United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Virginia Polytechnic Institute and State University

Soil Survey of Amelia County, Virginia

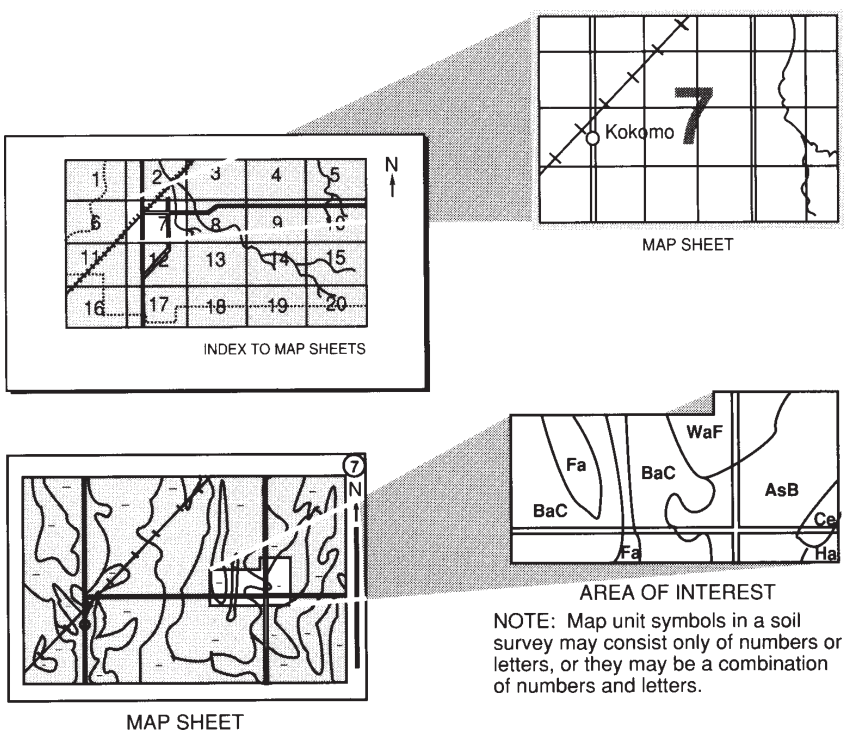
How To Use This Soil Survey

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and go to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Go to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Virginia Polytechnic Institute and State University. The Virginia Department of Conservation and Recreation and the Amelia County Board of Supervisors provided financial assistance for the survey. The survey is part of the technical assistance furnished to the Piedmont Soil and Water Conservation District.

Major fieldwork for this soil survey was completed in 1990. Soil names and descriptions were approved in 1994. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1992. The most current official data are available on the Internet.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Nondiscrimination Statement

Cover Caption

Typical landscape of Cecil fine sandy loam, 2 to 7 percent slopes. Good conservation management on this soil includes stripcropping.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

Contents

Issued 2009

Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, ranchers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency—nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each map unit is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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Soil Survey of
Amelia County, Virginia

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United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
Virginia Polytechnic Institute and State University

Amelia County is in the central part of Virginia, southwest of Richmond (fig. 1). It has an area of about 357 square miles, or 229,200 acres. In 2000, the population was 11,400 (USDC, 2000). The main roadways are U.S. Highway 360, which is a major east-west highway through the center of the county, and Virginia Route 604, which is in the northeastern part of the county. The county has many other State roads and one rail line.

Commercial forestry and farming are the main land uses in Amelia County. Some of the urban development originating in the Richmond metropolitan area has expanded into the county. Most of the industry in the survey area is related to agricultural or wood products.

General Nature of the Survey Area

This section provides general information about the survey area. It describes history; physiography, relief, and drainage; farming and forestry; and climate.

History

The first farmers in the survey area were probably the Indians of the Monacan Sioux tribe. They lived and farmed in areas near the banks of the Appomattox River. This land was later mostly settled by English-speaking farmers from the British Isles (Couture, 1980; Hadfield, 1982).

Physiography, Relief, and Drainage

Amelia County is in the Piedmont physiographic province, which is between the Blue Ridge province to the west and the Atlantic Coastal Plain province to the east.

The surface features of the county are typical of a moderately high plateau dissected by numerous streams and a river. Areas between the streams are moderately wide and are mainly gently sloping or strongly sloping.

The county has four general types of land surfaces. They are gently sloping and strongly sloping, moderately wide, weakly dissected summits on uplands; narrow flood plains along streams and a slightly wider flood plain along the river; moderately steep to very steep areas along the river and major streams, which have cut deeply into the upland plateau; and the large mound at Ammon and the broad plain which surrounds

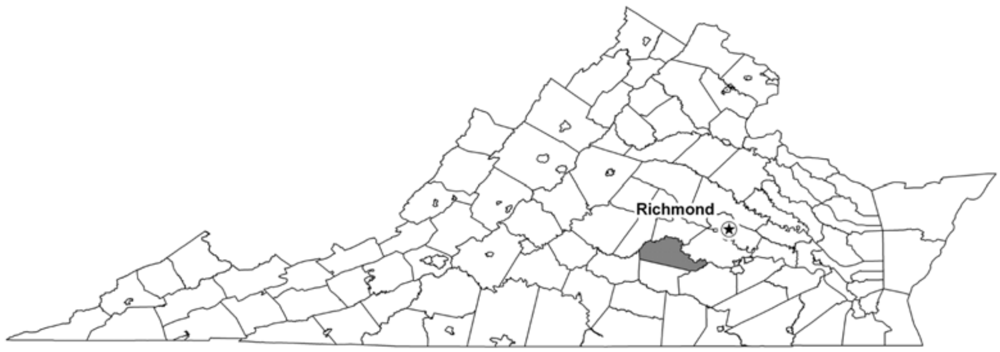

Figure 1.—Location of Amelia County in Virginia.

it. Areas have been rapidly entrenched along the Appomattox River and its major tributaries, and steep and very steep slopes commonly rise abruptly from the flood plains.

The highest point in the county is about 522 feet above sea level and is near the intersection of Virginia Routes 616 and 657. The elevations of the upland summits range from about 200 to 522 feet. The lowest point in the county is the surface of Lake Chesdin at the easternmost point of the county and is slightly less than 160 feet above sea level.

The Appomattox River forms the northern boundary and most of the eastern and western boundaries of Amelia County. Namozine Creek forms the southeastern boundary, separating the county from Dinwiddie County. Like most of the creeks and streams in Amelia County, this creek flows into the Appomattox River. Sandy and Dawson Creeks flow north and drain the southwestern part of the county. Stock and Bear Creeks and their tributaries flow north and northeast and drain the northwestern part of the county. Flat, Nibbs, and Smacks Creeks and their tributaries flow northeast and east and drain the southwestern and southern parts of the county. Beaverpond and Winticomack Creeks and their tributaries flow northeast and east and drain the southern and southeastern parts of the county.

In the western third of Amelia County, elevations are higher and streams are more deeply entrenched. The proportion of hilly land to gently sloping land is greater in this area. The area is drained by Sandy Creek, Stock Creek, and the tributaries of Flat Creek.

The surface drainage in the county, except in areas on the flood plains, the plain near Ammon, and some upland flats, generally is good.

Farming and Forestry

Cultivated crops cover about 14.5 percent of the survey area, and pasture covers about 6.5 percent (USDC, 1983). The number of farms in Amelia County and the acreage of farmland steadily decreased between 1935 and 1979 (VCRS, 1982). The number of workers in the county whose primary occupation is farming is slightly greater than the number of workers who are part-time farmers (USDC, 1983).

The major field crops in the county are corn, soybeans, wheat, barley, and tobacco. Tall fescue, orchardgrass, and red clover are grown for pasture and hay, and alfalfa is grown primarily for hay. Poultry is the major livestock enterprise in the county and dairy farming is the second, according to value of products sold. Beef cattle and hogs are raised on many farms, and sheep and lambs are raised on a few farms (USDC, 1983).

Forestland covers about three-fourths of the county. Most of the woodland consists of mixed hardwoods or pine. The harvested acreage mainly consists of loblolly pine.

Most of the larger hardwoods and pines are sawed into lumber. Other timber is harvested for pallets, crossties, and pulpwood (USDA, 1986).

Climate

Climate data are provided in tables 1, 2, and 3. The data were recorded at Amelia, Virginia, in the period 1971 to 2000.

In winter, the average temperature is 38.0 degrees F and the average daily minimum temperature is 26.6 degrees. The lowest temperature on record, which occurred on February 10, 1979, is -12 degrees. In summer, the average temperature is 74.6 degrees and the average daily maximum temperature is 86.6 degrees. The highest recorded temperature, which occurred on July 6, 1999, is 102 degrees.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is about 44.96 inches. Of this, 27.05 inches, or about 60 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 10.52 inches on October 6, 1972. Thunderstorms occur on about 32 days each year, and most occur in July.

The average seasonal snowfall is about 12.6 inches. The greatest snow depth at any one time during the period of record was 15 inches. On the average, 7 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 51 percent. Humidity is higher at night, and the average at dawn is about 81 percent. The sun shines 72 percent of the time possible in summer and 56 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 9.1 miles per hour, in March.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Herndon loam, 2 to 7 percent slopes, is a phase of the Herndon series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes. A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Wedowee-Poindexter complex, 7 to 15 percent slopes, is an example.

Soil surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Water is an example.

