                   | 24-hr<br>composite | monthly                          |
| Nitrate<br>Nitrogen <sup>7</sup>                                | 00620              | mg/L  | Report                                   | Report                                   | 24-hr<br>composite | monthly                          |
| Nitrite Nitrogen                                                | 00615              | mg/L  | Report                                   | Report                                   | 24-hr<br>composite | monthly                          |
| Total Kjeldahl<br>Nitrogen <sup>6</sup>                         | 00625              | mg/L  | Report                                   | Report                                   | 24-hr<br>composite | monthly                          |
| Total<br>Phosphorus                                             | 00665              | mg/L  | Report                                   | Report                                   | 24-hr<br>composite | monthly                          |
| pH, Minimum <sup>5</sup><br>(Day of<br>Sampling)                | 61942              | S.U.  | NA                                       | 6.0                                      | Grab               | Continuous                       |
| pH, Maximum<br>(Day of<br>Sampling)                             | 61941              | S.U.  | NA                                       | 9.0                                      | Grab               | Continuous                       |
| Alkalinity                                                      | 00410              | mg/l  | Report                                   | Report                                   | Grab               | weekly                           |

**Footnotes:**

1. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month.
2. "Report" in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.
3. Limit is based on a twelve-month rolling average.
4. Sample shall be taken twice per month on two different calendar days.
5. For the parameter pH, the daily minimum limit is 6.0 S.U. and the daily maximum limit is 9.0 S.U. For reporting purposes, report the minimum and maximum values for the month.
6. Total Kjeldahl nitrogen shall be analyzed in accordance with EPA Method 4500 in accordance with 40 CFR 136.
7. Nitrate Nitrogen shall be analyzed in accordance with EPA Method 4110 B-2020 in accordance with 40 CFR 136.
8. Total Nitrogen shall be determined by the summation of nitrate nitrogen, nitrite nitrogen and total Kjeldahl nitrogen (Total Nitrogen (TN)=TKN+NO<sub>3</sub>-N+NO<sub>2</sub>-N).
9. Upon authorization from the Commissioner.
10. Seven-day median.

## Headmaster's House Subsurface Disposal System

**Footnotes:**

1. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month.

| TABLE G<br>Proposed Groundwater Monitoring                                                                                                                                                                                                                                                                                                                              |             |                                    |         |                                                   |               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------|---------|---------------------------------------------------|---------------|
| Discharge Serial Nos. C05 and A01                                                                                                                                                                                                                                                                                                                                       |             |                                    |         | Monitoring Location: GW                           |               |
| <b>Groundwater Monitoring Location No.:</b><br>To be Determined based on Groundwater Monitoring Plan submitted pursuant to Paragraph 5.3                                                                                                                                                                                                                                |             |                                    |         | <b>Description:</b> Downgradient monitoring wells |               |
| Parameter                                                                                                                                                                                                                                                                                                                                                               | NetDMR Code | Maximum Daily Limit <sup>1,2</sup> | Units   | Frequency of Sampling                             | Sample Type   |
| Total Coliform                                                                                                                                                                                                                                                                                                                                                          | 74055       | 0 (zero)                           | Col/100 | Quarterly                                         | Grab          |
| Groundwater Depth<br>(Standard depth below                                                                                                                                                                                                                                                                                                                              | 72019       | Report                             | Ft      | Quarterly                                         | Instantaneous |
| Ammonia Nitrogen                                                                                                                                                                                                                                                                                                                                                        | 00610       | Report                             | mg/L    | Quarterly                                         | Grab          |
| Nitrate Nitrogen                                                                                                                                                                                                                                                                                                                                                        | 00620       | 10                                 | mg/L    | Quarterly                                         | Grab          |
| Nitrite Nitrogen                                                                                                                                                                                                                                                                                                                                                        | 00615       | 1                                  | mg/L    | Quarterly                                         | Grab          |
| Total Kjeldahl Nitrogen                                                                                                                                                                                                                                                                                                                                                 | 00625       | Report                             | mg/L    | Quarterly                                         | Grab          |
| Total Nitrogen                                                                                                                                                                                                                                                                                                                                                          | 00600       | Report                             | mg/L    | Quarterly                                         | Grab          |
| pH <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                         | 00400       | 6.0 – 9.0                          | S.U.    | Quarterly                                         | Grab          |
| Total Phosphorous                                                                                                                                                                                                                                                                                                                                                       | 00666       | Report                             | mg/L    | Quarterly                                         | Grab          |
| <b>Footnotes:</b><br>1. “Report” in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.<br>2. For the parameter pH, the daily minimum limit is 6.0 S.U. and the daily maximum limit is 9.0 S.U. For reporting purposes report the minimum and maximum values for the month. |             |                                    |         |                                                   |               |

| <b>TABLE H</b><br><b>Inspection, Monitoring and Maintenance Requirements</b><br><b>Alternative Treatment System</b>                                                                                                                                                                                                                                              |                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| <b>Discharge Serial No.:</b> A01                                                                                                                                                                                                                                                                                                                                 | <b>Monitoring Location:</b> S              |
| <b>Wastewater Description:</b> Domestic Sewage                                                                                                                                                                                                                                                                                                                   |                                            |
| Average Daily Flow: 6,492 gallons per day                                                                                                                                                                                                                                                                                                                        | Maximum Daily Flow: 9,738 gallons per day  |
| Average Daily Flow: 7,800 gallons per day <sup>1</sup>                                                                                                                                                                                                                                                                                                           | Maximum Daily Flow: 11,800 gallons per day |
| <b>Inspection, Monitoring, or Maintenance</b>                                                                                                                                                                                                                                                                                                                    | <b>Minimum Frequency</b>                   |
| Depth of sludge in septic tanks                                                                                                                                                                                                                                                                                                                                  | During pump-out                            |
| Pump out septic tanks                                                                                                                                                                                                                                                                                                                                            | Annually                                   |
| Pump out grease trap                                                                                                                                                                                                                                                                                                                                             | Quarterly                                  |
| Mechanical inspection of septic tank baffles                                                                                                                                                                                                                                                                                                                     | During pump-out                            |
| Mechanical inspection of grease trap baffles                                                                                                                                                                                                                                                                                                                     | During pump-out                            |
| Mechanical inspection of septic tank effluent filter                                                                                                                                                                                                                                                                                                             | During pump-out                            |
| Clean septic tank effluent filter                                                                                                                                                                                                                                                                                                                                | During pump-out                            |
| Mechanical inspection of pump station                                                                                                                                                                                                                                                                                                                            | Monthly                                    |
| Pump out equalization tank                                                                                                                                                                                                                                                                                                                                       | Annually                                   |
| Test run of emergency generator                                                                                                                                                                                                                                                                                                                                  | Quarterly                                  |
| Water meter readings of water usage                                                                                                                                                                                                                                                                                                                              | Weekly                                     |
| Visual inspection of aeration chambers                                                                                                                                                                                                                                                                                                                           | Monthly                                    |
| Visual inspection of denitrification chambers                                                                                                                                                                                                                                                                                                                    | Monthly                                    |
| Visual inspection of Klean-Tu (NitROE)                                                                                                                                                                                                                                                                                                                           | Monthly                                    |
| Mechanical inspection of alarms                                                                                                                                                                                                                                                                                                                                  | Monthly                                    |
| Mechanical inspection of blowers                                                                                                                                                                                                                                                                                                                                 | Monthly                                    |
| Visual inspection of valve vault                                                                                                                                                                                                                                                                                                                                 | Monthly                                    |
| Mechanical inspection of the primary distribution valve                                                                                                                                                                                                                                                                                                          | Monthly                                    |
| Mechanical inspection of the tertiary distribution valve                                                                                                                                                                                                                                                                                                         | Monthly                                    |
| Mechanical inspection of the quaternary distribution valve                                                                                                                                                                                                                                                                                                       | Monthly                                    |
| Visual inspection of surface condition of leaching fields                                                                                                                                                                                                                                                                                                        | Quarterly                                  |
| Depth of ponding in leaching fields                                                                                                                                                                                                                                                                                                                              | Quarterly                                  |
| Mow grass over leaching fields                                                                                                                                                                                                                                                                                                                                   | 3 times per year                           |
| <b>Footnote:</b><br>1. After one (1) year of providing compliance with terms and conditions of this permit the Permittee may be permitted to increase the flow.<br><b>Additional Notes:</b><br>1. All inspection, monitoring, and maintenance required in this table shall be reported annually by the end of each January as an attachment to the December DMR. |                                            |

| <b>TABLE H</b><br><b>Inspection, Monitoring and Maintenance Requirements</b><br><b>Alternative Treatment System</b>                                                                                                                                                                                   |                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| <b>Discharge Serial No.:</b> A01                                                                                                                                                                                                                                                                      | <b>Monitoring Location:</b> S              |
| <b>Wastewater Description:</b> Domestic Sewage                                                                                                                                                                                                                                                        |                                            |
| Average Daily Flow: 6,492 gallons per day                                                                                                                                                                                                                                                             | Maximum Daily Flow: 9,738 gallons per day  |
| Average Daily Flow: 7,800 gallons per day <sup>1</sup>                                                                                                                                                                                                                                                | Maximum Daily Flow: 11,800 gallons per day |
| <b>Inspection, Monitoring, or Maintenance</b>                                                                                                                                                                                                                                                         | <b>Minimum Frequency</b>                   |
| 2. The Aspetuck Health District Sanitarian shall be notified at least one week prior to pumping of septic tanks and grease traps. Verification of all pump outs shall be attached to the monitoring report and a copy of the report shall be sent to the Aspetuck Health District Director of Health. |                                            |

| <b>TABLE I</b><br><b>Inspection, Monitoring and Maintenance Requirements</b><br><b>Headmaster's House</b>                                                                                                                                                                                                                                                                                                                                                                                                      |                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| <b>Discharge Serial No.:</b> C05                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Monitoring Location:</b> S                  |
| <b>Wastewater Description:</b> Domestic Sewage                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                |
| <b>Average Daily Flow:</b> 400 gallons per day                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Maximum Daily Flow:</b> 600 gallons per day |
| <b>Inspection, Monitoring, or Maintenance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Minimum Frequency</b>                       |
| Depth of sludge in septic tank                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | During pump-out                                |
| Pump out the septic tank                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Every 5 years                                  |
| Mechanical inspection of the septic tank baffles                                                                                                                                                                                                                                                                                                                                                                                                                                                               | During pump-out                                |
| Pump out the pump chamber                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Every 5 years                                  |
| Visual inspection of surface condition of leaching field                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Quarterly                                      |
| Mow grass over leaching field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Three times per year                           |
| <b>Additional Notes:</b> <ol style="list-style-type: none"> <li>1. All inspection, monitoring, and maintenance shall be kept on-site and available upon request by the Commissioner.</li> <li>2. The Aspetuck Health District Sanitarian shall be notified at least one week prior to pumping of septic tanks and grease traps. Verification of all pump outs shall be attached to the monitoring report and a copy of the report shall be sent to the Aspetuck Health District Director of Health.</li> </ol> |                                                |

