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Indiana State Department of Health

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DATE: March 31, 1995

TO: Local Health Departments

FROM: Alan M. Dunn, Supervisor AMD
Residential Sewage Disposal
Sanitary Engineering
AC (317) 383-6179

SUBJECT: Residential On-Site Sewage Disposal Gravelless Systems Using Eight or Ten Inch Corrugated Tubing

We have been receiving questions concerning the type of gravelless, on-site, sewage disposal system referred to above. The primary question is whether the spun-bonded nylon fabric covering for the tubing must be used with this type of installation.

This type of gravelless system is a subsurface absorption system which provides an alternative to the use of gravel in the absorption field trenches. This is accomplished by the installation of either eight- or ten-inch inside diameter corrugated polyethylene tubing in a narrow trench which is backfilled with soil. This tubing is provided with two rows of drain holes located approximately 60 degrees off the bottom center line and is wrapped with a spun-bonded nylon fabric. It is not intended for use in areas where conventional systems would be prohibited due to poor permeability, high groundwater, or insufficient depth to bedrock or other limiting layer.

All of our reviews of this type of gravelless system has included the use of the fabric covering. At this time, the Indiana State Department of Health (ISDH) has not received any information from the manufacturers or distributors of this type of product indicating that the fabric covering may be eliminated from the tubing.

We initially approved the use of this type of system by letter (dated November 28, 1988) to Advanced Drainage Systems, Inc. I believe that it would be beneficial to reiterate our conditions for the use of this type of system:

1. The site must have all of the characteristics that would permit the installation of a subsurface gravity feed trickle flow system or a subsurface gravity feed trickle flow system with alternating fields.

2. The pipe used shall meet the standards of ASTM F-667.

3. The fabric wrap used shall be equivalent to Type 25 Cerex Spunbonded nylon.

4. A permit for each individual system must be obtained from the local health department having jurisdiction prior to construction.

5. The absorption field size shall be computed using the loading rates for subsurface absorption systems set out in ISDH rule 410 IAC 6-8.1. The following substitution of gravelless piping for square footage of trench bottom will be allowed:

   A. At least one lineal foot of ten-inch diameter gravelless piping must be required for each lineal foot of three-foot wide gravel-filled trench required.

   B. At least one lineal foot of eight-inch diameter gravelless piping must be required for each lineal foot of two-foot wide gravel-filled trench required.

6. Each gravelless system distribution line must be individually connected to a distribution box by unperforated pipe.

7. The ends of the distribution lines may not be manifolded together.

8. The distribution lines shall be level.

9. The gravelless system may not be used where flood dosing or pressure distribution is required due to soil conditions or system size.

This type of system shall also meet all other applicable standards set forth in ISDH rule 410 IAC 6-8.1 for residential subsurface soil absorption systems.

If you have any questions, please feel free to contact this office.

cc: Staff
Plan Review