Table 4 lists the map units in this survey area. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

1B—Appling fine sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 400 acres

Map Unit Composition

Appling and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—grayish brown fine sandy loam

Subsurface layer:
2 to 11 inches—light yellowish brown fine sandy loam

Subsoil:
11 to 14 inches—yellowish brown sandy clay loam
14 to 29 inches—yellowish brown clay; common red mottles
29 to 37 inches—strong brown clay; common red mottles
37 to 43 inches—yellowish red and brownish yellow clay loam

Substratum:
43 to 48 inches—red and brownish yellow sandy clay loam
48 to 65 inches—very pale brown and yellowish brown loam

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Winnsboro soils, which have weathered bedrock at a depth of 40 to 60 inches and are in landform positions similar to those of the Appling soil
- Very gravelly soils that are in landform positions similar to those of the Appling soil

Similar components:
- Cecil and Mayodan soils, which are in landform positions similar to those of the Appling soil but have a redder subsoil
- Wedowee soils, which are in landform positions similar to those of the Appling soil but have a thinner subsoil

- Soils that are in landform positions similar to those of the Appling soil but have less clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Well suited to wheat, tobacco, and grass-legume hay; moderately suited to corn, soybeans, and alfalfa hay

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Well suited

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: V
Hydric soil: No

1C—Appling fine sandy loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 150 acres

Map Unit Composition

Appling and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—grayish brown fine sandy loam

Subsurface layer:
2 to 11 inches—light yellowish brown fine sandy loam

Subsoil:
11 to 14 inches—yellowish brown sandy clay loam
14 to 29 inches—yellowish brown clay; common red mottles
29 to 37 inches—strong brown clay; common red mottles
37 to 43 inches—yellowish red and brownish yellow clay loam

Substratum:
43 to 48 inches—red and brownish yellow sandy clay loam
48 to 65 inches—very pale brown and yellowish brown loam

Minor Components

Dissimilar components:
- Colfax soils, which are somewhat poorly drained and in drainageways
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways
- Winnsboro soils, which are in landform positions similar to those of the Appling soil but have weathered bedrock at a depth of 40 to 60 inches

Similar components:
- Cecil soils, which are in landform positions similar to those of the Appling soil but have a redder subsoil
- Wedowee soils, which are in landform positions similar to those of the Appling soil but have a thinner subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Well suited to wheat and grass-legume hay; moderately suited to corn, soybeans, tobacco, and alfalfa hay

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Well suited

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: V
Hydric soil: No

2B—Buncombe loamy sand, 2 to 5 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains
Position on the landform: Treads
Size of areas: 4 to 100 acres

Map Unit Composition

Buncombe and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—dark yellowish brown loamy sand

Substratum:
6 to 10 inches—light yellowish brown sand
10 to 25 inches—yellowish brown loamy sand
25 to 41 inches—yellowish brown sand
41 to 55 inches—brownish yellow sand
55 to 65 inches—yellowish brown sand

Minor Components

Dissimilar components:
- Chastain soils, which are poorly drained and in drainageways
- Chewacla soils, which are somewhat poorly drained and in drainageways
- State soils, which are well drained and on terraces
- Moderately well drained soils in shallow depressions

Similar components:
- Toccoa soils, which are in landform positions similar to those of the Buncombe soil but are well drained

Soil Properties and Qualities

Available water capacity: Low (about 4.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat and tobacco; poorly suited to corn and soybeans; not suited to grass-legume hay and alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The limited available water capacity may cause plants to suffer from moisture stress.
- Sandy or coarse textured layers accelerate the rate at which plant nutrients are leached.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- The limited available water capacity may cause plants to suffer from moisture stress during the drier summer months.

Woodland

Suitability: Well suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.

Building sites

- Flooding is a limitation affecting building site development.

Septic tank absorption fields

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems, which may pollute the water table.

Local roads and streets

- This soil is well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3s
Virginia soil management group: II
Hydric soil: No

3B—Cecil fine sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 700 acres

Map Unit Composition

Cecil and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 5 inches—brown fine sandy loam

Subsoil:
5 to 15 inches—red clay loam
15 to 31 inches—red clay; common red and common brownish yellow mottles
31 to 43 inches—red clay loam

Substratum:
43 to 65 inches—red loam; common strong brown and common pale brown mottles

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Poindexter soils, which are in landform positions similar to those of the Cecil soil but have weathered bedrock at a depth of 20 to 40 inches
- Winnsboro soils, which are in landform positions similar to those of the Cecil soil but have weathered bedrock at a depth of 40 to 60 inches
- Soils that are in landform positions similar to those of the Cecil soil but have a very gravelly surface layer

Similar components:
- Appling and Wedowee soils, which are in landform positions similar to those of the Cecil soil but have a yellower subsoil
- Pacolet soils, which are in landform positions similar to those of the Cecil soil but have a thinner subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Well suited to wheat and grass-legume hay; moderately suited to tobacco, alfalfa hay, corn, and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine and southern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: X
Hydric soil: No

3C—Cecil fine sandy loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 200 acres

Map Unit Composition

Cecil and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 5 inches—brown fine sandy loam

Subsoil:
5 to 15 inches—red clay loam
15 to 31 inches—red clay; common red and common brownish yellow mottles
31 to 43 inches—red clay loam

Substratum:
43 to 65 inches—red loam; common strong brown and common pale brown mottles

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways
- Poindexter soils, which are in landform positions similar to those of the Cecil soil but have weathered bedrock at a depth of 20 to 40 inches
- Winnsboro soils, which are in landform positions similar to those of the Cecil soil but have weathered bedrock at a depth of 40 to 60 inches

Similar components:
- Appling and Wedowee soils, which are in landform positions similar to those of the Cecil soil but have a yellower subsoil
- Pacolet soils, which are in landform positions similar to those of the Cecil soil but have a thinner subsoil

- Soils that are in landform positions similar to those of the Cecil soil but have less clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Well suited to soybeans; moderately suited to corn, wheat, tobacco, grass-legume hay, and alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine and southern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Figure 2.—Flooding in an area of Chastain silty clay loam, 0 to 1 percent slopes, frequently flooded. This inundation kills trees but increases the production of waterweeds and improves habitat for some wildlife species.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: X
Hydric soil: No

4A—Chastain silty clay loam, 0 to 1 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains (fig. 2)
Position on the landform: Treads
Size of areas: 4 to 300 acres

Map Unit Composition

Chastain and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 5 inches—brown silty clay loam

Subsoil:
5 to 12 inches—grayish brown silty clay loam; dark yellowish brown masses of oxidized iron
12 to 27 inches—gray silty clay loam; light yellowish brown masses of oxidized iron
27 to 38 inches—gray silty clay; strong brown masses of oxidized iron
38 to 48 inches—gray clay; strong brown masses of oxidized iron

Substratum:
48 to 65 inches—gray silty clay loam; strong brown masses of oxidized iron

Minor Components

Dissimilar components:
- Buncombe soils, which are excessively drained and in the higher areas on flood plains
- Chewacla soils, which are somewhat poorly drained and in drainageways
- Toccoa soils, which are well drained and in the higher areas on flood plains

Similar components:
- Soils that are in landform positions similar to those of the Chastain soil but have more silt and less clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.8 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: Frequent
Depth of ponding: 0.2 to 0.5 foot
Shrink-swell potential: Moderate
Runoff class: Negligible
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Moderately suited to sweetgum

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding and ponding restrict the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- Flooding and ponding are limitations affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding and ponding are limitations affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.
- Ponding affects the ease of excavation and grading and limits the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6w
Virginia soil management group: LL
Hydric soil: Yes

5A—Chewacla silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains
Position on the landform: Treads
Size of areas: 4 to 900 acres

Map Unit Composition

Chewacla and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—dark yellowish brown silt loam

Subsoil:
6 to 11 inches—yellowish brown loam; black manganese masses and strong brown masses of oxidized iron

11 to 21 inches—yellowish brown loam; black manganese masses, strong brown masses of oxidized iron, and grayish brown iron depletions
21 to 26 inches—yellowish brown fine sandy loam; grayish brown iron depletions, black manganese masses, and strong brown masses of oxidized iron
26 to 44 inches—grayish brown silty clay loam; strong brown and brown masses of oxidized iron

Substratum:
44 to 50 inches—dark gray silt loam; strong brown masses of oxidized iron
50 to 65 inches—dark gray silt loam

Minor Components

Dissimilar components:
- Buncombe soils, which are excessively drained and in the higher landform positions
- Chastain soils, which are poorly drained and in drainageways
- Toccoa soils, which are well drained and in the higher landform positions

Similar components:
- Soils that are in landform positions similar to those of the Chewacla soil but have more silt in the subsoil

Soil Properties and Qualities

Available water capacity: High (about 11.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: About 6 to 18 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.

- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6w
Virginia soil management group: I
Hydric soil: No

6B—Cid loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 200 acres

Map Unit Composition

Cid and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown loam
2 to 7 inches—pale brown loam

Subsurface layer:
7 to 10 inches—light yellowish brown loam

Subsoil:
10 to 15 inches—olive yellow loam; yellowish brown masses of oxidized iron
15 to 20 inches—yellowish brown clay loam; olive yellow masses of oxidized iron
20 to 30 inches—yellowish brown clay; light yellowish brown masses of oxidized iron and light brownish gray iron depletions
30 to 35 inches—yellowish brown silty clay loam; gray iron depletions

Soft bedrock:
35 to 39 inches—white and brownish yellow phyllite bedrock

Hard bedrock:
39 inches—phyllite bedrock

Minor Components

Dissimilar components:
- Herndon and Winnsboro soils, which are well drained and in the higher landform positions
- Poorly drained soils that have more silt and less clay in the subsoil than the Cid soil and are in the lower landform positions

Similar components:
- Soils that are in landform positions similar to those of the Cid soil but have bedrock at a depth of 40 to 60 inches

Soil Properties and Qualities

Available water capacity: Low (about 5.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 39 inches to bedrock (paralithic)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 12 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Residuum weathered from phyllite

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn, soybeans, and wheat; not suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the nature and depth of the bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 2e
Virginia soil management group: KK
Hydric soil: No

6C—Cid loam, 7 to 10 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 60 acres

Map Unit Composition

Cid and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown loam
2 to 7 inches—pale brown loam

Subsurface layer:
7 to 10 inches—light yellowish brown loam

Subsoil:
10 to 15 inches—olive yellow loam; yellowish brown masses of oxidized iron
15 to 20 inches—yellowish brown clay loam; olive yellow masses of oxidized iron

20 to 30 inches—yellowish brown clay; light yellowish brown masses of oxidized iron and light brownish gray iron depletions
30 to 35 inches—yellowish brown silty clay loam; gray iron depletions

Soft bedrock:
35 to 39 inches—white and brownish yellow phyllite bedrock

Hard bedrock:
39 inches—phyllite bedrock

Minor Components

Dissimilar components:
- Herndon soils, which are well drained and in the higher landform positions
- Poorly drained soils that have more silt and less clay in the subsoil than the Cid soil and are in the lower landform positions

Similar components:
- Soils that are in landform positions similar to those of the Cid soil but have bedrock at a depth of 40 to 60 inches

Soil Properties and Qualities

Available water capacity: Low (about 5.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 39 inches to bedrock (paralithic)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 12 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Residuum weathered from phyllite

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn, soybeans, and wheat; not suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.

