



Franklin Regional Council of Governments

Franklin County Cooperative Public Health Service

TO: Franklin County Septic Designers and Installers
FROM: Glen Ayers, Regional Health Agent
DATE: 3/28/2013
RE: New CPHS Title-5 Sand Testing Policy

The Franklin County Cooperative Public Health Service (CPHS) is providing additional public health services to the Boards of Health of Buckland, Charlemont, Gill, Leyden, Hawley, Heath, and Monroe. Attached to this letter is a policy that was recently passed by the CPHS Oversight Board.

This uniform policy will increase consumer protection and Board of Health confidence by ensuring that a minimum quality assurance process is being used regarding the sourcing and testing of Title-5 sand and C-33 sand that is commonly used as a component in many, if not all, septic leach fields.

The policy will help to assure that the quality of materials used for constructing systems in fill will be properly documented and that an adequate paper trail will exist in the record for each system that is installed. The CPHS is currently in the process of developing a web-based permitting and recordkeeping system that will greatly improve access to most Board of Health records.

Also attached to this letter are excerpts from the specific sections of the Title-5 regs that pertain to this policy. I hope that you will agree that the process outlined in the policy will provide much clearer guidance for what has typically been an overlooked and neglected, but vitally important part of many new septic systems.

Please share this information with your associates, especially with your regular sand suppliers so that they will have the option to prepare a Quality Assurance Plan, if they currently don't have one, before the start of the construction season.

Should you have any questions, please feel free to call or email.

A handwritten signature in black ink that reads 'Glen Ayers'.

Glen Ayers, R.S., C.H.O. 413-774-3167 x106

413-834-5729 (cell) or glenayers@frcog.org



Franklin Regional Council of Governments

Franklin County Cooperative Public Health Service

TO: Franklin County Septic Designers and Installers
FROM: Glen A. Ayers, R.S., Regional Health Agent
DATE: Approved 3/27/2013
RE: New CPHS Uniform Title-5 Sand Testing Policy

The Franklin County Cooperative Public Health Service (CPHS) is providing public health services to several Boards of Health in Franklin County. In order to provide a uniform level of consumer protection, the following policy concerning the testing of Title-5 sand will be used.

310 CMR 15.255(3) requires that a sieve analysis shall be performed on a **representative sample** of all materials used for "Construction in Fill". 310 CMR 15.255(4) allows that the local Board of Health may require that a minimum of one representative sample be taken from the in-place fill for a system serving a single family residence and tested for compliance with the grain size requirements.

In order to comply with the above requirements, Septic Installers will need to furnish copies of sand analysis report(s) for the materials being used pursuant to 15.255. These analyses may be furnished by the sand supplier provided they meet the Title-5 code requirement for being a **representative sample**. The following process will be used:

1. Supplier-provided Title-5 Sand analyses shall be less than one year old.
2. Sand suppliers shall ensure that the analysis provided to the Septic Installer is representative by following a written **Quality Assurance Plan (QAP)** which documents the method(s) used to ensure that a sample report represents the actual material being supplied for use. The **QAP** shall indicate where the sample was taken from the pit or pile, and how it was handled, composited, or blended.
3. The sand supplier's **QAP** shall be made available upon request to any Septic Installer or Board of Health, at no charge.
4. If the above requirements can not be met, the Septic Installer shall follow 15.255(4) and collect a representative sample from each system being installed.
5. The Septic Installer shall certify that this process is being followed and shall provide copies of all sand sieve analyses along with a Bill-of-Lading connected to the tested materials, as part of the sign-off on the Certificate of Compliance following system installation, per 15.021(3).

Should you have any questions, please feel free to call or email.

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Excerpts from:

310 CMR: DEPARTMENT OF ENVIRONMENTAL PROTECTION

310 CMR 15.000: THE STATE ENVIRONMENTAL CODE, TITLE 5: STANDARD REQUIREMENTS FOR THE SITING, CONSTRUCTION, INSPECTION, UPGRADE AND EXPANSION OF ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS AND FOR THE TRANSPORT AND DISPOSAL OF SEPTAGE

15.255: Construction in Fill

(1) Any system where fill is required to replace topsoil, peat or other unsuitable or impervious soil layer above the requisite four feet of naturally occurring pervious material is a system constructed in fill. Any system constructed in fill which extends either wholly or partially above natural grade for the purpose of complying with 310 CMR 15.212 (depth to groundwater) is a mounded system. All soil absorption systems constructed in fill shall be sized using the soil class of the underlying naturally occurring pervious material.