## Underground Injection Control Permit Fact Sheet

| Permit Summary                                |                                                                                                                                                                         |                         |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Applicant</b>                              | Green Farms Academy, Inc.                                                                                                                                               |                         |
| <b>Permit No.</b>                             | UI0000525 will supersede GSSD000111                                                                                                                                     |                         |
| <b>Application No.</b>                        | 202309494                                                                                                                                                               |                         |
| <b>Date Application Received</b>              | December 18, 2023                                                                                                                                                       |                         |
| <b>Date of Public Notice of Application</b>   | December 2, 2023                                                                                                                                                        |                         |
| <b>Location Address</b>                       | Greens Farms Academy, Inc.<br>35 Beachside Avenue Westport, CT 06880                                                                                                    |                         |
| <b>Facility Contact</b>                       | Jennifer Campbell<br>Chief Financial and Operating Officer<br>Phone number: 203-256-0717<br>Email: <a href="mailto:jcampbell@gfacademy.org">jcampbell@gfacademy.org</a> |                         |
| <b>Discharge Monitoring Report Contact</b>    | Jennifer Campbell<br>Chief Financial and Operating Officer<br>Phone number: 203-256-0717<br>Email: <a href="mailto:jcampbell@gfacademy.org">jcampbell@gfacademy.org</a> |                         |
| <b>Mailing Address</b>                        | Greens Farms Academy, Inc.<br>35 Beachside Avenue Westport, CT 06880                                                                                                    |                         |
| <b>Permit Term</b>                            | 10 Years                                                                                                                                                                |                         |
| <b>Permit Type</b>                            | New                                                                                                                                                                     |                         |
| <b>Permit Category</b>                        | UIC Class V Injection Well                                                                                                                                              |                         |
| <b>Treatment System Description</b>           | 5W11 Conventional System                                                                                                                                                | 5W12 Advanced Treatment |
| <b>Ownership</b>                              | Private                                                                                                                                                                 |                         |
| <b>Compliance Schedule in Draft Permit</b>    | Yes                                                                                                                                                                     |                         |
| <b>Compliance Schedule in Previous Permit</b> | No                                                                                                                                                                      |                         |
| <b>Receiving Waterbody</b>                    | Groundwater in the Southwest Shoreline Watershed                                                                                                                        |                         |
| <b>Water Quality Classification(s)</b>        | GB and GA                                                                                                                                                               |                         |
| <b>Treatment System Location(s)</b>           | DSN C01, C02, C03, C04, C05, C06, and A01                                                                                                                               |                         |
| <b>DEEP Staff</b>                             | Antoanela Daha, Environmental Engineer<br>860-424-3876<br>Email: <a href="mailto:Antoanela.daha@ct.gov">Antoanela.daha@ct.gov</a>                                       |                         |

## Table of Contents

|                                                                        |    |
|------------------------------------------------------------------------|----|
| Section 1.0 Permit Fees.....                                           | 4  |
| Section 2.0 Nature of Business Generating Discharge .....              | 4  |
| Section 3.0 Application Submittal Information .....                    | 5  |
| Section 4.0 Permit Amendments & Facility Changes.....                  | 7  |
| Section 5.0 Process and Treatment System .....                         | 7  |
| Section 6.0 Special Site Considerations.....                           | 12 |
| 6.1 Federally Recognized Indian Land .....                             | 12 |
| 6.2 Coastal Area/Coastal Boundary .....                                | 12 |
| 6.3 Endangered Species .....                                           | 12 |
| 6.4 Aquifer Protection Areas .....                                     | 12 |
| 6.5 Conservation or Preservation Restriction.....                      | 12 |
| 6.6 Public Water Supply Watershed .....                                | 12 |
| Section 7.0 Compliance History .....                                   | 12 |
| Section 8.0 Application Review.....                                    | 12 |
| 8.1 Evaluation of DMR.....                                             | 13 |
| 8.2 Site Investigation .....                                           | 13 |
| Section 9.0 Basis for Limitations, Permit Standards or Conditions..... | 14 |
| 9.1 Conventional Systems.....                                          | 14 |
| 9.2 Alternative Wastewater Treatment (“AT”).....                       | 17 |
| 9.3 Sampling Frequency, Type, and Reporting.....                       | 18 |
| 9.4 Inspection, Monitoring and Maintenance Requirements .....          | 21 |
| Section 10.0 Groundwater Monitoring Requirements .....                 | 23 |
| 10.1. Existing Groundwater Monitoring .....                            | 23 |
| 10.2 Proposed Groundwater Monitoring .....                             | 25 |
| 10.3 Leaching Field and Leaching Bed Requirements .....                | 26 |
| 10.4 Groundwater Nitrogen Calculation.....                             | 26 |
| 10.5 Phosphorus (P) Removal and Soil Sorption Analysis.....            | 28 |
| 10.6 Groundwater Pathogen inactivation and Travel Time Analysis .....  | 30 |
| Section 11.0 Permit Compliance Schedule .....                          | 31 |
| Section 12.0 Variances and Waivers.....                                | 32 |
| Section 13.0 E-Reporting .....                                         | 32 |
| Section 14.0 Summary of New Permit Conditions .....                    | 32 |
| Section 15.0 Public Participation Procedures .....                     | 33 |

Greens Farms Academy, Inc.

Permit No. UI0000525

Draft Fact Sheet

|                                  |    |
|----------------------------------|----|
| 15.1 Information Requests .....  | 33 |
| 15.2 Public Comment.....         | 33 |
| 15.3 Petitions for Hearing ..... | 33 |

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## Section 1.0 Permit Fees

Discharge Code: 312000a Treatment System: DSN A01 Annual Fee: \$1,110

Discharge Code: 312000a Treatment System: DSN C01, C02, C03, C04, C05, C06

## Section 2.0 Nature of Business Generating Discharge

Greens Farms Academy, Inc. is a private K–12 school located in Westport, Connecticut. The school is currently permitted to discharge 10,338 gallons per day (“gpd”) of domestic wastewater through seven (7) conventional subsurface sewage disposal systems, under General Permit No. GSSD000111. The 7<sup>th</sup> system was taken offline in 2024/2025 and is not carried forward in the individual permit

The Applicant is now seeking authorization to upgrade and consolidate its wastewater management system by installing an Alternative Treatment and Disposal System (“AT”). Once constructed the AT system will treat a proposed design flow of 9,738 gpd from campus facilities. The five (5) existing conventional systems will be replaced by the AT system, while the 6th conventional system serving the Headmaster’s House with a design flow of 600 gpd will continue to be in operation. Upon authorization from the Commissioner, the facility may expand the AT systems design flow to 11,800 gpd.

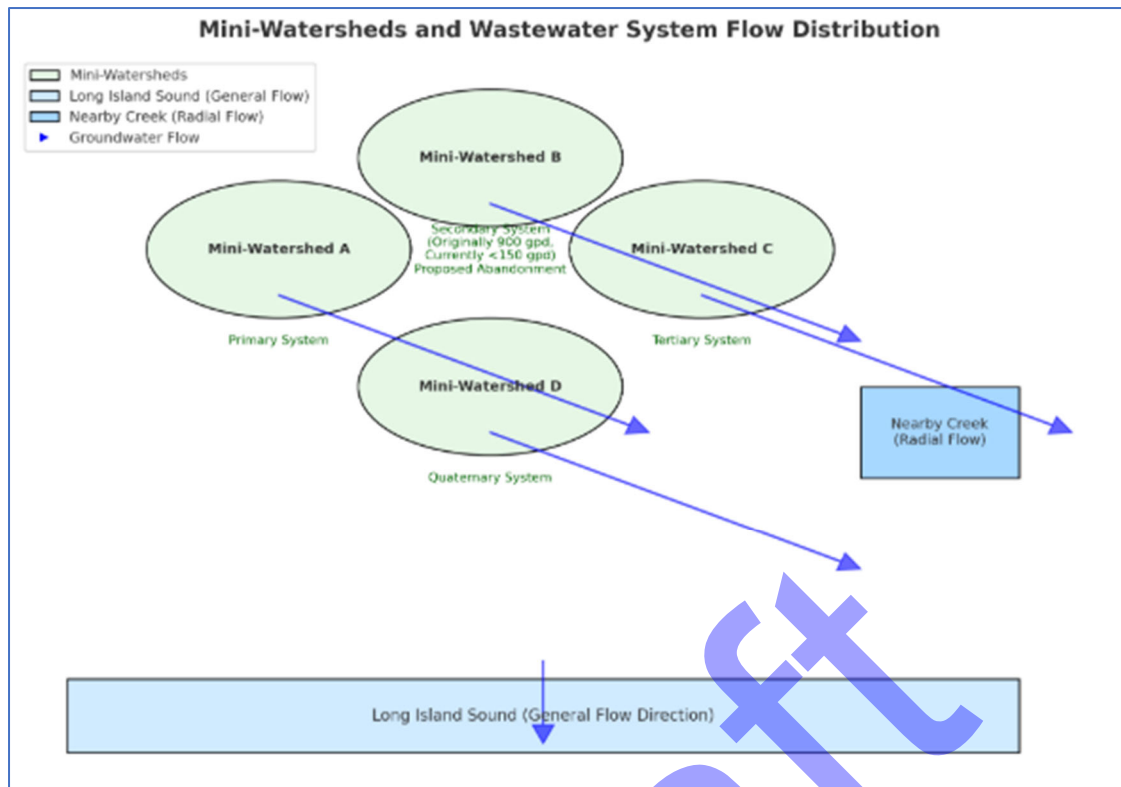
The five (5) existing conventional systems will be abandoned and taken offline once the AT system is brought online. Upon permit issuance, the authorization under the GP (Permit no. GSSD000111) will terminate.

### Site History

The property was formerly an agricultural orchard and historical monitoring data indicated that elevated nitrogen, and occasionally phosphorus, were present in upgradient wells prior to the installation of the current conventional treatment systems. The school came under the jurisdiction of the DEEP in September 2000, when it was determined that the total wastewater flow met the jurisdictional threshold. The first permit for the site was issued in 2005 and subsequently modified in 2006 and 2008 following two (2) public hearings. The permits included terms and conditions requiring groundwater monitoring and reporting. Groundwater monitoring data have revealed elevated nutrient levels on-site exceeding drinking water standards.

Due to the location of the site along the coast and groundwater flows, mini-watersheds were originally delineated during the design of the wastewater systems and refined through subsequent permit modifications to reflect localized groundwater flow patterns, which provided a more accurate assessment of nitrogen loading at points of environmental concern. While the overall groundwater flow direction is toward Long Island Sound, localized conditions result in radial flow toward a nearby creek. As a result, nitrogen loading was evaluated individually for each mini-watershed to better understand and manage cumulative nutrient impacts across the site.

The more recently designed and installed systems were configured to optimize the available hydraulic window and account for existing background nitrogen levels. As a result, flow was distributed among the primary, secondary, tertiary, and quaternary leaching fields based on each system’s allowable nitrogen loading capacity despite each of the systems being sized to accept larger design and average flows. See image below.