- Soil wetness may limit the use of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: KK
Hydric soil: No

7B—Colfax sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Drainageways
Position on the landform: Head slopes
Size of areas: 4 to 70 acres

Map Unit Composition

Colfax and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—grayish brown sandy loam

Subsurface layer:
2 to 8 inches—light yellowish brown sandy loam

Subsoil:
8 to 14 inches—brownish yellow sandy clay loam
14 to 20 inches—yellowish brown clay loam; light gray iron depletions
20 to 34 inches—yellowish brown clay loam; light brownish gray iron depletions
34 to 65 inches—brownish yellow sandy clay loam; light brownish gray iron depletions

Minor Components

Dissimilar components:
- Appling soils, which are well drained and in the higher landform positions
- Helena soils, which are moderately well drained and in similar landform positions
- Partlow soils, which are poorly drained and in the lower landform positions
- Soils that are in landform positions similar to those of the Colfax soil but have hard bedrock at a depth of 40 to 60 inches

Similar components:
- Soils that are in landform positions similar to those of the Colfax soil but have less clay in the subsoil

Soil Properties and Qualities

Available water capacity: Low (about 4.9 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: 16 to 36 inches to fragipan
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: About 6 to 18 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Colluvium derived from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Well suited to grass-legume hay; moderately suited to corn and wheat; poorly suited to soybeans; not suited to alfalfa hay and tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The dense soil material restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- The dense soil layer may restrict the rooting depth of plants.

Woodland

Suitability: Moderately suited to loblolly pine, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4w
Virginia soil management group: BB
Hydric soil: No

8B—Creedmoor fine sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 1,000 acres

Map Unit Composition

Creedmoor and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 1 inch—dark gray fine sandy loam

Subsurface layer:
1 to 5 inches—light yellowish brown fine sandy loam

Subsoil:
5 to 10 inches—light yellowish brown sandy clay loam; pale brown masses of oxidized iron
10 to 14 inches—yellowish brown sandy clay; light yellowish brown masses of oxidized iron
14 to 17 inches—yellowish brown clay; pale brown and light yellowish brown masses of oxidized iron
17 to 26 inches—yellowish brown clay; yellowish brown masses of oxidized iron and light brownish gray iron depletions
26 to 32 inches—brownish yellow clay; light brownish gray iron depletions
32 to 39 inches—gray clay; strong brown masses of oxidized iron
39 to 46 inches—light brownish gray and light olive gray silty clay; strong brown masses of oxidized iron
46 to 56 inches—light brownish gray silty clay; strong brown masses of oxidized iron

Substratum:
56 to 65 inches—light gray silty clay loam; strong brown masses of oxidized iron

Minor Components

Dissimilar components:
- Mayodan soils, which are well drained and in the higher landform positions
- Very gravelly soils that are in landform positions similar to those of the Creedmoor soil

Similar components:
- Partlow soils, which are poorly drained and in drainageways

Soil Properties and Qualities

Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 12 to 24 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high
Surface fragments: None
Parent material: Residuum weathered from Triassic-age sandstone and shale

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn, soybeans, and wheat; not suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 2e
Virginia soil management group: KK
Hydric soil: No

9A—Dogue fine sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Stream terraces
Position on the landform: Treads
Size of areas: 4 to 30 acres

Map Unit Composition

Dogue and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown fine sandy loam

Subsurface layer:
2 to 8 inches—light yellowish brown sandy loam

Subsoil:
8 to 14 inches—yellowish brown sandy clay loam
14 to 21 inches—brownish yellow clay loam; light yellowish brown masses of oxidized iron
21 to 27 inches—strong brown clay; brown and reddish yellow masses of oxidized iron
27 to 32 inches—strong brown clay; light brownish gray iron depletions and light yellowish brown masses of oxidized iron
32 to 54 inches—strong brown and brown clay loam; gray and light brownish gray iron depletions

Substratum:
54 to 65 inches—light brownish gray sandy clay loam; pale yellow masses of oxidized iron

Minor Components

Dissimilar components:
- Roanoke soils, which are poorly drained and in drainageways
- State soils, which are well drained and in the higher landform positions

Similar components:
- Soils that are in landform positions similar to those of the Dogue soil but are somewhat poorly drained

Soil Properties and Qualities

Available water capacity: Moderate (about 7.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 36 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Low
Surface fragments: None
Parent material: Old alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, grass-legume hay, soybeans, and wheat; moderately suited to alfalfa hay; not suited to tobacco
- The high clay content restricts the rooting depth of crops.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

- This soil is well suited to pastureland.

Woodland

Suitability: Well suited to loblolly pine and southern red oak; moderately suited to yellow-poplar and sweetgum

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems, which may pollute the water table.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2w
Virginia soil management group: K
Hydric soil: No

9B—Dogue fine sandy loam, 2 to 7 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Stream terraces
Position on the landform: Treads
Size of areas: 4 to 30 acres

Map Unit Composition

Dogue and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown fine sandy loam

Subsurface layer:
2 to 8 inches—light yellowish brown sandy loam

Subsoil:
8 to 14 inches—yellowish brown sandy clay loam
14 to 21 inches—brownish yellow clay loam; light yellowish brown masses of oxidized iron
21 to 27 inches—strong brown clay; brown and reddish yellow masses of oxidized iron
27 to 32 inches—strong brown clay; light brownish gray iron depletions and light yellowish brown masses of oxidized iron
32 to 54 inches—strong brown and brown clay loam; gray and light brownish gray iron depletions

Substratum:
54 to 65 inches—light brownish gray sandy clay loam; pale yellow masses of oxidized iron

Minor Components

Dissimilar components:
- Roanoke soils, which are poorly drained and in drainageways
- State soils, which are well drained and in the higher landform positions

Similar components:
- Soils that are in landform positions similar to those of the Dogue soil but are somewhat poorly drained

Soil Properties and Qualities

Available water capacity: Moderate (about 7.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 36 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Old alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, grass-legume hay, soybeans, and wheat; moderately suited to alfalfa hay and tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and southern red oak; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems, which may pollute the water table.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: K
Hydric soil: No

10B—Georgeville silt loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 400 acres

Map Unit Composition

Georgeville and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 3 inches—brown silt loam

Subsurface layer:
3 to 5 inches—strong brown silt loam

Subsoil:
5 to 9 inches—yellowish red silty clay loam
9 to 20 inches—red silty clay
20 to 32 inches—red silty clay; common reddish yellow mottles
32 to 52 inches—red silty clay loam; common white, common dark red, and many strong brown mottles
52 to 65 inches—red silty clay loam; common dark red and common white mottles

Minor Components

Dissimilar components:
- Cid soils, which are moderately well drained and in the lower landform positions
- Winnsboro soils, which are in landform positions similar to those of the Georgeville soil but have weathered bedrock at a depth of 40 to 60 inches
- Soils that are in landform positions similar to those of the Georgeville soil but have a cobbly surface layer

Similar components:
- Herndon soils, which are in landform positions similar to those of the Georgeville soil but have a yellower subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from phyllite and/or Carolina Slate

Use and Management Considerations

Cropland

Suitability: Well suited to wheat (fig. 3), tobacco, and grass-legume hay; moderately suited to alfalfa hay, corn, and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited

Figure 3.—Wheat in an area of Georgeville silt loam, 2 to 7 percent slopes. This soil is well suited to this crop.

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and southern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength may create unsafe conditions for log trucks.
- This soil is well suited to haul roads and log landings.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: X
Hydric soil: No

10C—Georgeville silt loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 100 acres

Map Unit Composition

Georgeville and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 3 inches—brown silt loam

Subsurface layer:
3 to 5 inches—strong brown silt loam

Subsoil:
5 to 9 inches—yellowish red silty clay loam
9 to 20 inches—red silty clay
20 to 32 inches—red silty clay; common reddish yellow mottles
32 to 52 inches—red silty clay loam; common white, common dark red, and many strong brown mottles
52 to 65 inches—red silty clay loam; common dark red and common white mottles

Minor Components

Dissimilar components:
- Cid soils, which are moderately well drained and in the lower landform positions
- Winnsboro soils, which are in landform positions similar to those of the Georgeville soil but have weathered bedrock at a depth of 40 to 60 inches
- Poorly drained, silty soils in drainageways

Similar components:
- Herndon soils, which are in landform positions similar to those of the Georgeville soil but have a yellower subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low

Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from phyllite and/or Carolina Slate

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, grass-legume hay, alfalfa hay, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and southern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength may create unsafe conditions for log trucks.
- This soil is well suited to haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: X
Hydric soil: No

11B—Helena fine sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes (fig. 4)
Position on the landform: Interfluves
Size of areas: 4 to 150 acres

Figure 4.—Corn stubble on a typical landscape of Helena fine sandy loam, 2 to 7 percent slopes. This soil has a perched water table that is near the surface during winter and after heavy rains.