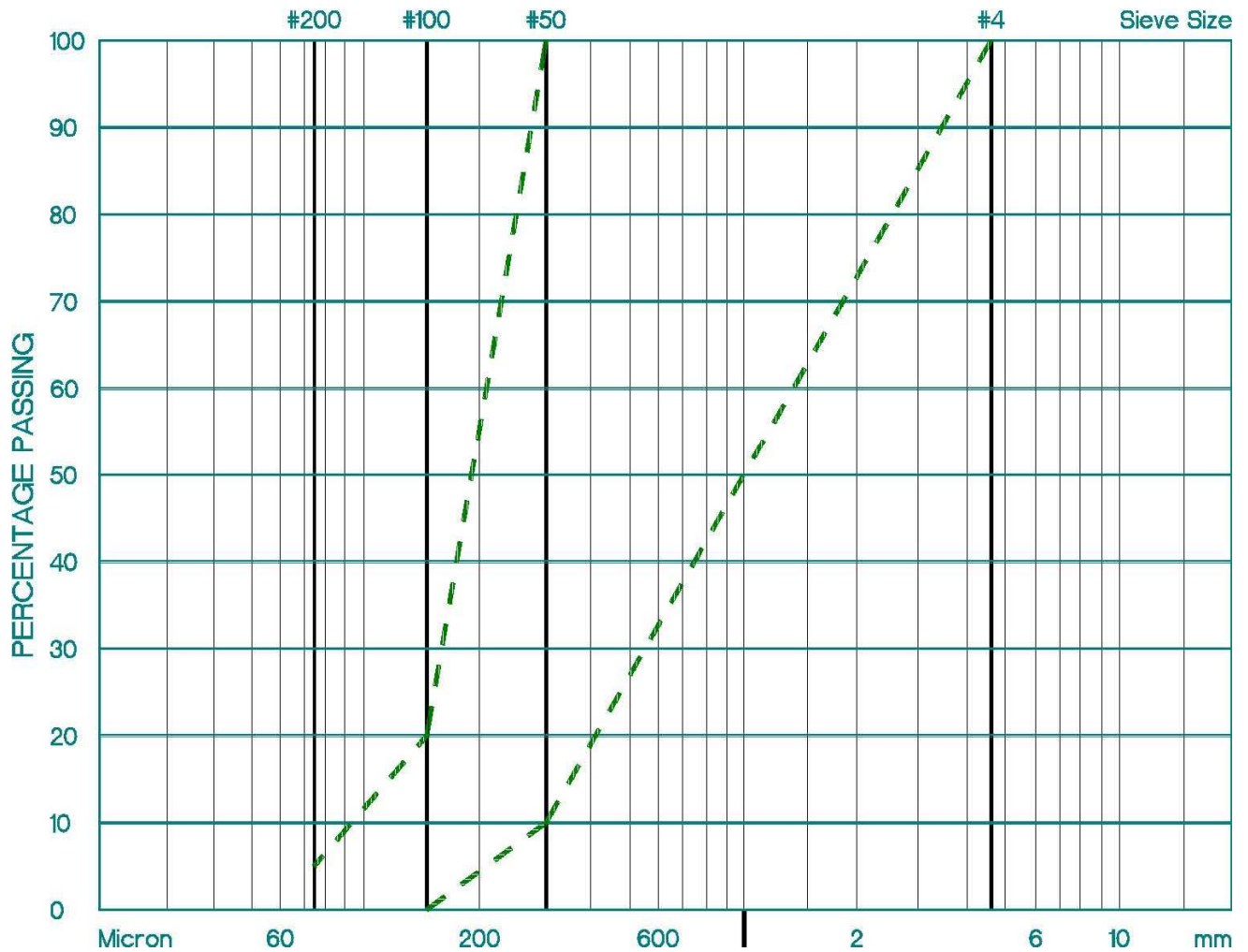
(2) The finished side slopes of a mounded system shall not be steeper than 3:1 (horizontal:vertical). A minimum 15 foot horizontal separation distance shall be provided between the soil absorption area and the adjacent side slope as measured from the edge of the top of the two inch layer of c to ½ inch washed stone aggregate or geotextile fabric cover. The toe of the slope shall be a minimum of five feet from any property line, or a swale or other drainage system directing runoff away from the adjacent property shall be installed. Adjustments to the above horizontal separation may be allowed if a suitable impervious barrier is installed to prevent potential sewage breakout. The impervious barrier shall meet the following requirements:

- (a) the impervious barrier shall be designed by a Massachusetts Registered Sanitarian or a Massachusetts Registered Professional Engineer.
- (b) construction of the impervious barrier shall be supervised by the designer.
- (c) prior to issuance of a Certificate of Compliance, the applicant shall submit to the Approving Authority an as-built plan prepared and certified by the designer that the impervious barrier has been constructed in accordance with the approved design plan.
- (d) the elevation of the top of the impervious barrier shall be no lower than the "breakout" elevation, which is the elevation of the top of the two inch layer of c inch to ½ inch washed stone aggregate cover.
- (e) the recommended distance from the impervious barrier to the edge of the soil absorption system closest to the barrier should be at least ten feet.
- (f) where a retaining wall to stabilize the slope is required and also is proposed as an impervious barrier, in addition to meeting the requirements in 310 CMR 15.255(2), it shall be constructed of suitable structural material and be designed by a Massachusetts Registered Professional Engineer.