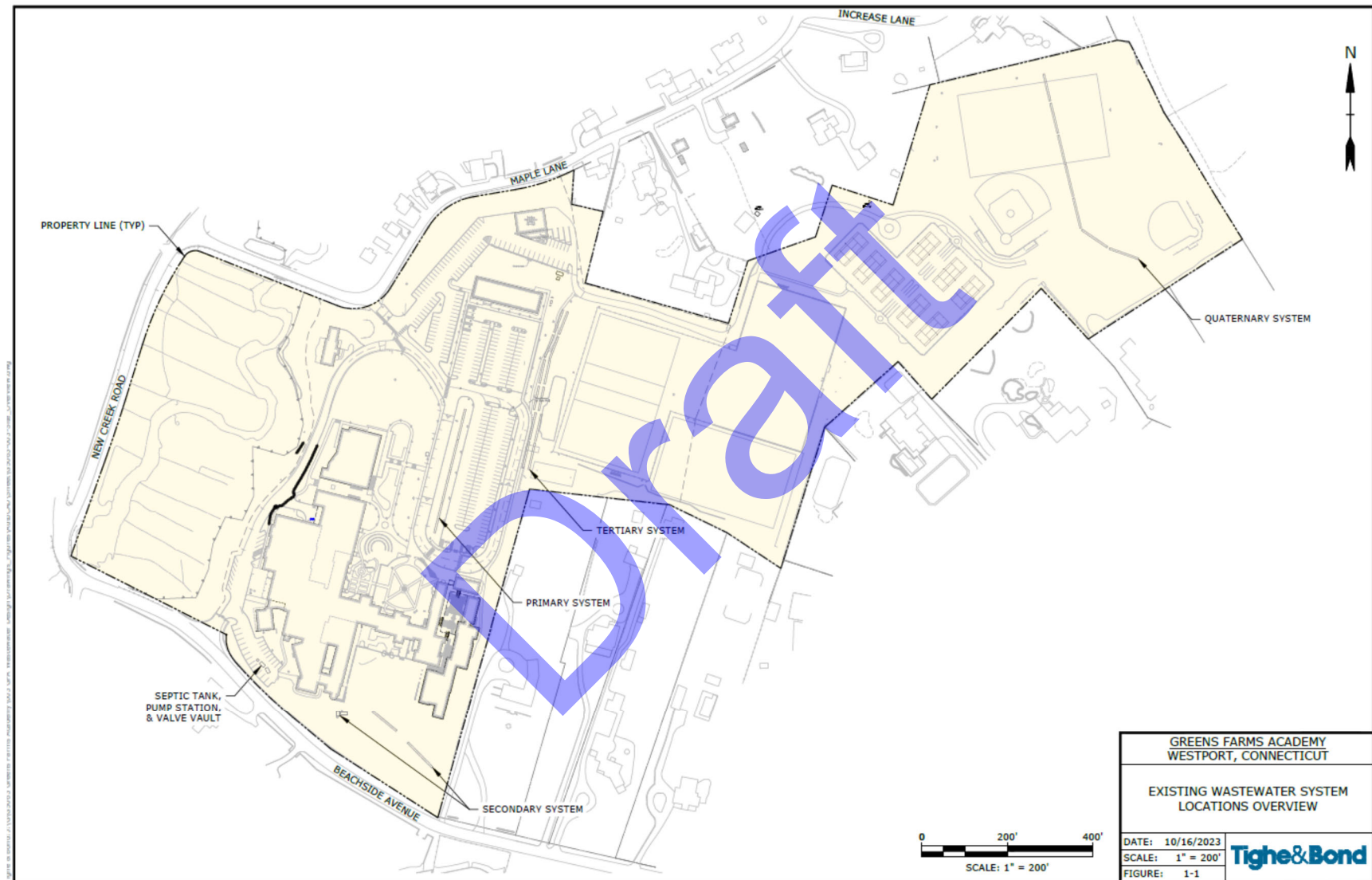


### Section 3.0 Application Submittal Information

On December 18, 2023, the Department of Energy and Environmental Protection ("DEEP" or "Department") received an application (Application No. 202309494) from Greens Farms Academy, Inc. ("the Permittee", "the Applicant", "the facility") located in Westport, Connecticut for the issuance of a new UIC permit.

Consistent with the requirements of Section 22a-6g of the Connecticut General Statutes ("Conn. Gen. Stat."), the Permittee published a Notice of Permit Application in the Connecticut Post on December 2, 2023. A Notice of Insufficiency was issued on February 8, 2024, identifying several deficiencies, including the incorrect application type, improper identification of the applicant, incomplete applicant background and compliance information, and inaccurate public notice information. These issues were resolved on February 29, 2024. On April 3, 2024, DEEP determined the application was administratively sufficient and the technical review phase commenced December 16, 2024.

Figure 1. Site layout.



## Section 4.0 Permit Amendments & Facility Changes

The Regulations of the Connecticut State Agencies (“Regs. Conn. State Agencies”) require that permittees notify DEEP and obtain written approval of any facility expansion or process change that may result in an increased or new discharge or constitute a new source, and of any expansion or significant changes made to a wastewater collection system, treatment system, or its method of operation in accordance with Regs. Conn. State Agencies Section 22a-430-3(i).

Greens Farms Academy is currently permitted to discharge up to ten thousand three hundred thirty-eight (10,338) gpd of domestic wastewater through seven (7) conventional subsurface sewage disposal systems, under the General Permit to Discharge from Subsurface Disposal Systems (Registration No. GSSD000111) (“General Permit”).

GSSD000111 was renewed on April 22, 2022, and modifications have been performed on site during the permit term.

The following is a list of all modifications and DEEP’s determinations since the previous permit was issued:

| Modification of Application Date | Application No. | Department’s Approval Date | Change Implemented                                                                                                                                                                                                |
|----------------------------------|-----------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| June 7, 2023                     | 202304811       | August 30, 2023            | Proposed relocation of cell 1 of the tertiary leaching field consisting of 112 feet of 18-inch concrete galleries 40 feet to the east                                                                             |
| January 31, 2024                 | 202401368       | April 2, 2024              | This approval superseded the August 30, 2023 approval and approved relocation of cell 1 and cell 2 of the tertiary leaching field consisting of 2 rows 112 feet of 18-inch concrete galleries 50 feet to the east |
| August 13, 2024                  | 202407729       | August 22, 2024            | Installation of a 1,500 gallons septic tank, two pump stations and force mains to connect the proposed Athletic Wellness Center to the existing subsurface sewage disposal system                                 |

## Section 5.0 Process and Treatment System

The Applicant seeks authorization to discharge treated wastewater for the following:

| Previous Discharge Serial Number | New Discharge Serial Number | Proposed Average Daily Flow (gpd) | Proposed Maximum Daily Flow (gpd) | Buildings Served                                           | Treatment Type                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------|-----------------------------|-----------------------------------|-----------------------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N/A                              | A01                         | 6,492                             | 9,738                             | Private K–12 school, sports arena and maintenance building | The proposed Alternative Treatment system will consist of two septic tanks, a pump chamber, followed by a two train Klean-Tu systems comprised of two submerged aeration chambers and two denitrification chambers, followed by a dual pump dosing station, and a valve vault distributing flow to three pressure distribution leaching fields |
|                                  |                             | <i>Expansion:</i> 7,800           | <i>Expansion:</i> 11,800          |                                                            |                                                                                                                                                                                                                                                                                                                                                |
| 301-1                            | C01                         | 1,333                             | 2,000                             | Primary System                                             | The existing conventional treatment system consists of a grease trap and septic tank followed by a leaching field consisting of 248 feet of 4x1.5 leaching galleries. Primary leach fields to be retained and updated.                                                                                                                         |
| 301-2                            | C02                         | 150                               | 900                               | Secondary System                                           | The existing conventional treatment system consists of a leaching field consisting of a total of 152 feet of 4x4 leaching galleries. To be abandoned and flow redirected to the AT.                                                                                                                                                            |
| 301-3                            | C03                         | 3,225                             | 4,838                             | Tertiary System                                            | The existing conventional treatment system consists of a leaching field consisting of a total of 704 feet of 4x1.5 leaching galleries. Tertiary leach fields to be retained and updated.                                                                                                                                                       |
| 301-4                            | C04                         | 1,652                             | 2,477                             | Quaternary System                                          | The existing conventional treatment system consists of a leaching field consisting of a total of 496 feet of 4x1 leaching galleries. Quaternary leach fields to be retained and updated.                                                                                                                                                       |
| 301-5                            | C05                         | 400                               | 600                               | Headmaster's House                                         | The existing conventional treatment system consists of a septic tank and a pump chamber followed by a leaching field consisting of 54 feet of 4x4 leaching galleries. Headmaster house conventional system to be retained.                                                                                                                     |

| Previous Discharge Serial Number | New Discharge Serial Number | Proposed Average Daily Flow (gpd) | Proposed Maximum Daily Flow (gpd) | Buildings Served                                                                                                                                               | Treatment Type                                                                                                                                                                                                         |
|----------------------------------|-----------------------------|-----------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 301-6                            | C06                         | N/A                               | 350                               | Winter Sports                                                                                                                                                  | The existing conventional treatment system consists of a septic tank and a pump chamber followed by a leaching field consisting of 64 feet of 4x1.5 leaching galleries. To be abandoned and flow redirected to the AT. |
| Total Design Flow                |                             | 7,443                             | 11,165                            | At permit issuance there will be 6 conventional systems C01 – C06 in operation.                                                                                |                                                                                                                                                                                                                        |
|                                  |                             | 6,892                             | 10,338                            | Upon construction and authorization to discharge from the new AT system, retention of conventional system C05, and abandonment of C01, C02, C03, C04, and C06. |                                                                                                                                                                                                                        |
|                                  |                             | 7,867                             | 11,800                            | Upon authorization to expand the design flow of the AT system and retention of the conventional system C05                                                     |                                                                                                                                                                                                                        |

. ☐ ☒

Figure 2. Flow Diagram for the Proposed Alternative Treatment System

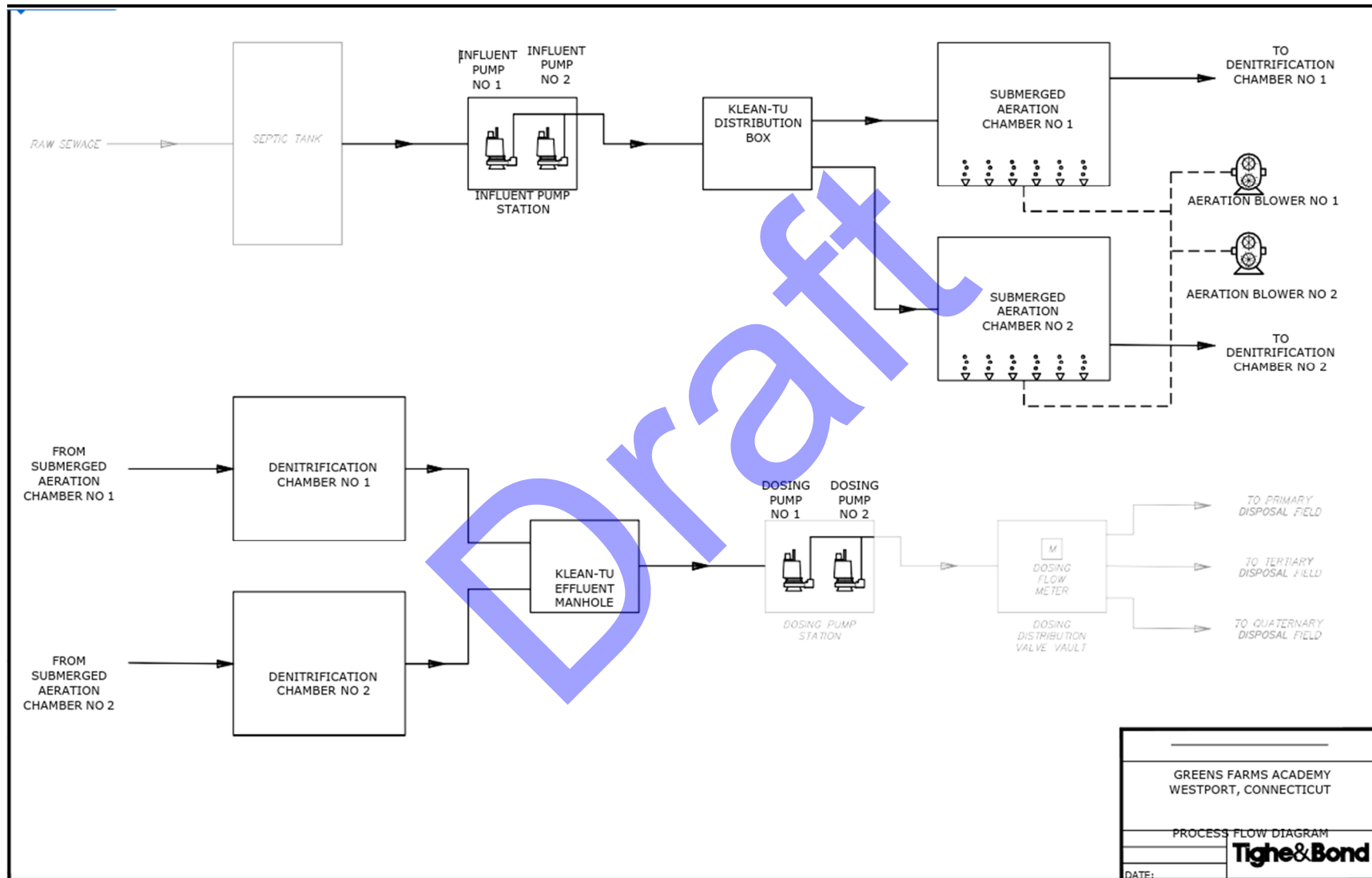


Figure 3. Overall site plan



## Section 6.0 Special Site Considerations

### 6.1 Federally Recognized Indian Land

As provided in the permit application, is the site located on federally recognized Indian land?

☐ Yes ☒ No

### 6.2 Coastal Area/Coastal Boundary

Is the activity located within a coastal boundary as defined in Conn. Gen. Stat. 22a-94(b)?