Map Unit Composition

Helena and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 8 inches—yellowish brown fine sandy loam

Subsoil:
8 to 15 inches—brownish yellow clay loam; pale brown masses of oxidized iron
15 to 22 inches—strong brown clay; light yellowish brown masses of oxidized iron
22 to 30 inches—strong brown clay; gray iron depletions and light yellowish brown masses of oxidized iron
30 to 39 inches—strong brown and light yellowish brown clay loam; gray iron depletions
39 to 53 inches—gray sandy clay loam; light yellowish brown masses of oxidized iron and red masses of oxidized iron

Substratum:
53 to 65 inches—gray sandy clay loam; yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Appling soils, which are well drained and in the higher landform positions
- Partlow soils, which are poorly drained and in drainageways

Similar components:
- Colfax soils, which are in landform positions similar to those of the Helena soil but are somewhat poorly drained
- Soils that are in landform positions similar to those of the Helena soil but have less clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn, soybeans, and wheat; not suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: KK
Hydric soil: No

11C—Helena fine sandy loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 150 acres

Map Unit Composition

Helena and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 8 inches—yellowish brown fine sandy loam

Subsoil:
8 to 15 inches—brownish yellow clay loam; pale brown masses of oxidized iron
15 to 22 inches—strong brown clay; light yellowish brown masses of oxidized iron
22 to 30 inches—strong brown clay; gray iron depletions and light yellowish brown masses of oxidized iron
30 to 39 inches—strong brown and light yellowish brown clay loam; gray iron depletions
39 to 53 inches—gray sandy clay loam; light yellowish brown and red masses of oxidized iron

Substratum:
53 to 65 inches—gray sandy clay loam; yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Appling soils, which are well drained and in the higher landform positions
- Partlow soils, which are poorly drained and in drainageways

Similar components:
- Colfax soils, which are in landform positions similar to those of the Helena soil but are somewhat poorly drained
- Soils that are in landform positions similar to those of the Helena soil but have less clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn, soybeans, and wheat; not suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: KK
Hydric soil: No

12B—Herndon loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 200 acres

Map Unit Composition

Herndon and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—brown loam

Subsurface layer:
2 to 7 inches—light yellowish brown loam

Subsoil:
7 to 11 inches—brownish yellow loam
11 to 27 inches—strong brown clay; common brownish yellow, common red, and common yellowish red mottles
27 to 39 inches—strong brown clay; common yellowish red and common red mottles
39 to 50 inches—yellow, yellowish brown, and brownish yellow clay loam

Substratum:
50 to 65 inches—white, yellow, yellowish brown, and brownish yellow loam

Minor Components

Dissimilar components:
- Cid and Helena soils, which are moderately well drained and in the lower landform positions

- Winnsboro soils, which are in landform positions similar to those of the Herndon soil but have weathered bedrock at a depth of 40 to 60 inches
- Poorly drained, silty soils in drainageways

Similar components:
- Georgeville soils, which are in landform positions similar to those of the Herndon soil but have a redder subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from phyllite

Use and Management Considerations

Cropland

Suitability: Well suited to wheat; moderately suited to corn, tobacco, alfalfa hay, and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: V
Hydric soil: No

12C—Herndon loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 200 acres

Map Unit Composition

Herndon and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—brown loam

Subsurface layer:
2 to 7 inches—light yellowish brown loam

Subsoil:
7 to 11 inches—brownish yellow loam
11 to 27 inches—strong brown clay; common brownish yellow, common red, and common yellowish red mottles
27 to 39 inches—strong brown clay; common yellowish red and common red mottles
39 to 50 inches—yellow, yellowish brown, and brownish yellow clay loam

Substratum:
50 to 65 inches—white, yellow, yellowish brown, and brownish yellow loam

Minor Components

Dissimilar components:
- Cid and Helena soils, which are moderately well drained and in the lower landform positions
- Winnsboro soils, which are in landform positions similar to those of the Herndon soil but have weathered bedrock at a depth of 40 to 60 inches
- Poorly drained, silty soils in drainageways

Similar components:
- Georgeville soils, which are in landform positions similar to those of the Herndon soil but have a redder subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)

Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from phyllite

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, grass-legume hay, alfalfa hay, soybeans, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: V
Hydric soil: No

Figure 5.—Gravel in an area of Mayodan gravelly fine sandy loam, 2 to 7 percent slopes.

13B—Mayodan gravelly fine sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes (fig. 5)
Position on the landform: Interfluves
Size of areas: 4 to 150 acres

Map Unit Composition

Mayodan and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown gravelly fine sandy loam

Subsurface layer:
2 to 8 inches—light yellowish brown gravelly fine sandy loam

Subsoil:
8 to 12 inches—reddish yellow sandy clay
12 to 24 inches—yellowish red clay

24 to 45 inches—yellowish red silty clay; many brownish yellow mottles
45 to 51 inches—yellowish red silty clay loam; many brownish yellow mottles
51 to 65 inches—brownish yellow and red silty clay loam

Minor Components

Dissimilar components:
- Creedmoor soils, which are moderately well drained to somewhat poorly drained and in the lower landform positions
- Excessively drained soils that are in landform positions similar to those of the Mayodan soil but have bedrock at a depth of 10 to 20 inches

Similar components:
- Appling soils, which are in landform positions similar to those of the Mayodan soil but have a yellower subsoil
- Soils that are in landform positions similar to those of the Mayodan soil but have less clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from Triassic-age sandstone and shale

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco; moderately suited to corn, grass-legume hay, alfalfa hay, soybeans, and wheat
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.

- Coarse textured soil layers increase the maintenance of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- This soil is well suited to septic tank absorption fields.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: V
Hydric soil: No

13C—Mayodan gravelly fine sandy loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 150 acres

Map Unit Composition

Mayodan and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown gravelly fine sandy loam

Subsurface layer:
2 to 8 inches—light yellowish brown gravelly fine sandy loam

Subsoil:
8 to 12 inches—reddish yellow sandy clay
12 to 24 inches—yellowish red clay
24 to 45 inches—yellowish red silty clay; many brownish yellow mottles
45 to 51 inches—yellowish red silty clay loam; many brownish yellow mottles
51 to 65 inches—brownish yellow and red silty clay loam

Minor Components

Dissimilar components:
- Creedmoor soils, which are moderately well drained to somewhat poorly drained and in the lower landform positions

- Partlow soils, which are poorly drained and in drainageways
- Excessively drained soils that are in landform positions similar to those of the Mayodan soil but have bedrock at a depth of 10 to 20 inches

Similar components:
- Soils that are in landform positions similar to those of the Mayodan soil but have less clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from Triassic-age sandstone and shale

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat, tobacco, and grass-legume hay; poorly suited to alfalfa hay, corn, and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: V
Hydric soil: No

14D—Pacolet fine sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes
Size of areas: 4 to 80 acres

Map Unit Composition

Pacolet and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 3 inches—dark brown fine sandy loam

Subsoil:
3 to 7 inches—yellowish red sandy clay loam
7 to 25 inches—red clay loam
25 to 37 inches—reddish yellow and red clay loam

Substratum:
37 to 65 inches—yellowish red clay loam

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways
- Poindexter soils, which are in landform positions similar to those of the Pacolet soil but have less clay in the subsoil and have soft bedrock at a depth of 20 to 40 inches

Similar components:
- Wedowee soils, which are in landform positions similar to those of the Pacolet soil but have a yellower subsoil

- Soils that are in landform positions similar to those of the Pacolet soil but have a gravelly surface layer

Soil Properties and Qualities

Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to alfalfa hay, grass-legume hay, and wheat; poorly suited to corn and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: X
Hydric soil: No

14E—Pacolet fine sandy loam, 25 to 40 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes
Size of areas: 4 to 40 acres

Map Unit Composition

Pacolet and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 3 inches—dark brown fine sandy loam

Subsoil:
3 to 7 inches—yellowish red sandy clay loam
7 to 25 inches—red clay loam
25 to 37 inches—reddish yellow and red clay loam

Substratum:
37 to 65 inches—yellowish red clay loam

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways
- Poindexter soils, which are in landform positions similar to those of the Pacolet soil but have less clay in the subsoil and have soft bedrock at a depth of 20 to 40 inches

Similar components:
- Wedowee soils, which are in landform positions similar to those of the Pacolet soil but have a yellower subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- The slope may restrict the use of some farm equipment.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- Because of the slope, the use of mechanical planting equipment is impractical.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6e
Virginia soil management group: X
Hydric soil: No

15C3—Pacolet clay loam, 7 to 15 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 50 acres
Note: Erosion has removed most of the original surface layer; some areas may have intricate patterns that include less eroded areas

Map Unit Composition

Pacolet and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 7 inches—reddish brown clay loam

Subsoil:
7 to 25 inches—red clay loam
25 to 37 inches—reddish yellow and red clay loam

Substratum:
37 to 65 inches—yellowish red clay loam

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways
- Poindexter soils, which are in landform positions similar to those of the Pacolet soil but have less clay in the subsoil and have soft bedrock at a depth of 20 to 40 inches

Similar components:
- Appling and Wedowee soils, which are in landform positions similar to those of the Pacolet soil but have a yellower subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 7.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat; poorly suited to alfalfa hay, grass-legume hay, corn, and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- Erosion has removed most of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Poorly suited

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to yellow-poplar; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: X
Hydric soil: No

15D3—Pacolet clay loam, 15 to 25 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes
Size of areas: 4 to 80 acres
Note: Erosion has removed most of the original surface layer; some areas may have intricate patterns that include less eroded areas

Map Unit Composition

Pacolet and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 7 inches—reddish brown clay loam

Subsoil:
7 to 25 inches—red clay loam
25 to 37 inches—reddish yellow and red clay loam

Substratum:
37 to 65 inches—yellowish red clay loam

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways
- Poindexter soils, which are in landform positions similar to those of the Pacolet soil but have less clay in the subsoil and have soft bedrock at a depth of 20 to 40 inches

Similar components:
- Wedowee soils, which are in landform positions similar to those of the Pacolet soil but have a yellower subsoil
- Soils that are in landform positions similar to those of the Pacolet soil but have a gravelly surface layer

Soil Properties and Qualities

Available water capacity: Moderate (about 7.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to yellow-poplar; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6e
Virginia soil management group: X
Hydric soil: No

16A—Partlow fine sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Drainageways and swales
Position on the landform: Head slopes
Size of areas: 4 to 30 acres

Map Unit Composition

Partlow and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—very dark gray fine sandy loam