(3) Fill material for systems constructed in fill shall consist of select on-site or imported soil material. The fill shall be comprised of clean granular sand, be free from organic matter and deleterious substances, and shall not contain Remediation Waste as that term is defined in 310 CMR 40.0000. Mixtures and layers of different classes of soil shall not be used. The fill shall not contain any material larger than two inches. A sieve analysis, using a #4 sieve, shall be performed on a representative sample of the fill. Up to 45% by weight of the fill sample may be retained on the #4 sieve. Sieve analyses also shall be performed on the fraction of the fill sample passing the #4 sieve, such analyses must demonstrate that the material meets each of the following specifications:

SIEVE SIZE PARTICLE SIZE	EFFECTIVE PASS SIEVE	% THAT MUST
# 4	4.75 mm	100%
# 50	0.30 mm	10% - 100%
#100	0.15 mm	0% - 20%
#200	0.075 mm	0% - 5%

PARTICLE SIZE DISTRIBUTION



(4) If required by the local Approving Authority, a minimum of one representative sample shall be taken from the in-place fill for a system serving a single family residence and tested for compliance with the grain size distribution specification. One soil test per pit per removal day shall be required for systems with design flows of 2,000 gpd or more.

(5) Where fill is required to replace unsuitable or impermeable soils, the excavation of the unsuitable material shall extend a minimum of five feet laterally in all directions beyond the outer perimeter of the soil absorption system to the depth of naturally occurring pervious material as required by 310 CMR 15.240 (soil absorption systems) and replaced with fill material meeting the specifications of 310 CMR 15.255(3).

(6) Prior to placement of the fill, which shall be stockpiled at the edge of the excavation and filled in gradually, the bottom surface of the excavation shall be scarified and relatively dry. Fill shall not be placed during rain or snow storms. If the groundwater elevation is above the elevation of the bottom of the excavation, the excavation shall be dewatered prior to placement of the fill.

15.019: Disposal System Installer's Permit

No individual shall engage in the construction, upgrade, modification, emergency repair, or expansion of any on-site system without first obtaining a Disposal System Installer's Permit from the Approving Authority. Disposal System Installer Permits shall be issued for a period of not more than two years. The local Approving Authority shall issue Disposal System Installer Permits only to those individuals who have demonstrated knowledge of and experience with the proper construction and installation of systems in accordance with 310 CMR 15.000. The Approving Authority, by issuance of an order, may suspend or revoke a Disposal System Installer's Permit, for a time specified in the order, when it determines that the Installer has failed to comply with 310 CMR 15.000 with respect to the installation of one or more systems, including, without limitation, the Installer's failure to provide the certification required by 310 CMR 15.021(3), or the Installer's installation or certification of a system that fails to comply with the Disposal System Construction Permit.

15.021: Certificates of Compliance

(1) No person shall discharge sewage to a new, upgraded or expanded system without first obtaining a Certificate of Compliance from the Approving Authority in accordance with 310 CMR 15.021(2) through (5). Certificates of Compliance shall be in a form approved by the Department. The Approving Authority shall provide the owner or operator a copy of the Department's operation and maintenance guide, or inform him or her where a copy can be obtained.

(2) Subsurface components of a system shall not be backfilled or otherwise concealed from view until a final inspection has been conducted by the Approving Authority and permission has been granted by the Approving Authority to backfill the system. The Designer shall inspect the construction after the initial excavation, prior to backfilling, and during backfilling. In addition, the final inspection of the system shall be conducted by the Approving Authority, the system installer and the Designer prior to the issuance of a Certificate of Compliance pursuant to 310 CMR 15.021(3). Any component of the system which has been covered without such permission shall be uncovered upon the request of the Approving Authority or the Department.

(3) Within 30 days of the final inspection of the system and prior to the issuance of a Certificate of Compliance, the Disposal System Installer and the Designer shall certify in writing on a form approved by the Department that the system has been constructed in compliance with 310 CMR 15.000, the approved design plans and all local requirements, and that any changes to the design plans have been reflected on as-built plans which have been submitted to the Approving Authority by the Designer prior to the issuance of a Certificate of Compliance. The as-built plans shall be prepared in accordance with 310 CMR 15.220 and, at a minimum, shall reflect any changes to the approved

design plans and show the exact location and elevation of all system components. As-built plans are required to be submitted to the Approving Authority only when changes have been made to the approved plans. If no changes have been made to the approved plans, the approved plan showing the distances from a known structure to the system components shall be submitted to the Approving Authority in place of an as-built plan. Prior to the issuance of a Certificate of Compliance for a system, the Approving Authority shall make sufficient inspections of the system in accordance with 310 CMR 15.021(2) to determine that the work has been completed in compliance with the requirements of 310 CMR 15.000, the Disposal System Construction Permit, the approved design plans, and any local requirements.

(4) A Certificate of Compliance does not constitute a statement that the system will function as designed nor shall it in any way limit the powers or responsibilities of the local Approving Authority or the Department to enforce any requirement, or to take any other action to protect public health, safety, welfare or the environment.

(5) The Approving Authority shall give to the building inspector or other official of the municipality responsible for the issuance of a Certificate of Occupancy pursuant to 780 CMR 100 a copy of the Certificate of Compliance. No person shall apply for a Certificate of Occupancy to inhabit or use new construction until a Certificate of Compliance has been issued by the Approving Authority.