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Pennsylvania Association of Professional Soil Scientists

Testimony to Senate Environmental Resources and Energy Committee

Act 537 – Pennsylvania Sewage Facilities Act

December 8, 2015

ABOUT PAPSS

The Pennsylvania Association of Professional Soil Scientists (PAPSS) is a nonprofit organization dedicated to furthering the dissemination of information concerning soil science as it contributes to the protection of the environment and general human welfare. This dedication is particularly evident in the role of soil science in Pennsylvania's onlot sewage disposal system program.

ACT 537

The Act has been a necessary and effective tool for managing the onlot program. However, it is dated, as new site evaluation protocol and treatment technologies have evolved. Consequently, it is time to address where modifications to the Act (and the corresponding Chapters 71, 72 and 73) are warranted. PAPSS would like to take this opportunity to offer our assistance to the legislative review process, and provide technical input and professional feedback whenever it may be useful.

HISTORICAL REVIEW

In general, several changes to the existing onlot regulations (Chapters 71, 72 and 73) are necessary. Often, these revisions cannot be addressed due to language in the Act which prescribes specific terms and conditions. A close review of the existing Act yields several areas where modifications could enhance the onlot program. PAPSS continues to welcome the chance to further address specific issues of concern to update and clarify the current standards. Most of our input would be soils-related and pertinent to the site evaluation and system selection process.

Over 1/3 of Pennsylvania's residents rely on individual onlot septic systems. Each of these systems relies on the soil for treatment and disposal. Each of these systems is a potential source of groundwater and surface water contamination if the receiving soil is not properly evaluated.

When the septic system permitting program was put in place in the 1960s and 1970s, there was one type of system that could be approved. These traditional subsurface stone and pipe systems required four feet of well-drained soil between the bottom of the septic system and water table or bedrock limiting zone. In the last twenty five years, new alternative treatment and disposal technologies have been introduced to reduce the four-foot buffer down to one foot or less. Instead of one type of system using septic tanks with stone and pipe distribution, there are now numerous combinations of treatment and distribution technologies, many of which rely on accurate descriptions of soil properties and the experience of a qualified soil scientist.

The Pennsylvania legislature previously recognized in 2012 that the Pennsylvania Sewage Facilities Act was outdated and in need of review. It has been suggested that the Act's main purpose was to address what was presumed to be the "wild west" of onlot sewage disposal permitting, but equally important was the fact that it provided reimbursement to municipalities for their costs in preparing Act 537 Plans. While Pennsylvania has decided in recent years that the sewage program does not warrant the level of funding that has been afforded in years past, our neighboring states have implemented comprehensive overhauls of their regulations.

SOIL SCIENCE AND THE ACT

Soil scientists provide expert advice to regulators and homeowners regarding interpretations of soil and site characteristics, as related to conventional and alternate methods of sewage treatment and disposal. The role of soil science within Act 537 is evident in the following and provides the basis for our recommendations

Soil scientists provide site-specific evaluations, which establish the soil's

ability to support a proposed land use activity. For onlot wastewater disposal systems, a detailed evaluation of the site and soil characteristics is required to identify the available onlot treatment and disposal technologies suitable for that site. Often a qualified soil scientist is required to provide interpretations of the site suitability and overall feasibility of wastewater treatment and disposal for land development projects. The definition of qualified soil scientist to perform these investigations and interpretations should be updated to current professional standards.

The role of qualified soil scientists is prominent when certain alternate system technologies are proposed. All sites that propose onlot systems on shallow limiting zone soils are evaluated by a ***qualified soil scientist***. Current interpretations of the sewage planning regulations do not allow the use of these approved system technologies for new land development. The Act should reflect that any approved onlot system technology approved by the DEP would be acceptable for new land use planning proposals, as long as the specific requirements for these systems are satisfied.

Another significant role of qualified soil scientists in the sewage faciltiies program is evaluating the soil and site characteristics to identify options to repair/replace malfunctioning sewage systems, or identify options on problem or difficult sites. A soil scientist considers not only the soil profile characteristics but the landscape position. To determine the best approved technologies, the soil scientist considers the site and soil limitations to protect the public health and safety.

SPECIFIC ACT RECOMMENDATIONS

Within the Act, there are several sections that have received our attention in the past. Although there are other issues of concern throughout the Act, the following are a few that PAPSS has confronted in previous reviews:

Section 2. Definitions

PAPSS recommends the following changes/additions to the list of definitions.

Qualified soil scientist - The existing definition in Act 537 is no longer appropriate and should reflect current professional standards. The American Registry of Certified Professionals in Agronomy, Crops, and Soils has been replaced by the Council of Soil Science Examiners of the Soil Science Society of America. The definition may also need to be changed if pending legislation requiring State licensing of soil scientists becomes law (SB 845). PAPSS recommends the following change to the definition of "Qualified Soil Scientist" identified by satisfying one of three conditions.

> *"Qualified Soil Scientist"* means a person registered to practice soil science in this Commonwealth; or a person certified as a professional soil scientist (CPSS) or soil classifier (CPSC) by the Soil Science Society of America; or a person certified as a sewage enforcement officer with five years of experience in the characterization, classification, mapping and interpretation of soils as they relate to the function of onlot sewage disposal systems, and either a bachelor of science or higher degree in soil science or related major from an accredited college or university.

Limiting zone - The limiting zone in the soil profile is the main factor that determines what onlot sewage systems can be used at a particular location. It is discussed in several sections of the Act and throughout the regulations. A general description of what is a limiting zone would be appropriate in the definitions.

> ***"****Limiting zone****"***- A soil horizon in the soil profile or underlying strata which restricts the capability of the soil to provide adequate disposal and renovation of wastewater.

Redoximorphic Features - This is the scientific term used to identify color patterns in the soil profile that relate to prolonged saturation.

> ***"****Redoximorphic Features****"*** - Concentrations, depletions and reduced soil matrices and other features indicating the chemical reduction and oxidation of iron (Fe) and manganese (Mn) compounds resulting from prolonged saturation of the soil.

Soil mottling - Delete the reference to prolonged saturation of the soil because that is the specific definition of redoximorphic features listed above.

"Soil mottling" - A soil color pattern consisting of patches of different colors or shades of color interspersed within the dominant soil color.

Section 4. Advisory Committee

PAPSS currently has a seat on the Sewage Advisory Committee, as authorized by the Department Secretary. The PAPSS representative provides valuable input during the review of proposed regulations and policies related to onlot sewage disposal.

The list of organizations in the Act that compose the Advisory Committee should be revised to include the Pennsylvania Association of Professional Soil Scientists and all others not currently identified.

Section 7.2. Soil Mottling

This section was included in the Act at a time when few options were available to property owners for shallow limiting zone soils and many permits were denied based on evidence of "soil mottling" at shallow depths. With the addition of many approved alternate systems for these shallow limiting zone sites, PAPSS believes that this section is no longer needed. This is even more apparent if the Act and regulations clearly allow the use of all approved alternate systems in new land development planning.

SUMMARY

PAPSS appreciates the opportunity to provide this testimony, to offer recommendations for improving the onlot sewage facilities program. PAPSS is ready and willing to be a partner in the development of improvements to Act 537 and the regulations supporting the Act. If anyone has questions or needs additional information, please do not hesitate to contact our association.