Subsurface layer:
2 to 6 inches—grayish brown sandy loam; brownish yellow masses of oxidized iron

Subsoil:
6 to 9 inches—gray sandy loam; light olive brown masses of oxidized iron
9 to 28 inches—gray sandy clay loam; yellowish brown masses of oxidized iron
28 to 40 inches—gray sandy clay loam; light yellowish brown masses of oxidized iron

Substratum:
40 to 65 inches—gray sandy clay loam; light yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the higher landform positions
- Poindexter and Wedowee soils, which are well drained and in the higher landform positions

Similar components:
- Colfax soils, which are somewhat poorly drained and in the higher landform positions
- Soils that are in landform positions similar to those of the Partlow soil but have more silt and clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)

Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Old alluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay, wheat, and corn; poorly suited to soybeans; not suited to tobacco and alfalfa hay
- Excessive permeability increases the risk of ground-water contamination.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Moderately suited to loblolly pine, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low strength interferes with the construction of haul roads and log landings.
- The low strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4w
Virginia soil management group: HH
Hydric soil: Yes

17A—Roanoke fine sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Low stream terraces
Position on the landform: Treads
Size of areas: 4 to 120 acres

Map Unit Composition

Roanoke and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—light brownish gray fine sandy loam

Subsoil:
6 to 8 inches—grayish brown clay loam
8 to 30 inches—grayish brown clay; yellowish brown masses of oxidized iron
30 to 50 inches—gray clay; yellowish brown masses of oxidized iron

Substratum:
50 to 65 inches—light brownish gray stratified clay to sandy loam

Minor Components

Dissimilar components:
- Dogue soils, which are moderately well drained and in the higher landform positions
- State soils, which are well drained and in the higher landform positions

Similar components:
- Colfax soils, which are somewhat poorly drained and in the higher landform positions
- Somewhat poorly drained, clayey soils in the higher landform positions

Soil Properties and Qualities

Available water capacity: Moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Old alluvium

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, and wheat; not suited to tobacco, grass-legume hay, and alfalfa hay

- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Moderately suited to sweetgum
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- This soil is well suited to haul roads and log landings.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4w
Virginia soil management group: NN
Hydric soil: Yes

18B—State fine sandy loam, 2 to 6 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Stream terraces
Position on the landform: Treads
Size of areas: 4 to 50 acres

Map Unit Composition

State and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown fine sandy loam

Subsoil:
8 to 14 inches—strong brown loam
14 to 27 inches—strong brown clay loam
27 to 40 inches—yellowish brown and strong brown clay loam
40 to 48 inches—light yellowish brown and brownish yellow loam

Substratum:
48 to 65 inches—light yellowish brown and brownish yellow fine sandy loam

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower landform positions
- Dogue soils, which are moderately well drained and in the lower landform positions
- Roanoke soils, which are poorly drained and in drainageways

Similar components:
- Soils that are in landform positions similar to those of the State soil but have more clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 9.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 48 to 79 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Old alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, tobacco, and grass-legume hay; moderately suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Well suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine, southern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- This soil is well suited to haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems, which may pollute the water table.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: B
Hydric soil: No

19A—Toccoa fine sandy loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains
Position on the landform: Treads
Size of areas: 4 to 50 acres

Map Unit Composition

Toccoa and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—dark brown fine sandy loam
2 to 6 inches—brown fine sandy loam
6 to 11 inches—dark yellowish brown fine sandy loam

Substratum:
11 to 26 inches—yellowish brown fine sandy loam
26 to 65 inches—yellowish brown sandy loam; very dark grayish brown manganese coatings

Minor Components

Dissimilar components:
- Chastain soils, which are poorly drained and in drainageways
- Chewacla soils, which are somewhat poorly drained and in drainageways

Similar components:
- Buncombe soils, which are in landform positions similar to those of the Toccoa soil but are excessively drained
- Soils that are in landform positions similar to those of the Toccoa soil but have a silty subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 6.6 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 30 to 60 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat; poorly suited to corn and soybeans; not suited to tobacco, grass-legume hay, and alfalfa hay
- Frequent flooding restricts the use of winter grain crops.
- Flooding may damage crops.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.

Woodland

Suitability: Well suited to loblolly pine, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3w
Virginia soil management group: II
Hydric soil: No

20C—Wedowee sandy loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 150 acres

Map Unit Composition

Wedowee and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—very dark grayish brown sandy loam

Subsurface layer:
2 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 10 inches—strong brown sandy clay loam
10 to 24 inches—reddish yellow and yellowish red sandy clay
24 to 35 inches—reddish yellow and yellowish red sandy clay loam

Substratum:
35 to 50 inches—reddish yellow and yellowish red sandy clay loam
50 to 65 inches—reddish yellow and yellowish red sandy loam

Minor Components

Dissimilar components:
- Colfax soils, which are somewhat poorly drained and in the lower landform positions
- Helena soils, which are moderately well drained and in the lower landform positions
- Winnsboro soils, which are in landform positions similar to those of the Wedowee soil but have weathered bedrock at a depth of 40 to 60 inches

Similar components:
- Appling soils, which are in landform positions similar to those of the Wedowee soil but have a thicker subsoil
- Soils that are in landform positions similar to those of the Wedowee soil but have less clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Well suited to wheat; moderately suited to alfalfa hay, grass-legume hay, tobacco, corn, and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and northern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: V
Hydric soil: No

20D—Wedowee sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes
Size of areas: 4 to 60 acres

Map Unit Composition

Wedowee and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—very dark grayish brown sandy loam

Subsurface layer:
2 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 10 inches—strong brown sandy clay loam
10 to 24 inches—reddish yellow and yellowish red sandy clay
24 to 35 inches—reddish yellow and yellowish red sandy clay loam

Substratum:
35 to 50 inches—reddish yellow and yellowish red sandy clay loam
50 to 65 inches—reddish yellow and yellowish red sandy loam

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways

Similar components:
- Appling soils, which are in landform positions similar to those of the Wedowee soil but have a thicker subsoil
- Pacolet soils, which are in landform positions similar to those of the Wedowee soil but have a redder subsoil
- Soils that are in landform positions similar to those of the Wedowee soil but have less clay in the subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to alfalfa hay, grass-legume hay, and wheat; poorly suited to corn and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and northern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: V
Hydric soil: No

20E—Wedowee sandy loam, 25 to 40 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes
Size of areas: 4 to 20 acres

Map Unit Composition

Wedowee and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—very dark grayish brown sandy loam

Subsurface layer:
2 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 10 inches—strong brown sandy clay loam
10 to 24 inches—reddish yellow and yellowish red sandy clay
24 to 35 inches—reddish yellow and yellowish red sandy clay loam

Substratum:
35 to 50 inches—reddish yellow and yellowish red sandy clay loam
50 to 65 inches—reddish yellow and yellowish red sandy loam

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways

Similar components:
- Pacolet soils, which are in landform positions similar to those of the Wedowee soil but have a redder subsoil
- Soils that are in landform positions similar to those of the Wedowee soil but have a thinner subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- The slope may restrict the use of some farm equipment.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and northern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A

timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- Because of the slope, the use of mechanical planting equipment is impractical.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.

Septic tank absorption fields

- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6e
Virginia soil management group: V
Hydric soil: No

21B—Wedowee-Poindexter complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 20 acres

Map Unit Composition

Note: These Wedowee and Poindexter soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping

Wedowee and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Poindexter and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Wedowee

Surface layer:
0 to 2 inches—very dark grayish brown sandy loam

Subsurface layer:
2 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 10 inches—strong brown sandy clay loam

10 to 24 inches—reddish yellow and yellowish red sandy clay
24 to 35 inches—reddish yellow and yellowish red sandy clay loam

Substratum:
35 to 50 inches—reddish yellow and yellowish red sandy clay loam
50 to 65 inches—reddish yellow and yellowish red sandy loam

Poindexter

Surface layer:
0 to 2 inches—dark grayish brown sandy loam

Subsurface layer:
2 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 9 inches—yellowish brown loam
9 to 18 inches—yellowish brown clay loam; common black and common yellow mottles
18 to 24 inches—brownish yellow sandy clay loam; common black and common yellow mottles

Substratum:
24 to 39 inches—very pale brown, yellowish brown, and brownish yellow sandy loam

Soft bedrock:
39 to 54 inches—brownish yellow, very pale brown, and black biotite gneiss bedrock

Hard bedrock:
54 inches—biotite gneiss bedrock

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways
- Winnsboro soils, which are in landform positions similar to those of the Wedowee and Poindexter soils but have weathered bedrock at a depth of 40 to 60 inches

Similar components:
- Appling soils, which are similar to the Wedowee soil and in similar landform positions but which have a thicker subsoil
- Pacolet soils, which are similar to the Wedowee soil and in similar landform positions but which have a redder subsoil

Soil Properties and Qualities

Available water capacity: Wedowee—moderate (about 8.2 inches); Poindexter—low (about 5.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Wedowee—very deep (more than 60 inches); Poindexter—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Wedowee—more than 60 inches; Poindexter—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Wedowee—medium; Poindexter—high
Surface fragments: None

Parent material: Wedowee—residuum weathered from granite and gneiss; Poindexter—mixed basic residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland

Suitability: Well suited to wheat; moderately suited to corn and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and northern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.
- These soils are well suited to equipment operations.