☒ Yes ☐ No

### 6.3 Endangered Species

As provided in the permit application, is the site located within an area identified as a habitat for endangered, threatened or special concern species according to the *State and Federal Listed Species and Natural Communities Map*?

☐ Yes ☒ No

### 6.4 Aquifer Protection Areas

As provided in the permit application, is the site located within a protected area identified on a Level A or B map?

☐ Yes ☒ No

### 6.5 Conservation or Preservation Restriction

As provided in the permit application, is the property subject to a conservation or preservation restriction?

☐ Yes ☒ No

### 6.6 Public Water Supply Watershed

As provided in the permit application, is the site located within a public water supply watershed?

☐ Yes ☒ No

## Section 7.0 Compliance History

Is the Permittee subject to ongoing enforcement action? ☐ Yes ☒ No

Based on a review of the administrative record there are no ongoing enforcement actions.

## Section 8.0 Application Review

Following the initial technical review of the application, the DEEP issued a Request for Additional Information (“RFAI”) on February 14, 2025, seeking clarification and additional documentation regarding the design of the proposed treatment and disposal system and the site's ability to adequately distribute, transmit, and further treat the effluent.

Although this application for an individual permit represents a new permit request, the facility is currently permitted. The site was previously covered under an individual permit issued in 2005 and subsequently modified in 2008. In 2018, the Greens Farms Academy sought and was granted coverage under the General Permit. Both the previous individual permit and the current General Permit established consistent

requirements for system operation, maintenance, monitoring, and reporting applicable to all wastewater treatment systems located on the site.

DEEP's technical review of the current application determined that the submitted Engineering Report (Attachment Q of the application) was deficient, as it lacked a summary and evaluation of the facility's historical Discharge Monitoring Reports ("DMRs").

Upon request, DEEP received groundwater monitoring data from the facility and conducted a technical review of the information provided. That review indicated that groundwater quality at several downgradient monitoring locations exceeded the standards, particularly with respect to nitrate, total nitrogen, fecal coliform bacteria, and phosphorus. Additionally, the administrative record indicates poor monitoring well conditions, including flooding, cracked casings, and shallow groundwater levels, which may compromise sample reliability, but nonetheless indicate potential groundwater degradation trends.

Greens Farms Academy, Inc., and its representatives were notified of the facility's non-compliance. The identified compliance issues included:

1. Failure to submit DMRs for an extended period of time, approximately two (2) years.
2. Missing and incomplete groundwater monitoring records.
3. Persistent exceedances of groundwater water quality criteria for bacteria, nitrate, total nitrogen, phosphorus, and pH.
4. Evidence of degraded monitoring well integrity.

Given the permittees request for a slight increase in design flow and their commitment to the installation of an Alternative Treatment System to protect groundwater, in lieu of a parallel enforcement action to address the current non-compliance, DEEP has developed the proposed permit which includes a tiered compliance schedule designed to bring the permittee into full compliance with monitoring and reporting requirements, address deficiencies in the groundwater monitoring network, and allow for the construction of a proposed upgraded Alternative Treatment system and increased design flow.

### 8.1 Evaluation of DMR

Is the Permittee submitting the DMRs electronically in NetDMR?

☐ Yes ☒ No

See included attachment: "GW Monitoring for Existing Systems"

### 8.2 Site Investigation

DEEP staff conducted multiple site visits during the development of the initial permit issuance, performed compliance assistance site visits, and during system installations. Because the existing primary, tertiary, and quaternary leaching fields are proposed to be retained (secondary fields will be abandoned) and retrofitted for pressure distribution, no additional site investigation was required as part of the current application.

The quaternary and tertiary systems were designed to optimize the available hydraulic window and to account for existing background nitrogen concentrations. Accordingly, wastewater flows were distributed among the primary, secondary, tertiary, and quaternary leaching fields based on the allowable nitrogen loading capacity of each system, even though each system was originally sized to accept larger design and average flows. For example, the secondary system was designed for a capacity of approximately nine hundred (900) gpd; however, due to elevated nitrogen concentrations (approximately 7 mg/L) detected in the upgradient monitoring well, actual discharge to this system has recently been limited to less than one hundred fifty (150) gpd. As a result, the secondary leaching field is proposed to be abandoned under this permit.

To address historical and future nutrient concentration concerns in the groundwater, the applicant proposes installation of an AT system designed to reduce nitrogen and phosphorus concentrations in the effluent prior to discharge to the groundwater. As reported by the applicant, the proposed AT system is expected to achieve approximately a 92% reduction in total nitrogen (“TN”) and a 34% reduction in total phosphorus (“TP”) compared to current discharge concentrations. These estimates are based on existing effluent concentrations from the conventional system of approximately 135 mg/L TN and 20 mg/L TP, with expected effluent concentrations of 8 mg/L TN and 17.5 mg/L TP following implementation of the AT system. DEEP expects that additional treatment in and beneath the leaching fields will result in the protection of groundwater.

At DEEP’s request, the applicant provided a calculated and modeled evaluation of the anticipated effects of the proposed system improvements on nutrient loading from the property. The analysis demonstrates that the proposed configuration is expected to comply with applicable groundwater standards.

## **Section 9.0 Basis for Limitations, Permit Standards or Conditions**

In accordance with section 22a-430 of the Regs. Conn. State Agencies, DEEP’s “Guidance for Design of Large-Scale On-Site Wastewater Renovation Systems” (February 2006), and DEEP’s review of the permit application, site investigation, additional administrative record, and pollutant analyses of the wastewater, a determination has been made that there is a need for an AT system to protect the ground water from pollution. The AT system is designed to treat wastewater and remove pollutants before being discharged to the pressure distribution leaching bed.

### **9.1 Conventional Systems**

Under their existing permit coverage, Greens Farms Academy is permitted for a total flow of 11,165 gpd domestic sewage discharge through six (6) conventional subsurface sewage disposal systems listed in the following table.

This individual permit incorporates the existing conventional systems that are currently permitted under the General Permit. The General Permit coverage will sunset when the individual permit is issued. The Permittee will continue to monitor the existing conventional systems (C01 through C06) in accordance with the following tables until verification that the new AT system installation is provided.

- 9.1.1 The existing discharges are restricted by and shall be monitored in accordance with Table A and C:

| <b>TABLE A</b><br><b>Summary of Design Flows</b><br><b>Existing Subsurface Disposal Systems Flows for Conventional Treatment Systems</b> |                |                    |                                  |                                  |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------|----------------------------------|----------------------------------|
| <b>Previous DSN</b>                                                                                                                      | <b>New DSN</b> | <b>System Name</b> | <b>Average Design Flow (gpd)</b> | <b>Maximum Design Flow (gpd)</b> |
| 301-1                                                                                                                                    | C01            | Primary System     | 1,333                            | 2,000                            |
| 301-2                                                                                                                                    | C02            | Secondary System   | 150                              | 900                              |
| 301-3                                                                                                                                    | C03            | Tertiary System    | 3,225                            | 4,838                            |
| 301-4                                                                                                                                    | C04            | Quaternary System  | 1,652                            | 2,477                            |
| 301-5                                                                                                                                    | C05            | Headmaster System  | 400                              | 600                              |
| 301-6                                                                                                                                    | C06            | Winter Sports      | 233                              | 350                              |

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| <b>TABLE C</b><br><b>Inspection, Monitoring and Maintenance Requirements</b><br><b>For Existing Conventional Treatment Systems</b>                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------|
| <b>Discharge Serial No.:</b> C01 through C06                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                              | <b>Monitoring Location:</b> S |
| <b>Wastewater Description: Domestic Sewage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              |                               |
| <b>Inspection, Monitoring, or Maintenance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Discharge Serial Nos.</b> | <b>Minimum Frequency</b>      |
| Depth of sludge in septic tanks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | All Systems                  | During pump-out               |
| Pump out the septic tanks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | All Systems                  | Every 5 years                 |
| Mechanical inspection of the septic tank baffles and effluent filters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | All Systems                  | During pump-out               |
| Pump out grease trap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | C01, C03, C04                | Quarterly                     |
| Pump out the pump chambers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | C01, C02, C03, C04, C05      | Every 5 years                 |
| Clean Septic tank effluent filters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | All systems                  | During pump-out               |
| Test Run of emergency Generator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | C01, C02, C03, C04           | Quarterly                     |
| Mechanical inspection of alarm conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | C01, C02, C03, C04           | Monthly                       |
| Mechanical inspection of valve chambers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | C01, C02, C03, C04           | Monthly                       |
| Visual inspection of distribution chambers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | C01, C02, C03, C04           | Quarterly                     |
| Visual inspection of surface condition of leaching field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | All Systems                  | Quarterly                     |
| Depth of ponding in leaching field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | All Systems                  | Quarterly                     |
| Mow grass over leaching field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | All Systems                  | Three times per year          |
| Water meter readings of water usage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | All Systems                  | Weekly                        |
| <b>Additional Notes:</b> <ol style="list-style-type: none"> <li>1. All inspection, monitoring, and maintenance required in this table shall be reported annually by the end of each January as an attachment to the December DMR.</li> <li>2. The Aspetuck Health District Sanitarian shall be notified at least one week prior to pumping of septic tanks and grease traps. Verification of all pump outs shall be attached to the monitoring report and a copy of the report shall be sent to the Aspetuck Health District Director of Health.</li> </ol> |                              |                               |

## 9.2 Alternative Wastewater Treatment (“AT”)

The wastewater discharging from the AT system is designed to meet the following parameters prior to entering the leachfields:

- Average daily flow: 6,492 gallons per day
- Maximum daily flow: 9,738 gallons per day
- Daily minimum and maximum: pH: 6.0 – 9.0 s.u.

Monitoring requirements for additional parameters, such as nitrate, have been incorporated into the permit to quantify total nitrogen loading and to validate the design criteria and year-round operational efficiency of the treatment system. These discharge limits are established to ensure the continuous hydraulic performance of the system and maintain consistency with established permit requirements across the State of Connecticut.

The Permittee’s discharge post-upgrade shall not exceed and shall otherwise conform to the specific terms and conditions listed in the permit and the following tables.

### **Expansion**

The Permittee must demonstrate compliance for a minimum of one (1) year, prior to requesting to increase the design flow. Upon request, the Commissioner will perform a compliance evaluation and make a recommendation. Upon the Commissioner’s written approval to increase design flow, the Permittee shall comply with the following effluent limits prior to entering the leachfields:

- Average daily flow: 7,800 gallons per day
- Maximum daily flow: 11,800 gallons per day
- Daily minimum and maximum: pH: 6.0 – 9.0 s.u.

