Soil Morphological Report

August 1, 2001

Tom and Sue Smith
1234 Lake Drive
Harrisburg, PA 17011

Dear Mr. And Mrs Smith:

On July 20, 2001, the soil conditions at your residential property were evaluated with regard to morphological characteristics and the corresponding suitability for a drip irrigation installation. The investigation was conducted in the presence of the township Sewage Enforcement Officer (SEO), who is responsible for the design review and permit approval of this alternate system, in accordance with the Department of Environmental Protection, January 2000 ***Alternate and Experimental Systems Guidance*** document.

Several backhoe excavations were examined in order to establish depth to seasonal water table, rock limiting condition depth, drainage classification, and the morphological indicators used to design the drip irrigation system. In addition, soil borings were hand augered throughout the proposed absorption area to confirm the soil conditions described in the individual soil test probes. The following summarizes the actual soil conditions present and provides specific criteria, which will be used in the preparation of an individual design for this alternative technology.

The soil conditions at your proposed residential absorption area were characterized by a professional member of the PA Association of Professional Soil Scientists (PAPSS), who is also recognized as a Qualified Soil Scientist as defined in Chapter 73, Section 73.1. The soils were characteristic of the Laidig soil series, which confirms the mapping provided by the NRCS Dauphin County Soil Survey. The soils within the proposed absorption area are (e.g., deep and well drained), with a maximum slope of 11 percent. Depth to a seasonal water table was noted at 42 inches, and the most shallow indication of a rock limiting condition was 62+ inches. Based upon these general observations, a drip irrigation system may be further considered.

The accompanying soil profile description(s) provides additional morphological detail, which may be used to prepare a design for a drip irrigation system for your residential lot. Based upon the morphology of the soil, a maximum soil linear load rate of .33 gallons per linear foot per day may be used. The horizontal linear load must not exceed 4.6 gallons per day as calculated on the average daily flow of your proposed system. Drip line tubing shall be installed to a depth of 6 inches, with a horizontal separation of 1.5 feet. Based upon this design criteria, a site plan for the individual drip irrigation zones may be developed.

The accompanying design plan displays the individual soil test probe locations and the proposed absorption area necessary for this alternative sewage treatment and disposal technology. This approved area must remain undisturbed prior to actual design stake-out, permit issuance, and installation. A copy of this report has been submitted to the SEO for his review and approval and should be included in the subsequent design drawings to be submitted with your septic permit application.

If I can provide you with any additional information at this time with regard to the existing soil conditions encountered or the corresponding drip irrigation design criteria, please feel free to contact me. Thank you for the opportunity to provide these services on your behalf.

Respectfully submitted,

Rick Smith

Rick Smith
Qualified soil scientist

cc: Towwnship SEO