Building sites

- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- These soils are well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 2e
Virginia soil management group: Wedowee—V; Poindexter—FF
Hydric soils: No

21C—Wedowee-Poindexter complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 60 acres

Map Unit Composition

Note: These Wedowee and Poindexter soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping

Wedowee and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Poindexter and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Wedowee

Surface layer:
0 to 2 inches—very dark grayish brown sandy loam

Subsurface layer:
2 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 10 inches—strong brown sandy clay loam
10 to 24 inches—reddish yellow and yellowish red sandy clay
24 to 35 inches—reddish yellow and yellowish red sandy clay loam

Substratum:
35 to 50 inches—reddish yellow and yellowish red sandy clay loam
50 to 65 inches—reddish yellow and yellowish red sandy loam

Poindexter

Surface layer:
0 to 2 inches—dark grayish brown sandy loam

Subsurface layer:
2 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 9 inches—yellowish brown loam
9 to 18 inches—yellowish brown clay loam; common black and common yellow mottles
18 to 24 inches—brownish yellow sandy clay loam; common black and common yellow mottles

Substratum:
24 to 39 inches—very pale brown, yellowish brown, and brownish yellow sandy loam

Soft bedrock:
39 to 54 inches—brownish yellow, very pale brown, and black biotite gneiss bedrock

Hard bedrock:
54 inches—biotite gneiss bedrock

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways
- Winnsboro soils, which are in landform positions similar to those of the Wedowee and Poindexter soils but have weathered bedrock at a depth of 40 to 60 inches

Similar components:
- Appling soils, which are similar to the Wedowee soil and in similar landform positions but which have a thicker subsoil

- Pacolet soils, which are similar to the Wedowee soil and in similar landform positions but which have a redder subsoil

Soil Properties and Qualities

Available water capacity: Wedowee—moderate (about 8.2 inches); Poindexter—low (about 5.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Wedowee—very deep (more than 60 inches); Poindexter—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Wedowee—more than 60 inches; Poindexter—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Wedowee—medium; Poindexter—high
Surface fragments: None
Parent material: Wedowee—residuum weathered from granite and gneiss; Poindexter—mixed basic residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and northern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Wedowee—V; Poindexter—FF
Hydric soils: No

21D—Wedowee-Poindexter complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes
Size of areas: 4 to 100 acres

Map Unit Composition

Note: These Wedowee and Poindexter soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping

Wedowee and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Poindexter and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Wedowee

Surface layer:
0 to 2 inches—very dark grayish brown sandy loam

Subsurface layer:
2 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 10 inches—strong brown sandy clay loam
10 to 24 inches—reddish yellow and yellowish red sandy clay
24 to 35 inches—reddish yellow and yellowish red sandy clay loam

Substratum:
35 to 50 inches—reddish yellow and yellowish red sandy clay loam
50 to 65 inches—reddish yellow and yellowish red sandy loam

Poindexter

Surface layer:
0 to 2 inches—dark grayish brown sandy loam

Subsurface layer:
2 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 9 inches—yellowish brown loam
9 to 18 inches—yellowish brown clay loam; common black and common yellow mottles

Figure 6.—Small areas of soils that have stones and boulders on the surface are included in mapping with the Wedowee-Poindexter complex, 15 to 25 percent slopes.

18 to 24 inches—brownish yellow sandy clay loam; common black and common yellow mottles

Substratum:
24 to 39 inches—very pale brown, yellowish brown, and brownish yellow sandy loam

Soft bedrock:
39 to 54 inches—brownish yellow, very pale brown, and black biotite gneiss bedrock

Hard bedrock:
54 inches—biotite gneiss bedrock

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways
- Winnsboro soils, which are in landform positions similar to those of the Wedowee and Poindexter soils but have weathered bedrock at a depth of 40 to 60 inches
- Small areas of soils that have stones and boulders on the surface (fig. 6)

Similar components:
- Appling soils, which are similar to the Wedowee soil and in similar landform positions but which have a thicker subsoil
- Pacolet soils, which are similar to the Wedowee soil and in similar landform positions but which have a redder subsoil

Soil Properties and Qualities

Available water capacity: Wedowee—moderate (about 8.2 inches); Poindexter—low (about 5.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Wedowee—very deep (more than 60 inches); Poindexter—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Wedowee—more than 60 inches; Poindexter—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Wedowee—high; Poindexter—very high
Surface fragments: None
Parent material: Wedowee—residuum weathered from granite and gneiss; Poindexter—mixed basic residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland

Suitability: Moderately suited to wheat; poorly suited to corn and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and northern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Wedowee—V; Poindexter—FF
Hydric soils: No

21E—Wedowee-Poindexter complex, 25 to 40 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes
Size of areas: 4 to 50 acres

Map Unit Composition

Note: These Wedowee and Poindexter soils occur as areas so closely intermingled that they could not be separated at the scale selected for mapping

Wedowee and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Poindexter and similar soils: Typically 35 percent, ranging from about 30 to 40 percent

Typical Profile

Wedowee

Surface layer:
0 to 2 inches—very dark grayish brown sandy loam

Subsurface layer:
2 to 7 inches—brownish yellow sandy loam

Subsoil:
7 to 10 inches—strong brown sandy clay loam
10 to 24 inches—reddish yellow and yellowish red sandy clay
24 to 35 inches—reddish yellow and yellowish red sandy clay loam

Substratum:
35 to 50 inches—reddish yellow and yellowish red sandy clay loam
50 to 65 inches—reddish yellow and yellowish red sandy loam

Poindexter

Surface layer:
0 to 2 inches—dark grayish brown sandy loam

Subsurface layer:
2 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 9 inches—yellowish brown loam
9 to 18 inches—yellowish brown clay loam; common black and common yellow mottles
18 to 24 inches—brownish yellow sandy clay loam; common black and common yellow mottles

Substratum:
24 to 39 inches—very pale brown, yellowish brown, and brownish yellow sandy loam

Soft bedrock:
39 to 54 inches—brownish yellow, very pale brown, and black biotite gneiss bedrock

Hard bedrock:
54 inches—biotite gneiss bedrock

Minor Components

Dissimilar components:
- Helena soils, which are moderately well drained and in the lower landform positions
- Partlow soils, which are poorly drained and in drainageways
- Winnsboro soils, which are in landform positions similar to those of the Wedowee and Poindexter soils but have weathered bedrock at a depth of 40 to 60 inches

Similar components:
- Appling soils, which are similar to the Wedowee soil and in similar landform positions but which have a thicker subsoil
- Pacolet soils, which are similar to the Wedowee soil and in similar landform positions but which have a redder subsoil

Soil Properties and Qualities

Available water capacity: Wedowee—moderate (about 8.2 inches); Poindexter—low (about 5.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Wedowee—very deep (more than 60 inches); Poindexter—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Wedowee—more than 60 inches; Poindexter—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Wedowee—high; Poindexter—very high
Surface fragments: None
Parent material: Wedowee—residuum weathered from granite and gneiss; Poindexter—mixed basic residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Poorly suited

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.
- The slope may restrict the use of some farm equipment.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and northern red oak

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- Because of the slope, the use of mechanical planting equipment is impractical.
- The low strength interferes with the construction of haul roads and log landings.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6e
Virginia soil management group: Wedowee—V; Poindexter—FF
Hydric soils: No

22B—Winnsboro sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 90 acres

Map Unit Composition

Winnsboro and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—brown sandy loam

Subsurface layer:
6 to 9 inches—pale brown sandy loam; black iron-manganese concretions

Subsoil:
9 to 34 inches—light olive brown clay
34 to 39 inches—light olive brown clay loam

Substratum:
39 to 45 inches—yellowish brown loam; common very dark grayish brown and common yellow mottles

Soft bedrock:
45 to 65 inches—yellow and very dark gray weathered bedrock

Minor Components

Dissimilar components:
- Appling soils, which are in landform positions similar to those of the Winnsboro soil but have weathered bedrock below a depth of 60 inches
- Helena soils, which are moderately well drained and in the lower landform positions
- Poindexter soils, which are in landform positions similar to those of the Winnsboro soil but have weathered bedrock at a depth of 20 to 40 inches

Similar components:
- Soils that are in landform positions similar to those of the Winnsboro soil but have a thinner subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 6.2 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Deep (40 to 60 inches)
Depth to root-restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Medium
Surface fragments: None
Parent material: Mafic residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn, soybeans, and wheat; not suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited

- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to southern red oak; moderately suited to yellow-poplar and sweetgum; poorly suited to loblolly pine

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2e
Virginia soil management group: KK
Hydric soil: No

22C—Winnsboro sandy loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves
Size of areas: 4 to 70 acres

Map Unit Composition

Winnsboro and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—brown sandy loam

Subsurface layer:
6 to 9 inches—pale brown sandy loam; black iron-manganese concretions

Subsoil:
9 to 34 inches—light olive brown clay
34 to 39 inches—light olive brown clay loam

Substratum:
39 to 45 inches—yellowish brown loam; common very dark grayish brown and common yellow mottles

Soft bedrock:
45 to 65 inches—yellow and very dark gray weathered bedrock

Minor Components

Dissimilar components:
- Appling soils, which are in landform positions similar to those of the Winnsboro soil but have weathered bedrock below a depth of 60 inches
- Helena soils, which are moderately well drained and in the lower landform positions
- Poindexter soils, which are in landform positions similar to those of the Winnsboro soil but have weathered bedrock at a depth of 20 to 40 inches

Similar components:
- Soils that are in landform positions similar to those of the Winnsboro soil but have a thinner subsoil

Soil Properties and Qualities

Available water capacity: Moderate (about 6.2 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Deep (40 to 60 inches)
Depth to root-restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Medium
Surface fragments: None
Parent material: Mafic residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn, soybeans, and wheat; not suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to southern red oak; moderately suited to yellow-poplar and sweetgum; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential

negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: KK
Hydric soil: No

W—Water

This map unit is in the Southern Piedmont Major Land Resource Area (MLRA 136). It consists of streams, lakes, reservoirs, and other bodies of water.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for agricultural waste management. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

Johns W. Bailey, Extension Agent, Virginia Cooperative Extension Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and Virginia soil management groups are discussed.

In 1982, about 21 percent of the acreage in Amelia County, or about 48,000 acres, was used for agriculture. Of this acreage, about 33,000 acres was used for cultivated crops and about 15,000 acres was used for pasture and hay. Corn, soybeans, and tobacco are the main row crops, barley and wheat are the major close-growing crops, and tall fescue, orchardgrass, red clover, and alfalfa are the main pasture and hay crops. Nearly all of the pasture and hay is used to support livestock enterprises in the county. About 68,000 acres, or about 30 percent of the county, is used as woodland or pasture but has good suitability for crops.