### 9.3 Sampling Frequency, Type, and Reporting

| TABLE D                                                                                                                                                                                                                |             |                          |                                      |             |                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------|--------------------------------------|-------------|-------------------------------|
| Domestic Wastewater: Influent to the Alternative Treatment System                                                                                                                                                      |             |                          |                                      |             |                               |
| Discharge Serial No.: A01                                                                                                                                                                                              |             |                          | Monitoring Location: ST <sup>1</sup> |             |                               |
| Wastewater Description: Influent to the treatment system                                                                                                                                                               |             |                          |                                      |             |                               |
| Monitoring Location Description: Septic Tank Effluent                                                                                                                                                                  |             |                          |                                      |             |                               |
| Flow/Time Based Monitoring                                                                                                                                                                                             |             |                          |                                      |             |                               |
| Parameter                                                                                                                                                                                                              | Units       | Average Daily Flow Limit | Maximum Daily Flow Limit             | Sample Type | Sample Frequency              |
| Flow Rate <sup>2</sup>                                                                                                                                                                                                 | gpd         | 6,492                    | 9,738                                | Totalizer   | Continuous                    |
| Flow Rate <sup>6</sup>                                                                                                                                                                                                 | gpd         | 7,800                    | 11,800                               | Totalizer   | Continuous                    |
| Instantaneous Monitoring                                                                                                                                                                                               |             |                          |                                      |             |                               |
| Parameter                                                                                                                                                                                                              | NetDMR Code | Units                    | Average Monthly Limit <sup>3,4</sup> | Sample Type | Sample Frequency <sup>5</sup> |
| Biochemical Oxygen Demand <sub>5day</sub>                                                                                                                                                                              | 00310       | mg/L                     | Report                               | Grab        | Twice per month               |
| Total Suspended Solids                                                                                                                                                                                                 | 00530       | mg/L                     | Report                               | Grab        | Twice per month               |
| Total Kjeldahl Nitrogen                                                                                                                                                                                                | 00625       | mg/L                     | Report                               | Grab        | Twice per month               |
| pH                                                                                                                                                                                                                     | 00400       | S.U.                     | Report <sup>4</sup>                  | Grab        | Twice per month               |
| Footnotes:                                                                                                                                                                                                             |             |                          |                                      |             |                               |
| 1. Monitoring location as depicted on as-built plan.                                                                                                                                                                   |             |                          |                                      |             |                               |
| 2. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month. |             |                          |                                      |             |                               |
| 3. “Report” in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.                                                         |             |                          |                                      |             |                               |
| 4. pH shall be reported as the daily minimum and daily maximum values for the month.                                                                                                                                   |             |                          |                                      |             |                               |
| 5. Sample shall be taken twice per month on two different calendar days.                                                                                                                                               |             |                          |                                      |             |                               |
| 6. After one (1) year of providing compliance with terms and conditions of this permit the Permittee may be permitted to increase the flow.                                                                            |             |                          |                                      |             |                               |

| TABLE E                                                             |             |                    |                                    |                                    |                 |                               |
|---------------------------------------------------------------------|-------------|--------------------|------------------------------------|------------------------------------|-----------------|-------------------------------|
| Domestic wastewater: Effluent from the Alternative Treatment System |             |                    |                                    |                                    |                 |                               |
| Discharge Serial No.: A01                                           |             |                    |                                    | Monitoring Location: E             |                 |                               |
| Wastewater Description: Pretreated Domestic Sewage Effluent         |             |                    |                                    |                                    |                 |                               |
| Monitoring Location Description: NitROE Effluent                    |             |                    |                                    |                                    |                 |                               |
| FLOW/TIME BASED MONITORING                                          |             |                    |                                    |                                    |                 |                               |
| Parameter                                                           | NetDMR Code | Units              | Average Daily Flow Limit           | Maximum Daily Flow Limit           | Sample Type     | Sample Frequency              |
| Flow Rate <sup>1</sup>                                              | 00056       | gpd                | 6,492                              | 9,738                              | Totalizer       | Continuous                    |
| Flow Rate <sup>9</sup>                                              | 00056       | gpd                | 7,800                              | 11,800                             | Totalizer       | Continuous                    |
| Instantaneous Monitoring                                            |             |                    |                                    |                                    |                 |                               |
| Parameter                                                           | NetDMR Code | Units              | Average Monthly Limit <sup>2</sup> | Maximum Daily Limit <sup>4,5</sup> | Sample Type     | Sample Frequency <sup>4</sup> |
| Biochemical Oxygen Demand <sub>5-day</sub>                          | 00310       | mg/L               | 10 <sup>11</sup>                   | 10                                 | 24-hr composite | weekly                        |
| Total Suspended Solids                                              | 00530       | mg/L               | 5 <sup>11</sup>                    | 5                                  | 24-hr composite | weekly                        |
| Total Nitrogen <sup>8</sup>                                         | 00600       | mg/L               | 10 <sup>3</sup>                    | Report                             | 24-hr composite | monthly                       |
| Ammonia                                                             | 00610       | mg/L               | Report                             | Report                             | 24-hr composite | monthly                       |
| Nitrate Nitrogen <sup>7</sup>                                       | 00620       | mg/L               | Report                             | Report                             | 24-hr composite | monthly                       |
| Nitrite Nitrogen                                                    | 00615       | mg/L               | Report                             | Report                             | 24-hr composite | monthly                       |
| Total Kjeldahl Nitrogen <sup>6</sup>                                | 00625       | mg/L               | Report                             | Report                             | 24-hr composite | monthly                       |
| Total Phosphorus                                                    | 00665       | mg/L               | Report                             | Report                             | 24-hr composite | monthly                       |
| pH, Minimum <sup>5</sup><br>(Day of Sampling)                       | 61942       | S.U.               | NA                                 | 6.0                                | Grab            | Continuous                    |
| pH, Maximum<br>(Day of Sampling)                                    | 61941       | S.U.               | NA                                 | 9.0                                | Grab            | Continuous                    |
| Alkalinity                                                          | 00410       | mg/L               | Report                             | Report                             | Grab            | weekly                        |
| Turbidity                                                           | 82079       | NTU                | Report                             | 2                                  | Continuous      | Continuous                    |
| Total Coliform                                                      | 74056       | CFU/<br>100ml      | 2.2 <sup>10</sup>                  | 14                                 | Grab            | weekly                        |
| UV Disinfection Dose<br>(minimum)                                   | ----        | mJ/cm <sup>2</sup> | 100                                | 100                                | Continuous      | Continuous                    |
|                                                                     |             |                    |                                    |                                    |                 |                               |

|                                  |                               |
|----------------------------------|-------------------------------|
| <b>Discharge Serial No.:</b> A01 | <b>Monitoring Location:</b> E |
|----------------------------------|-------------------------------|

**Monitoring Location Description:** NitROE Effluent

## FLOW/TIME BASED MONITORING

|  |           |  |   |  |  |  |
|--|-----------|--|---|--|--|--|
|  |           |  |   |  |  |  |
|  | 11-000000 |  | 1 |  |  |  |

| Parameter              | NetDMR Code | Units | Average Daily Flow Limit | Maximum Daily Flow Limit | Sample Type | Sample Frequency |
|------------------------|-------------|-------|--------------------------|--------------------------|-------------|------------------|
| Flow Rate <sup>1</sup> | 00056       | gpd   | 6,492                    | 9,738                    | Totalizer   | Continuous       |
| Flow Rate <sup>9</sup> | 00056       | gpd   | 7,800                    | 11,800                   | Totalizer   | Continuous       |

### Instantaneous Monitoring

| Parameter                                     | NetDMR Code | Units              | Average Monthly Limit <sup>2</sup> | Maximum Daily Limit <sup>4,5</sup> | Sample Type     | Sample Frequency <sup>4</sup> |
|-----------------------------------------------|-------------|--------------------|------------------------------------|------------------------------------|-----------------|-------------------------------|
| Biochemical Oxygen Demand <sub>5-day</sub>    | 00310       | mg/L               | 10 <sup>11</sup>                   | 10                                 | 24-hr composite | weekly                        |
| Total Suspended Solids                        | 00530       | mg/L               | 5 <sup>11</sup>                    | 5                                  | 24-hr composite | weekly                        |
| Total Nitrogen <sup>8</sup>                   | 00600       | mg/L               | 10 <sup>3</sup>                    | Report                             | 24-hr composite | monthly                       |
| Ammonia                                       | 00610       | mg/L               | Report                             | Report                             | 24-hr composite | monthly                       |
| Nitrate Nitrogen <sup>7</sup>                 | 00620       | mg/L               | Report                             | Report                             | 24-hr composite | monthly                       |
| Nitrite Nitrogen                              | 00615       | mg/L               | Report                             | Report                             | 24-hr composite | monthly                       |
| Total Kjeldahl Nitrogen <sup>6</sup>          | 00625       | mg/L               | Report                             | Report                             | 24-hr composite | monthly                       |
| Total Phosphorus                              | 00665       | mg/L               | Report                             | Report                             | 24-hr composite | monthly                       |
| pH, Minimum <sup>5</sup><br>(Day of Sampling) | 61942       | S.U.               | NA                                 | 6.0                                | Grab            | Continuous                    |
| pH, Maximum<br>(Day of Sampling)              | 61941       | S.U.               | NA                                 | 9.0                                | Grab            | Continuous                    |
| Alkalinity                                    | 00410       | mg/L               | Report                             | Report                             | Grab            | weekly                        |
| Turbidity                                     | 82079       | NTU                | Report                             | 2                                  | Continuous      | Continuous                    |
| Total Coliform                                | 74056       | CFU/<br>100ml      | 2.2 <sup>10</sup>                  | 14                                 | Grab            | weekly                        |
| UV Disinfection Dose<br>(minimum)             | ----        | mJ/cm <sup>2</sup> | 100                                | 100                                | Continuous      | Continuous                    |

| TABLE E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Domestic wastewater: Effluent from the Alternative Treatment System                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |
| Discharge Serial No.: A01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Monitoring Location: E |
| Wastewater Description: Pretreated Domestic Sewage Effluent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        |
| Monitoring Location Description: NitROE Effluent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |
| <b>Footnotes:</b> <ol style="list-style-type: none"> <li>For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month.</li> <li>“Report” in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.</li> <li>Limit is based on a twelve-month rolling average.</li> <li>Sample shall be taken twice per month on two different calendar days.</li> <li>For the parameter pH, the daily minimum limit is 6.0 S.U. and the daily maximum limit is 9.0 S.U. For reporting purposes, report the minimum and maximum values for the month.</li> <li>Total Kjeldahl nitrogen shall be analyzed in accordance with EPA Method 4500 in accordance with 40 CFR 136.</li> <li>Nitrate Nitrogen shall be analyzed in accordance with EPA Method 4110 B-2020 in accordance with 40 CFR 136.</li> <li>Total Nitrogen shall be determined by the summation of nitrate nitrogen, nitrite nitrogen and total Kjeldahl nitrogen (Total Nitrogen (TN)=TKN+NO<sub>3</sub>-N+NO<sub>2</sub>-N).</li> <li>Upon authorization from the Commissioner.</li> <li>Seven-day median.</li> <li>DEEP may consider higher effluent for BOD and TSS based on final treatment design.</li> </ol> |                        |

| TABLE F<br>Headmaster's House Subsurface Disposal System                                                                                                                                                               |             |       |                          |                          |             |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------|--------------------------|--------------------------|-------------|------------------|
| Discharge Serial No.: C05                                                                                                                                                                                              |             |       |                          | Monitoring Location: E   |             |                  |
| Wastewater Description: Domestic Sewage from the Headmaster's House                                                                                                                                                    |             |       |                          |                          |             |                  |
| Monitoring Location Description: Septic Tank Effluent                                                                                                                                                                  |             |       |                          |                          |             |                  |
| Flow/Time Based Monitoring                                                                                                                                                                                             |             |       |                          |                          |             |                  |
| Parameter                                                                                                                                                                                                              | NetDMR Code | Units | Average Daily Flow Limit | Maximum Daily Flow Limit | Sample Type | Sample Frequency |
| Flow Rate <sup>1</sup>                                                                                                                                                                                                 | 00056       | gpd   | 400                      | 600                      | Totalizer   | Continuous       |
| Footnotes:                                                                                                                                                                                                             |             |       |                          |                          |             |                  |
| 1. For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the DMR the Average Daily Flow and the Maximum Daily Flow for each month. |             |       |                          |                          |             |                  |

