

Scully, Robert

From: faschaub@gmail [faschaub@gmail.com]

Sent: Saturday, December 05, 2009 1:04 PM

To: Scully, Robert

Subject: Stone in Septic Systems

Bob:

Here are the 2 articles relating to void capacity and surface area (for bio treatment within the system) I spoke to you about last Wednesday.

http://albertfrick.com/pubs/Frick_Kinney.pdf

<http://maine.gov/dhhs/eng/plumb/Adobe/Position%20Paper%20-%20Stone%20size.pdf>

The first one has better photos.

Here is an article on the alleged "masking" and stone (gravel) silt obstruction.

<http://soil.scijournals.org/cgi/content/full/69/4/1217>

I think this accurately describes the function of stone (gravel) in trenches:

Trickling filter

From Wikipedia, the free encyclopedia

Septic system leach field

This is the simplest form of waste liquid disposal system, typically using pipes buried in loose sand or gravel to dissipate the liquid outflow from a septic tank. Liquid purification is performed by a biofilm which naturally forms as a coating on the sand and gravel in the absorption field and feeds on the dissolved nutrients in the waste stream.

Due to the system being completely buried and generally isolated from the surface environment, the process of waste breakdown is slow and requires a relatively large surface area to absorb and process liquid wastes. If too much liquid wastes enter the field too quickly, the wastes may pass out of the biofilm before waste consumption can occur, leading to pollution of groundwater.

In order to prolong the life of a leaching field, one method of construction is to build two fields of piping side-by-side, and use a rotating flow valve to direct waste into one field at a time, switching between fields every year or two. This allows a period of rest to let the microorganisms have time to break down the wastes built up in the gravel bed.

In areas where the ground is insufficiently absorptive (fails the percolation test) a homeowner may be required to construct a mound system which is a special engineered waste disposal bed of sand and gravel mounded on the surface of the ground with poor liquids absorption.

All of these publications may be helpful to the Code Advisory Committee members.

Frank

12/7/2009