SECTION II

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The nature of the soil is important in selecting sites for sanitary facilities (such as septic tank absorption fields, sewage lagoons and sanitary landfills) and identifying limiting soil properties and site features to be considered in planning, design, and installation. The sanitary facilities table, with accompanying explanation, in this subsection can be used as a guide in developing sanitary facilities.

Waste Management

The nature of the soil is also important in the application of organic wastes and wastewater to land as fertilizers and irrigation, and when the soil is used as a medium for treatment and disposal of these wastes. Favorable soil properties are required to prevent environmental damage.

The use of organic wastes and wastewater as production resources typically results in energy conservation, prevents the waste of these important resources, and prevents problems associated with their disposal. Where disposal is the goal, and a maximum amount is disposed in a minimum area to hold costs to a minimum, risk of environmental damage is the principal constraint. When the goal is to use the wastes as a resource, and a minimum amount is applied to a maximum area to obtain the greatest benefit, environmental damage is unlikely.

See the *National Soil Handbook*, Part 620, for criteria used in rating soils for sanitary facilities and waste management.

II – WASTE DISPOSAL INTERPRETATIONS

SANITARY FACILITIES REPORT

Sanitary Facilities

The nature of the soil is important is selecting sites for sanitary facilities, and in identifying limiting soil properties and site features to be considered in planning, design, and installation. Soil limitations ratings of slight, moderate, or severe are given for septic tank absorption fields, sewage lagoons, and trench and area type sanitary landfills. Soil suitability ratings of good, fair, and poor are given for daily cover for landfills. Limitations or suitability terms used in this subsection are as follows:

SLIGHT (or Good) - relatively free of limitations or limitations are easily overcome.

MODERATE (or Fair) - limitations need to be recognized, but usually can be overcome with good management or special design.

SEVERE (or Poor or Very Poor) - limitations are difficult or impractical to overcome.

Sanitary Facility Type

SEPTIC TANK ABSORPTION FIELDS are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into the natural soil. The centerline depth of the tile is assumed to be at a depth of 24 inches. Only the soil between depths of 24 and 60 inches is considered in making the ratings. The soil properties and site features considered are those that affect the absorption of the effluent, those that affect the construction and maintenance of the system, and those that may affect public health.

SEWAGE LAGOONS are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons have a nearly level floor surrounded by cut slopes or embankments of compacted, relatively impervious soil material.

AEROBIC LAGOONS generally are designed so that the depth of sewage is 2 to 5 feet. Relatively impervious soil for the lagoon floor and sides is desirable to minimize seepage and contamination of local ground water.

SANITARY LANDFILL (TRENCH) is a method of disposing of solid waste by placing refuse in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil that is excavated from the trench. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. Properties that influence risk of pollution, ease of excavation, trafficability, and revegetation are major considerations.

SANITARY LANDFILL (AREA) is a method of disposing of solid waste by placing refuse in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil that is imported from a source away from the site. A final cover of soil at least 2 feet thick is placed over the completed landfill. Properties that influence trafficability, revegetation, and risk of pollution are the main considerations for area type sanitary landfills.

DAILY COVER FOR LANDFILL is the sod material that is applied daily to compacted solid waste in an area type sanitary landfill. The cover material is obtained off-site, transported, and spread on the area. Suitability of a soil for use as cover is based on properties that reflect workability and the ease of digging and of moving and spreading the material over the refuse daily during both wet and dry periods.

See the *National Soil Handbook*, Part 620, for criteria used in rating specific uses.