#### 9.4 Inspection, Monitoring and Maintenance Requirements

The Permittee shall maintain the treatment facilities in accordance with the following tables:

| <b>TABLE H</b><br><b>Inspection, Monitoring and Maintenance Requirements for the</b><br><b>Alternative Treatment System</b>                                                                   |                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>Discharge Serial No.:</b> A01                                                                                                                                                              | <b>Monitoring Location:</b> S                           |
| <b>Wastewater Description:</b> Domestic Sewage                                                                                                                                                |                                                         |
| Average Daily Flow: 6,492 gallons per day                                                                                                                                                     | Maximum Daily Flow: 9,738 gallons per day               |
| Average Daily Flow: 7,800 gallons per day <sup>1</sup>                                                                                                                                        | Maximum Daily Flow: 11,800 gallons per day <sup>1</sup> |
| <b>Inspection, Monitoring, or Maintenance</b>                                                                                                                                                 | <b>Minimum Frequency</b>                                |
| Depth of sludge in septic tanks                                                                                                                                                               | During pump-out                                         |
| Pump out septic tanks                                                                                                                                                                         | Annually                                                |
| Pump out grease trap                                                                                                                                                                          | Quarterly                                               |
| Mechanical inspection of septic tank baffles                                                                                                                                                  | During pump-out                                         |
| Mechanical inspection of grease trap baffles                                                                                                                                                  | During pump-out                                         |
| Mechanical inspection of septic tank effluent filter                                                                                                                                          | During pump-out                                         |
| Clean septic tank effluent filter                                                                                                                                                             | During pump-out                                         |
| Mechanical inspection of pump station                                                                                                                                                         | Monthly                                                 |
| Pump out equalization tank                                                                                                                                                                    | Annually                                                |
| Test run of emergency generator                                                                                                                                                               | Quarterly                                               |
| Water meter readings of water usage                                                                                                                                                           | Weekly                                                  |
| Visual inspection of aeration chambers                                                                                                                                                        | Monthly                                                 |
| Visual inspection of denitrification chambers                                                                                                                                                 | Monthly                                                 |
| Visual inspection of Klean-Tu (NitROE)                                                                                                                                                        | Monthly                                                 |
| Mechanical inspection of alarms                                                                                                                                                               | Monthly                                                 |
| Mechanical inspection of blowers                                                                                                                                                              | Monthly                                                 |
| Visual inspection of valve vault                                                                                                                                                              | Monthly                                                 |
| Mechanical inspection of the primary distribution valve                                                                                                                                       | Monthly                                                 |
| Mechanical inspection of the tertiary distribution valve                                                                                                                                      | Monthly                                                 |
| Mechanical inspection of the quaternary distribution valve                                                                                                                                    | Monthly                                                 |
| Disinfection Unit Inspection                                                                                                                                                                  | Monthly                                                 |
| Visual inspection of surface condition of leaching fields                                                                                                                                     | Quarterly                                               |
| Depth of ponding in leaching fields                                                                                                                                                           | Quarterly                                               |
| Mow grass over leaching fields                                                                                                                                                                | 3 times per year                                        |
| <b>Footnote:</b><br>1. The permittee must demonstrate compliance for a minimum of one (1) year prior to requesting an increase in flow.                                                       |                                                         |
| <b>Additional Notes:</b><br>1. All inspection, monitoring, and maintenance required in this table shall be reported annually by the end of each January as an attachment to the December DMR. |                                                         |

| <b>TABLE H</b><br><b>Inspection, Monitoring and Maintenance Requirements for the</b><br><b>Alternative Treatment System</b>                                                                                                                                                                           |                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>Discharge Serial No.:</b> A01                                                                                                                                                                                                                                                                      | <b>Monitoring Location:</b> S                           |
| <b>Wastewater Description:</b> Domestic Sewage                                                                                                                                                                                                                                                        |                                                         |
| Average Daily Flow: 6,492 gallons per day                                                                                                                                                                                                                                                             | Maximum Daily Flow: 9,738 gallons per day               |
| Average Daily Flow: 7,800 gallons per day <sup>1</sup>                                                                                                                                                                                                                                                | Maximum Daily Flow: 11,800 gallons per day <sup>1</sup> |
| <b>Inspection, Monitoring, or Maintenance</b>                                                                                                                                                                                                                                                         | <b>Minimum Frequency</b>                                |
| 2. The Aspetuck Health District Sanitarian shall be notified at least one week prior to pumping of septic tanks and grease traps. Verification of all pump outs shall be attached to the monitoring report and a copy of the report shall be sent to the Aspetuck Health District Director of Health. |                                                         |

| <b>TABLE I</b><br><b>Inspection, Monitoring and Maintenance Requirements</b><br><b>Headmaster's House</b>                                                                                                                                                                                                                                                                                                                                                 |                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| <b>Discharge Serial No.:</b> C05                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Monitoring Location:</b> S                  |
| <b>Wastewater Description:</b> Domestic Sewage from Headmaster's House                                                                                                                                                                                                                                                                                                                                                                                    |                                                |
| <b>Average Daily Flow:</b> 400 gallons per day                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Maximum Daily Flow:</b> 600 gallons per day |
| <b>Inspection, Monitoring, or Maintenance</b>                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Minimum Frequency</b>                       |
| Depth of sludge in septic tank                                                                                                                                                                                                                                                                                                                                                                                                                            | During pump-out                                |
| Pump out the septic tank                                                                                                                                                                                                                                                                                                                                                                                                                                  | Every 5 years                                  |
| Mechanical inspection of the septic tank baffles                                                                                                                                                                                                                                                                                                                                                                                                          | During pump-out                                |
| Pump out the pump chamber                                                                                                                                                                                                                                                                                                                                                                                                                                 | Every 5 years                                  |
| Visual inspection of surface condition of leaching field                                                                                                                                                                                                                                                                                                                                                                                                  | Quarterly                                      |
| Mow grass over leaching field                                                                                                                                                                                                                                                                                                                                                                                                                             | Three times per year                           |
| <b>Additional Notes:</b><br>1. All inspection, monitoring, and maintenance shall be kept on-site and available upon request by the Commissioner.<br>2. The Aspetuck Health District Sanitarian shall be notified at least one week prior to pumping of septic tanks and grease traps. Verification of all pump outs shall be attached to the monitoring report and a copy of the report shall be sent to the Aspetuck Health District Director of Health. |                                                |

## **Section 10.0 Groundwater Monitoring Requirements**

To ensure that treated domestic wastewater does not result in groundwater pollution, monitoring is required at the perimeter of the designated Zone of Influence (“ZOI”). Pursuant to Regs. Conn. State Agencies Section 22a-426-7, all groundwater migrating beyond the ZOI must comply with the primary Maximum Contaminant Levels (“MCLs”) established by the Commissioner of Public Health. Adherence to these standards ensures that discharges do not pose an unacceptable risk to public health and remain consistent with the State's anti-degradation policies.

### **10.1. Existing Groundwater Monitoring**

Groundwater monitoring shall be conducted in accordance with Table B prior to the installation of the treatment system and/or implementation of the new monitoring protocol approved under the permit’s compliance schedule.

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**TABLE B**  
**Existing Groundwater Monitoring**

| <b>Discharge Serial Nos:</b><br>C01, C02, C03, C04, C05, and C06                                                                                                     |             |                 | <b>Monitoring Location:</b> GW and GV                            |               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|------------------------------------------------------------------|---------------|
| <b>Groundwater Monitoring Location Nos.:</b><br>MW-3a, MW-4, MW-5, MW-7, MMI-10, OW-5, OW-6, OW-9                                                                    |             |                 | <b>Description:</b> Downgradient and upgradient monitoring wells |               |
| Parameter                                                                                                                                                            | NetDMR Code | Units           | Frequency of Sampling                                            | Sample Type   |
| <b>Total Coliform</b>                                                                                                                                                | 74055       | Col/100ml       | Quarterly                                                        | Grab          |
| <b>Groundwater Depth (Standard depth below grade)</b>                                                                                                                | 72019       | Ft              | Quarterly                                                        | Instantaneous |
| <b>Ammonia Nitrogen</b>                                                                                                                                              | 00610       | mg/L            | Quarterly                                                        | Grab          |
| <b>Nitrate Nitrogen</b>                                                                                                                                              | 00620       | mg/L            | Quarterly                                                        | Grab          |
| <b>Nitrite Nitrogen</b>                                                                                                                                              | 00615       | mg/L            | Quarterly                                                        | Grab          |
| <b>Total Kjeldahl Nitrogen</b>                                                                                                                                       | 00625       | mg/L            | Quarterly                                                        | Grab          |
| <b>Total Nitrogen</b>                                                                                                                                                | 00600       | mg/L            | Quarterly                                                        | Grab          |
| <b>pH<sup>1</sup></b>                                                                                                                                                | 00400       | S.U.            | Quarterly                                                        | Grab          |
| <b>Total Phosphorous</b>                                                                                                                                             | 00666       | mg/L            | Quarterly                                                        | Grab          |
| <b>Footnotes:</b><br><br>1. For the parameter pH, the daily minimum limit is 6.0 S.U. and the daily maximum limit is 9.0 S.U.<br>2. Groundwater Monitoring Well key: |             |                 |                                                                  |               |
| <b>Monitoring Well No.</b>                                                                                                                                           |             | <b>Location</b> |                                                                  |               |
| MW-7 OW-9                                                                                                                                                            |             | Upgradient      |                                                                  |               |
| MW-3a, MW-4, MW-5 MMI-10, OW-5, OW-6                                                                                                                                 |             | Downgradient    |                                                                  |               |

## 10.2 Proposed Groundwater Monitoring

Upon issuance of the permit, groundwater monitoring shall be conducted in accordance with Table G following the installation of the treatment system and/or implementation of the new monitoring protocol approved under the permit's compliance schedule.

| Table G<br>Proposed Groundwater Monitoring Wells                                                                                                                                                                                                                                                                                                                                                                             |             |                                    |           |                              |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------|-----------|------------------------------|---------------|
| Monitoring Wells for Systems: C05 and A01                                                                                                                                                                                                                                                                                                                                                                                    |             |                                    |           | Monitoring Location: GW      |               |
| Groundwater Monitoring No(s) <sup>3</sup> .:<br>To be Determined based on an approved Groundwater Monitoring Plan submitted                                                                                                                                                                                                                                                                                                  |             |                                    |           | Description: Monitoring Well |               |
| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                    | NetDMR Code | Maximum Daily Limit <sup>1,2</sup> | Units     | Frequency of Sampling        | Sample Type   |
| Total Coliform                                                                                                                                                                                                                                                                                                                                                                                                               | 74055       | 0 (zero)                           | Col/100ml | Quarterly                    | Grab          |
| Groundwater Depth<br>(Standard depth below grade)                                                                                                                                                                                                                                                                                                                                                                            | 72019       | Report                             | Ft        | Quarterly                    | Instantaneous |
| Ammonia Nitrogen                                                                                                                                                                                                                                                                                                                                                                                                             | 00610       | Report                             | mg/L      | Quarterly                    | Grab          |
| Nitrate Nitrogen                                                                                                                                                                                                                                                                                                                                                                                                             | 00620       | 10                                 | mg/L      | Quarterly                    | Grab          |
| Nitrite Nitrogen                                                                                                                                                                                                                                                                                                                                                                                                             | 00615       | 1                                  | mg/L      | Quarterly                    | Grab          |
| Total Kjeldahl Nitrogen                                                                                                                                                                                                                                                                                                                                                                                                      | 00625       | Report                             | mg/L      | Quarterly                    | Grab          |
| Total Nitrogen                                                                                                                                                                                                                                                                                                                                                                                                               | 00600       | Report                             | mg/L      | Quarterly                    | Grab          |
| pH <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                              | 00400       | 6.0 – 9.0                          | S.U.      | Quarterly                    | Grab          |
| Total Phosphorous                                                                                                                                                                                                                                                                                                                                                                                                            | 00666       | Report                             | mg/L      | Quarterly                    | Grab          |
| <b>Footnotes:</b> <ol style="list-style-type: none"> <li>1. "Report" in the limits column on this monitoring table means a limit is not specified, but monitoring is required, and a value must be reported on the DMR.</li> <li>2. For the parameter pH, the daily minimum limit is 6.0 S.U. and the daily maximum limit is 9.0 S.U. For reporting purposes report the minimum and maximum values for the month.</li> </ol> |             |                                    |           |                              |               |

### 10.3 Leaching Field and Leaching Bed Requirements

The leaching field for the Headmaster's House is designed to accept six hundred (600) gpd and has a total area of 500 sf leaching field consisting of 54 ft of 4x4 leaching galleries.

The total area of the leaching fields for the AT system is 11,904 sf.

| Leaching Field            | Design Flow Capacity (gpd) | New DSN | Total Area (sf) | Leaching Gallery Configuration                                                                               |
|---------------------------|----------------------------|---------|-----------------|--------------------------------------------------------------------------------------------------------------|
| Primary Leaching Field    | 2,700                      | C01     | 2,304           | 288 ft of 4 × 1.5 leaching galleries                                                                         |
| Tertiary Leaching Field   | 4,500                      | C03     | 5,632           | 704 ft of 4 × 1.5 leaching galleries                                                                         |
| Quaternary Leaching Field | 4,600                      | C04     | 3,968           | 496 ft of 4 × 1 leaching galleries                                                                           |
| Overall AT System         | 11,800                     | A01     | 11,904          | Effluent dispersed through three existing leaching fields retained and retrofitted for pressure distribution |

### 10.4 Groundwater Nitrogen Calculation

In accordance with the required groundwater monitoring, the downgradient wells shall not exceed the drinking water maximum contaminant level of ten (10) mg/L for nitrate at the point of environmental concern, unless otherwise permitted.