Very deep, well drained, gently sloping upland soils, such as Appling and Cecil soils, make up about 37 percent of the county. A wide variety of row crops, close-growing crops, and grasses and legumes are suited to these soils.

Erosion is a major concern on most of the soils used for cropland in Amelia County. Because most of the soils in the county have slopes of more than 2 percent, they are susceptible to erosion.

Loss of the surface layer through erosion reduces soil productivity, fertility, and the available water capacity. Erosion is especially damaging on soils that have a clayey subsoil, such as Appling, Cecil, Creedmoor, Dogue, Helena, Pacolet, Wedowee, and Winnsboro soils. It also reduces productivity on soils that tend to be droughty, such as Poindexter soils.

Erosion also results in the sedimentation of streams. Controlling erosion minimizes the pollution of streams by sediment and improves the quality of water for municipal use, for recreation, and for fish and wildlife.

Preparing a good seedbed through tillage is difficult on severely eroded soils, such as Pacolet clay loam, because much of the original surface layer has been lost. Establishing a good stand of any crop is difficult on eroded soils because of the reduced amount of available moisture in the seedbed. Severely eroded areas occur in some parts of the county.

Erosion-control practices provide a protective surface cover, minimize runoff, and increase the rate of water infiltration. A cropping system that keeps a plant cover on the soil for extended periods helps to minimize soil loss and maintain the productive capacity of the soil. Including forage crops of legumes and grasses in the cropping system helps to control erosion, provide nitrogen to the soil, and improve tilth.

Contour stripcropping and grassed waterways are the common erosion-control practices in the county. These practices are best suited to soils that have smooth, uniform slopes. Terraces and diversions reduce the length of slopes and thus help to control runoff and erosion. They are most practical on very deep, well drained soils that have long, regular slopes. Some Appling, Cecil, Georgeville, and Herndon soils are suitable for terraces. Contour tillage or terracing is not practical in most areas of Pacolet, Poindexter, Wedowee, and Winnsboro soils. A substantial plant cover is required to control erosion on these soils.

Conservation tillage, leaving crop residue on the surface, and planting winter cover crops help to increase the rate of water infiltration and reduce the hazards of runoff and erosion. These practices are suitable on most of the soils in the survey area, but they are less effective on the more eroded soils.

Fertility is low in most of the soils in the county. Most of the soils are very strongly acid or strongly acid unless they have been limed. Poindexter and Winnsboro soils, however, are commonly less acid. The proper soil reaction enables crops to use fertilizer and soil moisture more efficiently. On almost all of the soils in the county, crops respond well to applications of fertilizer and lime.

Tilth is an important factor affecting the germination of seeds and the infiltration of water into the soil. Soils that have good tilth are granular and porous.

Most of the soils used for crops in the survey area have a surface layer of sandy loam, fine sandy loam, loam, or silt loam and have a low content of organic matter. Generally, the structure of the surface layer of these soils is weak and a crust forms on the surface during periods of rainfall. The crust is hard when dry. As a result, it reduces the infiltration of water and increases the runoff rate. Regular additions of crop residue and other organic material help to improve soil structure and prevent the formation of a crust.

Tilth is a particular concern on Chastain, Chewacla, Cid, Colfax, Creedmoor, Dogue, Helena, Partlow, and Roanoke soils. These soils often remain wet until about mid spring. If they are plowed when wet, the soils tend to be cloddy after drying and a good seedbed is difficult to prepare.

Drainage is a major management concern in some areas used for crops and pasture in the county. Some soils are naturally so wet that the production of crops commonly grown in the survey area is generally not practical or possible unless the soils are drained. These soils include the somewhat poorly drained Chewacla soils and the poorly drained Chastain, Partlow, and Roanoke soils.

The design of surface and subsurface drainage systems varies according to the kind of soil. A combination of surface drainage and tile drainage can be used in some areas. Drains should be installed at closer intervals in the more slowly permeable soils than in the more rapidly permeable soils. Tile drainage is suited to soils that have moderate permeability, such as Chewacla and Partlow soils. These soils, however, are subject to flooding and commonly occur in areas where adequate drainage outlets are not available.

Field crops suited to the soils and climate of the survey area include corn, soybeans, flue-cured tobacco, and sun-cured tobacco. Barley and wheat are the common small grains.

Pastures in the county commonly support tall fescue, orchardgrass, or red clover. Most improved pastures are seeded to mixtures of ladino clover and tall fescue or orchardgrass. Pastures of cool-season plants, such as orchardgrass, tall fescue, and clovers, provide most of the forage in spring and fall. Pastures of warm-season plants, such as lespedezas, sudangrass-sorghum hybrids, and native grasses, provide summer forage.

Establishing and maintaining a mixture of grasses and legumes and preventing overgrazing are the major concerns in managing pastures. Proper stocking rates, rotational and deferred grazing, weed control, restriction of grazing during wet periods on moderately well drained to poorly drained soils, and applications of lime and fertilizer are the major management practices. Stockpiling the accumulated growth of tall fescue for winter grazing can reduce the need for hay.

The major plants grown for hay in the county are orchardgrass, red clover, alfalfa, tall fescue, and small grains. Many of the soils in the survey area are suitable for alfalfa if the proper amounts of lime and fertilizer are applied. Developed strains of bermudagrass can be grown and managed for good-quality hay.

Specialty crops are grown on a small acreage in the county. They include vegetables, strawberries, and nursery plants. Most are produced for local markets. The very deep, well drained Appling soils are especially well suited to most of the specialty crops. Poor air drainage contributes to the severity of frost damage, which causes the failure of orchards.

Most of the well drained soils in the county are suitable for strawberries, raspberries, blackberries, sweet corn, muskmelons, string beans, broccoli, and nursery plants. If irrigated, these soils are also suitable for grapes in sloping areas. Soils in low landscape positions, where frost is frequent and air drainage is poor, are generally poorly suited to early vegetables and small fruits.

Effective pasture management practices include maintaining a mixture of grasses and legumes, rotating pasture, deferring grazing, controlling undesirable vegetation, and using proper stocking rates.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Yields per Acre

Table 5, parts I and II, show the average yields per acre in this survey area that can be expected of the principal crops under a high level of management. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification and Virginia soil management group of map units in the survey area also are shown in the table.

The yields are based on VALUES—the Virginia Agronomic Land Use Evaluation System (Virginia Polytechnic Institute and State University, 1994). The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Realistic yield goals can be maintained over a long-term basis through proper nutrient management and other soil amendments such as lime. Applications of nitrogen and phosphorus from organic and inorganic forms should be done according to approved nutrient management practices and regulations.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the yields table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961). Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section “Detailed Soil Map Units” and in the yields table.

Virginia Soil Management Groups

The Virginia Agronomic Land Use Evaluation System (VALUES) is a system that ranks soils for management and productivity (Virginia Polytechnic Institute and State University, 1994). VALUES places each soil series in Virginia into one of 43 management groups. The format of the management groups, A through QQ, include the following soil characteristics—regional occurrence; parent material; landscape position or influence; solum thickness; dominant profile features, such as texture; available water capacity for plants; and internal soil drainage. Yields that are both economically and environmentally feasible were assigned to each management group, based on yields of field trial crop data and research. The following paragraphs describe the soil management groups in Amelia County.

Group B. The soils of this group formed from alluvium and are associated with stream terraces. They are deep, have loamy textures throughout, have a high available water capacity, and are well drained or moderately well drained.

Group I. The soils of this group formed from alluvium along flood plains in the Piedmont. As a result, they are somewhat prone to flooding. They are deep, have dominantly clay loam subsurface horizons, have a moderately high available water capacity, and are somewhat poorly drained.

Group K. The soils of this group formed from mixed marine and fluvial sediments on landscapes that range from stream terraces to broad, nearly level interfluves in uplands. They are deep, have loamy surface layers and clay loam to clayey subsurface layers, have a moderate available water capacity, and are somewhat poorly drained.

Group V. The soils of this group formed from saprolites derived from a variety of parent materials ranging from slates to granites, gneisses, schists, and more basic granitic rocks. They are on upland landscapes in the Piedmont. They are moderately deep, have clayey subsurface horizons, have a moderate available water capacity, and are well drained.

Group X. The soils of this group are derived from a variety of residual materials, including slates, granites, gneisses, and schists. They are on upland landscapes in the Piedmont region. They are moderately deep, have clayey subsurface horizons, have coarse fragments or gravel in some areas, have a moderate available water capacity, and are moderately well drained or well drained.

Group BB. The soils of this group formed from a variety of parent materials, including colluvium, alluvium, and residuum. They are on uplands, terraces, or footslopes. The soils have fragipans that underlie silty to loamy subsurface horizons that have coarse fragments in some areas. Because the fragipans limit the rooting zone, these soils have a low or moderately low available water capacity. They are generally somewhat poorly drained.

Group FF. The soils of this group formed in residual parent materials ranging from sandstone, shales, and slates to loamy granitic saprolites. They extend across the Piedmont and are on steeply dissected uplands. They are moderately shallow and mostly have loamy-skeletal subsurface horizons that may contain 80 percent or more coarse fragments. As a result, the available water capacity is very low or low. The soils are moderately well drained or well drained.

Group HH. The soils of this group formed from loamy sediments on flood plains. They are moderately deep, have fine-loamy or clayey subsurface layers, have a moderate available water capacity, and range from somewhat poorly drained to moderately well drained.

Group II. The soils of this group formed from sandy parent materials or from local alluvium or colluvium of sandy origin. They are sandy textured throughout with little horizonation, have a low or very low available water capacity, and are well drained or moderately well drained.

Group KK. The soils of this group formed from a variety of residual materials, including Triassic sediments, residuum from basic rocks, and other clayey sediments, and are predominantly in the Piedmont region. They are moderately deep, have clayey subsurface horizons, and commonly have large components of high shrink-swell clays. They have a moderate available water capacity and range from moderately well drained to somewhat poorly drained.