Nutrient concentrations at downgradient property boundaries have exceeded drinking water standards in multiple monitoring events, despite operational efforts to control wastewater flows based on nitrogen concentrations and loading rates within the designated mini watersheds.

Applicants must provide all variables for the Nitrogen Loading Equation in the format prescribed below. Calculations for  $A_e$  (effective infiltration area) must include the specific dimensions for  $X_d$ ,  $X_u$ ,  $X_{system}$ , and  $y$ .

The mathematical expression of the nitrogen dilution model used by the Department is as follows:

$$N_{gw} = \frac{(Q_{ww} \times N_{ww})}{(Q_{ww} + Q_{ip})}$$

The following table presents nitrogen loading calculations based on the originally designed mini-watershed contributions to the nitrogen dilution model, incorporating wastewater flow rates and the average base groundwater flow conditions established during the initial design of the conventional systems.

The primary, tertiary, and Headmaster systems share a common watershed contributing to the groundwater model; therefore, their combined nitrogen contribution was evaluated collectively.

The model assumes a final effluent nitrogen concentration discharging from the AT system of eight (8) mg/L for wastewater discharged to the subsurface and adjusts the overall nitrogen contribution to account for a background groundwater concentration of 14.3 mg/L.

For the remaining conventional treatment system for the Headmaster's building, the model assumes a forty percent (40%) reduction in nitrogen through the septic tank and leaching field, resulting in an estimated effluent concentration of 69 mg/L.

**Watershed for Primary, Tertiary Leachfields and Headmaster's House:**

| Variable    | Description                                                                                                     | Applicant Value | Units |
|-------------|-----------------------------------------------------------------------------------------------------------------|-----------------|-------|
| $Q_{ww1}$   | Daily design volume of wastewater primary and tertiary system                                                   | 7,200           | GPD   |
| $Q_{ww2}$   | Daily design volume of wastewater Headmaster system                                                             | 600             | GPD   |
| $N_{ww1}$   | Nitrogen concentration reaching groundwater in wastewater from primary and tertiary leachfields                 | 8.0             | mg/L  |
| $N_{ww+bg}$ | Adjusted Nitrogen concentration with background levels                                                          | 14.3            | mg/L  |
| $N_{ww2}$   | Nitrogen concentration reaching groundwater in wastewater from Headmaster system                                | 69              | mg/L  |
| $Q_{bg}$    | Base groundwater flow                                                                                           | 25,092          | GPD   |
| $Q_{ip}$    | Daily volume of infiltrated precipitation                                                                       | 13,440          | GPD   |
| $N_{gw}$    | Nitrogen concentration in ground water at the point of concern (mg/L) & Final Calculated Nitrogen Concentration | 3.05            | mg/L  |

The quaternary leaching field is located in a different watershed contributing to the model as indicated in the following table:

| Variable  | Description                                                                                                     | Applicant Value | Units |
|-----------|-----------------------------------------------------------------------------------------------------------------|-----------------|-------|
| $Q_{ww3}$ | Daily design volume of wastewater quaternary system                                                             | 4,600           | GPD   |
| $N_{ww3}$ | Nitrogen concentration reaching groundwater in wastewater                                                       | 9.5             | mg/L  |
| $Q_{ip}$  | Daily volume of infiltrated precipitation                                                                       | 16,364          | GPD   |
| $N_{gw}$  | Nitrogen concentration in ground water at the point of concern (mg/L) & Final Calculated Nitrogen Concentration | 2.08            | mg/L  |

Based on the administrative record, the calculated diluted nitrogen at the compliance point of concern is less than ten (10) mg/L.

### 10.5 Phosphorus (P) Removal and Soil Sorption Analysis

The Department utilizes a removal model for phosphorus in treatment system percolate which assumes thirty percent (30%) of phosphorus is removed within the septic tank and the biomat interface. The remaining phosphorus must be attenuated by the unsaturated soil zone beneath the leaching system. The unsaturated soil must demonstrate the capacity to sorb at least six (6) months of the phosphorus load. The Headmaster's conventional system was designed based on the public health code and does not include a phosphorous evaluation.

#### Phosphorus Sorption Methodology

Step 1: Determine Total Equivalent Horizontal Area ( $A_h$ )

- $A_h = \text{Linear Feet} \times (\text{Width} + \text{Sidewall Correction})$

Step 2: Calculate Monthly Phosphorus Load ( $L_p$ )

- $L_p = (Q \times 3.785 \times C_p) \times 30.4 \text{ days}$

Step 3: Calculate Mass of Soil ( $M_s$ )

The Department assumes that fifty percent (50%) of the subsurface area beneath the system represents the wetted soil volume that is effectively active for flow absorption:

- $M_s = 0.5 \times A_h \times D \times \text{Dry Unit Weight (converted to gm/cu. ft.)}$

Step 4: Determine Sorption Duration

$$\text{Months of Sorption} = \frac{(M_s \times S_v / 100)}{L_p}$$

### 10.5.1 Primary Leaching Field Phosphorus Absorption

| Variable             | Description                         | Applicant Value | Units    |
|----------------------|-------------------------------------|-----------------|----------|
| <b>Q</b>             | Design Average Daily Flow           | 2,700           | GPD      |
| <b>L</b>             | Total linear feet of leaching units | 288             | LT       |
| <b>W</b>             | Effective bottom width (inc. stone) | 8               | ft       |
| <b>D</b>             | Depth of unsaturated soil           | 10.6            | ft       |
| <b>C<sub>p</sub></b> | Effluent P concentration            | 11.55           | mg/L     |
| <b>S<sub>v</sub></b> | P sorption value (from soil test)   | 9               | mg/100g  |
| <b>W<sub>d</sub></b> | Average dry unit weight of soil     | 115             | lb/cu.ft |
| <b>T<sub>s</sub></b> | Calculated Months of Sorption       | 15              | Months   |

### 10.5.2 Tertiary Leaching Field Phosphorus Absorption

| Variable             | Description                         | Applicant Value | Units    |
|----------------------|-------------------------------------|-----------------|----------|
| <b>Q</b>             | Design Average Daily Flow           | 4,500           | GPD      |
| <b>L</b>             | Total linear feet of leaching units | 704             | LT       |
| <b>W</b>             | Effective bottom width (inc. stone) | 8               | ft       |
| <b>D</b>             | Depth of unsaturated soil           | 8.2             | ft       |
| <b>C<sub>p</sub></b> | Effluent P concentration            | 11.55           | mg/L     |
| <b>S<sub>v</sub></b> | P sorption value (from soil test)   | 9               | mg/100g  |
| <b>W<sub>d</sub></b> | Average dry unit weight of soil     | 115             | lb/cu.ft |
| <b>T<sub>s</sub></b> | Calculated Months of Sorption       | 18.13           | Months   |

### 10.5.3 Quaternary Leaching Field Phosphorus Absorption

| Variable             | Description                         | Applicant Value | Units    |
|----------------------|-------------------------------------|-----------------|----------|
| <b>Q</b>             | Design Average Daily Flow           | 4,600           | GPD      |
| <b>L</b>             | Total linear feet of leaching units | 496             | LT       |
| <b>W</b>             | Effective bottom width (inc. stone) | 8               | ft       |
| <b>D</b>             | Depth of unsaturated soil           | 3.99            | ft       |
| <b>C<sub>p</sub></b> | Effluent P concentration            | 11.55           | mg/L     |
| <b>S<sub>v</sub></b> | P sorption value (from soil test)   | 9               | mg/100g  |
| <b>W<sub>d</sub></b> | Average dry unit weight of soil     | 115             | lb/cu.ft |
| <b>T<sub>s</sub></b> | Calculated Months of Sorption       | 6.08            | Months   |

Determination: The site meets the minimum 6-month sorption requirement and is satisfactory with respect to Phosphorus removal.

### 10.6 Groundwater Pathogen inactivation and Travel Time Analysis

The Department has established a performance objective of 5-log<sub>10</sub> (99.999%) virus removal/inactivation prior to wastewater reaching a point of environmental concern. Although some pathogen reduction may occur in septic tanks through sedimentation, anaerobic digestion, and natural die-off, the Department does not credit septic tank removal toward the required virus reduction. Any such removal is considered an additional safety factor.

The primary pathogen attenuation mechanism occurs within the soil of the leaching field and the unsaturated soil beneath the leaching field. Pathogen removal occurs through filtration, adsorption, ion exchange, natural die-off, and microbial antagonism, particularly at the biomat and within the aerobic unsaturated zone. When septic tank effluent is discharged to a properly designed soil wastewater absorption system and percolates through the biomat; and a minimum of three feet of suitable unsaturated soil, approximately 3-log<sub>10</sub> (99.9%) virus removal/inactivation may occur.

Pathogens not removed within the unsaturated zone are further attenuated through natural processes during groundwater transport. As the area is served by public water and there are no known drinking wells in the area as provided by the applicant, to ensure protection of the environment, the DEEP requires a minimum of 21 days groundwater travel time between the discharge location and identified receptors, representing approximately 1-log<sub>10</sub> reduction.

Groundwater velocity and travel time are determined using site-specific soil conditions and conservative assumptions for hydraulic conductivity (k), hydraulic gradient (i), soil porosity (n), and the distance (d) to the point of environmental concern. Groundwater velocity is calculated using the relationship:

$$v=(k \times i)/n$$

where  $v$  represents groundwater velocity. Travel time is then determined using the relationship:

$$v=d/t$$

where  $d$  is the distance to the point of environmental concern and  $t$  is the resulting groundwater travel time. These relationships are used to demonstrate compliance with the applicable groundwater travel time criteria established by DEEP.

The conventional wastewater systems at this site were originally designed and installed in accordance with the separation distances and groundwater travel time requirements established by the DEEP, and the necessary demonstrations were performed at the time of their installation under prior permits issued by the DEEP.

The current proposal retains the existing leaching field configuration, which will be retrofitted for pressure distribution but will not alter the location, footprint, or separation distances of the disposal areas. Because the configuration of the leaching fields remains unchanged, the previously established groundwater travel time demonstrations remain in place. DEEP is requiring the installation of disinfection treatment to provide direct pathogen inactivation prior to discharge to the subsurface. With the incorporation of disinfection, the effluent is expected to consistently meet the applicable permit limits at the end of the pipe before discharge to the soil, thus ensuring compliance with the water quality standards. Accordingly, the proposed system will provide a significantly higher level of treatment compared to the previously permitted conventional systems, as pathogen reduction will be achieved through both engineered treatment (including disinfection) and natural attenuation mechanisms such as soil filtration and groundwater travel time.

## Section 11.0 Permit Compliance Schedule

Does the permit include a compliance schedule?

☒ Yes

☐ No

The proposed permit includes the following compliance schedule:

- 11.1 Within thirty (30) days after issuance of the permit:
  - 11.1.1 The Permittee shall record a copy thereof on the land records in the Town of Westport.
  - 11.1.2 The Permittee shall submit a NeTDMR Subscriber's Agreement.
- 11.2 Within six (6) months of the issuance date of this permit, the permittee shall submit plans and specifications for the installation of the Alternative Treatment system
- 11.3 Within six (6) months of the issuance date of this permit, the Permittee shall submit for the Commissioner's review and written approval a Groundwater Monitoring Plan. The Permittee shall install the monitoring wells and implement the approved Groundwater Monitoring Plan unless the Permittee provides a clear and technically defensible demonstration based on the manufacturer design specifications, pilot test data, or engineering models of the Klean-Tu (NitROE) technology that the alternative treatment system, will consistently meet all effluent limitations and end-of-pipe compliance requirements, such that groundwater monitoring is not necessary to ensure protection of the groundwater resource.
- 11.4 Submit as-built drawings verifying the installation of the alternative sewage treatment system, and within two (2) years after receiving the Commissioner's written approval.

- 11.5 Provide verification that the Alternative Treatment technology is operating in accordance with the approved plans and specifications and is achieving compliance with all permit limits and conditions within three (3) months of commencing the discharge.
- 11.6 Within one (1) year of providing compliance with all terms and conditions of this permit, The permittee may submit a written request to increase the design flow.
- 11.7 Submit the results of a detailed permit compliance audit every two (2) years.
- 11.8 Notify DEEP of any changes occurring on site within fourteen (14) days of the date, the Permittee becomes aware of such changes.
- 11.9 Within six (6) months of the issuance of the permit, submit an Abandonment Plan for the closure of the six (6) conventional systems and monitoring wells.

### **Section 12.0 Variances and Waivers**

The facility did not request a variance or a waiver.

### **Section 13.0 E-Reporting**

The permittee is required to electronically submit discharge monitoring reports.

### **Section 14.0 Summary of New Permit Conditions**

The following changes were made from the previous permits. The 'previous permit' is the authorization to discharge under the General Permit. This is the first iteration of this individual permit. The follow is a summary of the changes from the General Permit to this permit.

1. The permittee is currently operating under the General Permit to Discharge from Subsurface Disposal Systems (Permit No. GSSD000111). Upon issuance of this individual permit, registration under the General Permit will sunset and this individual permit will authorize discharges from the existing conventional systems and future AT system.
2. Requirement to comply with a Compliance Schedule.
3. Requirement to submit Discharge Monitoring Reports electronically to the DEEP via NetDMR in lieu of hard copy submissions.
4. Requirement to submit all notifications of non-compliance and follow-up reports electronically through the DEEP online noncompliance reporting system.

## **Section 15.0 Public Participation Procedures**

### **15.1 Information Requests**

The application has been assigned the following numbers by the Department of Energy and Environmental Protection. Please use these numbers when corresponding with this office regarding this application.

**Application No.** 202309494

**Permit No.** UI0000525

#### **Interested persons may obtain copies of the application from**

David Seche

Tighe & Bond, Inc.

1000 Bridgeport Ave. Suite 320

Shelton, CT 06484

Email: [DTSeche@tighebond.com](mailto:DTSeche@tighebond.com)

Phone Number: (845)516-5837

The application is available for inspection by contacting Lauren Jones at 860-424-3155 or [lauren.jones@ct.gov](mailto:lauren.jones@ct.gov), at the Department of Energy and Environmental Protection, Bureau of Materials Management and Compliance Assurance, 79 Elm Street, Hartford, CT 06106-5127 from 8:30 AM to 4:30 PM, Monday through Friday.

Any interested person may request in writing that his or her name be put on a mailing list to receive notice of intent to issue any permit to discharge to the surface waters of the state. Such request may be for the entire state or any geographic area of the state and shall clearly state in writing the name and mailing address of the interested person and the area for which notices are requested.

### **15.2 Public Comment**

Prior to making a final decision to approve or deny any application, the Commissioner shall consider written comments on the application from interested persons that are received within thirty (30) days of this public notice. Written comments should be directed to Lauren Jones, Bureau of Materials Management and Compliance Assurance, Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 06106-5127 or [DEEP.UICPermitting@ct.gov](mailto:DEEP.UICPermitting@ct.gov). The Commissioner may hold a public hearing prior to approving or denying an application if in the Commissioner's discretion the public interest will be best served thereby and shall hold a hearing upon receipt of a petition signed by at least twenty-five persons. Notice of any public hearing shall be published at least thirty (30) days prior to the hearing.

### **15.3 Petitions for Hearing**

Petitions shall be submitted within thirty (30) days from the date of publication of this public notice and should include the application number noted above and also identify a contact person to receive notifications. Petitions may also identify a person who is authorized to engage in discussions regarding the application and, if resolution is reached, withdraw the petition. Upon receipt of a petition, the Commissioner shall take action as required by relevant laws, including Public Act 25-84, which was effective upon passage in June 2025. The Office of Adjudications will accept electronically-filed petitions for hearing in addition to those submitted by mail or hand-delivered. Petitions with required signatures may be sent to [deep.adjudications@ct.gov](mailto:deep.adjudications@ct.gov); those mailed or delivered should go to the DEEP Office of Adjudications, 79 Elm Street, Hartford, CT 06106. If the signed original petition is only in an electronic

format, the petition must be submitted with a statement signed by the petitioner that the petition exists only in that form. Original petitions that were filed electronically must also be mailed or delivered to the Office of Adjudications within thirty (30) days of electronic submittal. Additional information can be found at [www.ct.gov/deep/adjudications](http://www.ct.gov/deep/adjudications).

Attachment 1 – Site Map - See the included “Application and Supporting Documents”

Attachment 2 - Coastal Consistency – See the included “Application and Supporting Documents”

Attachment 3 – Summary of DMR data -See the included “GW monitoring for Existing Systems”

Draft



**NOTICE OF TENTATIVE DETERMINATION  
INTENT TO ISSUE AN UNDERGROUND INJECTION CONTROL PERMIT  
FOR THE FOLLOWING DISCHARGES  
INTO THE WATERS OF THE STATE OF CONNECTICUT**

**1.0 TENTATIVE DETERMINATION**

The Commissioner of the Department of Energy and Environmental Protection (“DEEP”) hereby gives notice of a tentative determination to issue a permit based on an application submitted by Greens Farms Academy, Inc. (“the applicant”) authorizing a discharge into the waters of the State under section 22a-430 of the Connecticut General Statutes.

In accordance with applicable federal and state law, the Commissioner has made a tentative decision that the installation of a new alternative sewage treatment system to treat the domestic sewage discharge would protect the waters of the state from pollution.

The Commissioner proposes to issue the final groundwater discharge permit, which contains a compliance schedule authorizing construction of the proposed alternative sewage treatment system for the Southwest Shoreline watershed.

The proposed individual permit, if issued by the Commissioner, will supersede the existing permit (Permit No. GSSD000111) and will require that all wastewaters be treated to meet the applicable effluent limitations, permit conditions and requirements, and perform periodic monitoring, to demonstrate that the discharge will not cause pollution.

**2.0 APPLICANT'S PROPOSAL**

Greens Farms Academy, Inc. proposes to treat and discharge a total maximum daily flow of twelve thousand four hundred (12,400) gallons per day, based on the design flow of the system.

The name and mailing address of the applicant for permit is: Greens Farms Academy, Inc., 35 Beachside Avenue, Westport, CT 06880.

The activity takes place at: Greens Farms Academy, Inc., 35 Beachside Avenue, Westport, CT 06880.

**3.0 REGULATORY CONDITIONS**

**3.1 Type of Treatment**

The alternative sewage treatment system consists of septic tanks, followed by a two train Klean-Tu alternative treatment systems comprised of two submerged aeration chamber and two denitrification chamber, followed by a dual pump dosing station and a valve vault distributing flow to three existing pressure distribution leaching fields. Greens Farms Academy, Inc. is proposing to maintain the existing conventional system serving the headmaster house, consisting of a septic tank and a pump chamber followed by a leaching field.

**3.2 Effluent Limits**

This permit contains effluent and ground water discharge limitations applicable to internal and external outfalls, developed to ensure the treatment system as designed and properly operated, will protect ground waters of the state consistent with section 22a-430 of the Regulations of Connecticut State Agencies (“Regs.

Conn. State Agencies”), DEEP’s “Guidance for Design of Large-Scale On-Site Wastewater Renovation Systems,” (February 2006), and a case-by-case determination using the criteria of Best Professional Judgement.

### **3.3 Compliance Schedule**

The proposed permit includes a compliance schedule requiring the applicant to: 1) record the permit in the town’s land records; 2) submit a Subscriber’s Agreement for the Commissioner’s review to submit their DMR’s via NetDMR; 3) submit plans and specifications for the installation of the alternative sewage treatment system; 4) submit a Groundwater Monitoring Plan identifying proposed upgradient and downgradient monitoring wells, and a proposed schedule for installation; 5) provide verification that the alternative treatment is operating in accordance with the approved plans and specification and is achieving compliance with all permit limits and conditions; 6) submit an Abandonment Plan for the abandonment of the five (5) existing conventional treatment systems; and 7) submit the results of a detailed permit compliance audit every two (2) years.

### **4.0 COMMISSIONER’S AUTHORITY**

The Commissioner is authorized to approve or deny such permits pursuant to section 22a-430 of the Connecticut General Statutes and section 22a-430 of the Water Discharge Permit Regulations, and section 1421 of the Federal Safe Drinking Water Act 42 USC et. seq.

### **5.0 INFORMATION REQUESTS**

The application has been assigned the following application and permit numbers. Please use these numbers when corresponding with this office regarding this application or draft permit.

**Application No.** 202309494    **Permit No.** UI0000525

Interested persons may obtain copies of the application from  
Mr. David Seche  
Tighe & Bond, Inc.  
1000 Bridgeport Ave. Suite 320  
Shelton, CT 06484  
Telephone Number: (845)516-5837.  
Email: [dtseche@tighebond.com](mailto:dtseche@tighebond.com)

The application is available for inspection by contacting Lauren Jones at 860-424-3155 or [Lauren.Jones@ct.gov](mailto:Lauren.Jones@ct.gov), at the Department of Energy and Environmental Protection, Bureau of Materials Management and Compliance Assurance, 79 Elm Street, Hartford, CT 06106-5127 from 8:30 to 4:30, Monday through Friday.

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### **6.0 PUBLIC COMMENT**

Prior to making a final decision to approve or deny any application, the Commissioner shall consider written comments on the application from interested persons that are received within thirty (30) days of this public notice. Written comments should be directed to Lauren Jones, Bureau of Materials Management and Compliance Assurance, Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 06106-5127 or [DEEP.UICPermitting@ct.gov](mailto:DEEP.UICPermitting@ct.gov). The Commissioner may hold a public hearing prior to

approving or denying an application if in the Commissioner's discretion the public interest will be best served thereby, and shall hold a hearing upon receipt of a petition signed by at least twenty-five persons. Notice of any public hearing shall be published at least thirty (30) days prior to the hearing.

Petitions shall be submitted within thirty (30) days from the date of publication of this public notice and should include the application number noted above and also identify a contact person to receive notifications. Petitions may also identify a person who is authorized to engage in discussions regarding the application and, if resolution is reached, withdraw the petition. Upon receipt of a petition, the Commissioner shall take action as required by relevant laws, including Public Act 25-84, which was effective upon passage in June 2025. The Office of Adjudications will accept electronically-filed petitions for hearing in addition to those submitted by mail or hand-delivered. Petitions with required signatures may be sent to [deep.adjudications@ct.gov](mailto:deep.adjudications@ct.gov); those mailed or delivered should go to the DEEP Office of Adjudications, 79 Elm Street, Hartford, CT 06106. If the signed original petition is only in an electronic format, the petition must be submitted with a statement signed by the petitioner that the petition exists only in that form. Original petitions that were filed electronically must also be mailed or delivered to the Office of Adjudications within thirty (30) days of electronic submittal. Additional information can be found at [www.ct.gov/deep/adjudications](http://www.ct.gov/deep/adjudications).

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to complying with the requirements of the Americans with Disabilities Act (ADA). If you are seeking a communication aid or service, have limited proficiency in English, wish to file an ADA or Title VI discrimination complaint, or require some other accommodation, including equipment to facilitate virtual participation, please contact the DEEP Office of Diversity and Equity at 860-418-5910 or by email at [deep.accommodations@ct.gov](mailto:deep.accommodations@ct.gov). Any person needing an accommodation for hearing impairment may call the State of Connecticut relay number - 711. In order to facilitate efforts to provide accommodation, please request all accommodations as soon as possible following notice of any agency hearing, meeting, program, or event.

  
\_\_\_\_\_  
Audra Godfrey  
Director  
Water Permitting and Enforcement Division  
Bureau of Materials Management and Compliance Assurance

Date: July 13, 2026