Group LL. The soils of this group formed in clayey sediments on low-lying landscapes. They are very deep and have clayey subsurface layers. These soils have a moderate available water capacity and are somewhat poorly drained or poorly drained.

Group NN. The soils of this group formed in alluvium along streams or on terraces. They are moderately deep, have silty to clay loam subsurface layers, have a moderately high available water capacity, and are somewhat poorly drained or poorly drained.

The management groups for the map units in the survey area are given in the section “Detailed Soil Map Units” and in table 5.

Prime Farmland

Table 6 lists the map units in the survey area that are considered prime farmland. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation’s food supply.

Prime farmland is of major importance in meeting the Nation’s short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation’s prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

The survey area includes about 90,397 acres of prime farmland. This acreage makes up about 39 percent of the total acreage of the survey area. Most of the prime farmland is in areas in the center of the county that extend north and south between the Blue Ridge and Massanutten Mountains.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

For some soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

Hydric Soils

Table 7 lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 2006) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Table 8, parts I, II, and III, show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the table are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Forestland Productivity and Management

Forestland covers about three-fourths of Amelia County. Nearly all of the commercial woodland is privately owned. Timber harvesting and wood-related industries provide employment for many people in the survey area.

The major hardwoods in the county are various species of oak, hickory, yellow-poplar, and sweetgum. The major pine species are Virginia pine, loblolly pine, and shortleaf pine.

Nearly all of the woodland in the county has been cut over at least once. Loggers have generally selected the most valuable tree species for removal, leaving the less valuable species for reseeding. Many of the stands of Virginia pine in the county are in fields that were abandoned in the 1940’s, usually because of depleted fertility.

Soils vary in their ability to produce trees. Available water capacity and depth of the root zone have major effects on tree growth. Fertility and texture also influence tree growth. Elevation, aspect, and climate determine the kinds of trees that can grow on a site. Elevation and aspect are of particular importance in mountainous areas.

The tables described in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forestland management.

Forestland Productivity

In table 9, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forestland Management

In table 10, parts I through V, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Proper planning for timber harvesting is essential to minimize the potential impact to soil and water quality. A harvest plan should include logging roads, log decks, streamside management zones, stream crossings, skid trails, schedule of activities, and Best Management Practices (BMP’s) for each activity. Forests should be managed to increase economic and environmental benefits. A forest stewardship plan should be developed to guide management and utilization of the woodlands.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical* *planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Recreational Development

In table 11, parts I and II, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic.

Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 12, parts I and II, show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Table 13, parts I and II, show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 14, parts I and II, give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 14, part I, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 14, part II, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 15 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering properties, physical and chemical properties, and pertinent soil and water features.

Engineering Properties

Table 16 gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Physical Soil Properties

Table 17 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^{1}/_{3}$- or $^{1}/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in micrometers per second, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Soil Properties

Table 18 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have a pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Water Features

Table 19 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 20 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2006). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 21 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, active, thermic Typic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993) and in the “Field Book for Describing and Sampling Soils” (Schoeneberger and others, 2002). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2006). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Appling Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from granite and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 15 percent

Associated Soils

- Cecil soils, which are redder in the subsoil than the Appling soils
- Colfax soils, which are somewhat poorly drained
- Helena soils, which are moderately well drained
- Wedowee soils, which have a subsoil that is thinner than that of the Appling soils

Taxonomic Classification

Fine, kaolinitic, thermic Typic Hapludults

Typical Pedon

Appling fine sandy loam, 2 to 7 percent slopes; located 230 feet west of the intersection of U.S. Highway 360 and Frontage Road 647, about 220 feet south of U.S. Highway 360, in an area of woodland:

A—0 to 2 inches; grayish brown (2.5Y 5/2) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and medium roots; 3 percent angular quartz gravel; very strongly acid; abrupt smooth boundary.

E—2 to 11 inches; light yellowish brown (2.5Y 6/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine and medium roots and common coarse roots; 12 percent angular quartz gravel; very strongly acid; clear smooth boundary.

BE—11 to 14 inches; yellowish brown (10YR 5/6) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; 10 percent angular quartz gravel; very strongly acid; clear smooth boundary.

Bt1—14 to 29 inches; yellowish brown (10YR 5/6) clay; common medium prominent red (2.5YR 5/8) mottles; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; many distinct clay films on all faces of peds; few fine mica flakes; very strongly acid; gradual wavy boundary.

Bt2—29 to 37 inches; strong brown (7.5YR 5/6) clay; common medium prominent red (2.5YR 5/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; many distinct clay films on all faces of peds; few fine mica flakes; very strongly acid; clear wavy boundary.

BC—37 to 43 inches; 45 percent yellowish red (5YR 5/8) and 55 percent brownish yellow (10YR 6/8) clay loam; weak coarse subangular blocky structure; firm, slightly sticky, nonplastic; few fine roots; few distinct clay films on vertical faces of peds; few fine mica flakes; very strongly acid; gradual wavy boundary.

C1—43 to 48 inches; 45 percent red (2.5YR 5/8) and 55 percent brownish yellow (10YR 6/8) sandy clay loam saprolite; massive; friable, nonsticky, nonplastic; few fine roots; few fine mica flakes; very strongly acid; gradual wavy boundary.

C2—48 to 65 inches; 15 percent very pale brown (10YR 8/2) and 85 percent yellowish brown (10YR 5/8) loam saprolite; massive; friable, nonsticky, nonplastic; few fine mica flakes; few grains of feldspathic sand and clear quartz sand; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 20 percent in the A and E horizons; 0 to 10 percent in the B horizon
Mica flakes: Few or common in the Bt horizon; few to many in the BC and C horizons
Reaction: Very strongly acid or strongly acid in unlimed areas; moderately acid or slightly acid in the upper horizons in limed areas

A horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—2 to 6
Texture—fine sandy loam in the fine-earth fraction

E horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 to 6
Texture—fine sandy loam or sandy loam in the fine-earth fraction

BE horizon:
Hue—5YR to 10YR
Value—5 or 6
Chroma—3 to 8
Texture—sandy clay loam

Bt horizon:
Hue—5YR to 10YR
Value—5 or 6
Chroma—4 to 8
Texture—clay loam or clay

BC horizon:
Hue—5YR to 10YR
Value—5 or 6
Chroma—4 to 8
Texture—clay loam or sandy clay loam

C horizon:
Color—horizon is multicolored
Texture—loam, sandy clay loam, or clay loam

The Appling soils in Amelia County are considered taxadjuncts to the series because they do not have a kandic horizon. This difference, however, does not significantly affect the use and management of the soils.

Buncombe Series

Physiographic province: Southern Piedmont
Landform: Flood plains
Parent material: Recent alluvium
Drainage class: Excessively drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 5 percent

Associated Soils

- Chastain soils, which are poorly drained
- Chewacla soils, which are somewhat poorly drained
- Toccoa soils, which are well drained

Taxonomic Classification

Mixed, thermic Typic Udipsamments

Typical Pedon

Buncombe loamy sand, 2 to 5 percent slopes, rarely flooded; located 2,550 feet west-southwest of the bridge over Deep Creek along Route 612, in an area of cropland:

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) loamy sand; weak fine subangular blocky structure; common fine and medium roots; few fine mica flakes; very strongly acid; abrupt smooth boundary.
C1—6 to 10 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; few fine and medium roots; few fine mica flakes; very strongly acid; clear wavy boundary.
C2—10 to 25 inches; yellowish brown (10YR 5/6) loamy sand; single grain; loose; few fine mica flakes; strongly acid; clear wavy boundary.
C3—25 to 41 inches; yellowish brown (10YR 5/6) sand; single grain; loose; common fine and medium mica flakes; moderately acid; clear wavy boundary.
C4—41 to 55 inches; brownish yellow (10YR 6/6) sand; single grain; loose; common fine and medium mica flakes; moderately acid; clear wavy boundary.
C5—55 to 65 inches; yellowish brown (10YR 5/8) sand; single grain; loose; common fine and medium mica flakes; moderately acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragments: 0 to 1 percent; some pedons have as much as 15 percent in the lower part of the substratum
Mica flakes: Few to many throughout the profile
Reaction: In unlimed areas, very strongly acid to slightly acid

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loamy sand

C horizon:
Hue—5YR to 2.5Y
Value—5 or 6
Chroma—4 to 8
Texture—sand or loamy sand

Cecil Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from granite and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 15 percent

Associated Soils

- Appling and Wedowee soils, which have a subsoil that is yellower than that of the Cecil soils
- Helena soils, which are moderately well drained
- Pacolet soils, which have a subsoil that is thinner than that of the Cecil soils

Taxonomic Classification

Fine, kaolinitic, thermic Typic Hapludults

Typical Pedon

Cecil fine sandy loam, 2 to 7 percent slopes; located 1,200 feet west of the intersection of Highway VA-627 and U.S. Highway 360, about 800 feet north of U.S. Highway 360, in an area of cropland:

Ap—0 to 5 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; common fine roots; few very fine mica flakes; strongly acid; abrupt wavy boundary.

Bt1—5 to 15 inches; red (2.5YR 4/6) clay loam; weak coarse subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; common distinct clay films on all faces of peds; few fine mica flakes; strongly acid; clear wavy boundary.

Bt2—15 to 31 inches; red (2.5YR 4/6) clay; common prominent red (10R 4/6) and common prominent brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; common distinct clay films on all faces of peds; few fine mica flakes; strongly acid; clear wavy boundary.

Bt3—31 to 43 inches; red (2.5YR 4/6) clay loam; weak coarse subangular blocky structure; firm, slightly sticky, slightly plastic; few distinct clay films on vertical faces of peds; few fine mica flakes; strongly acid; clear wavy boundary.

C—43 to 65 inches; red (2.5YR 4/6) loam saprolite derived from gneiss; common prominent strong brown (7.5YR 5/8) and common prominent pale brown (10YR 6/3) mottles; massive; friable, slightly sticky, nonplastic; common fine mica flakes; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 20 percent in the A horizon; 0 to 5 percent in the B horizon
Mica flakes: None to common in the Bt horizon; few to many in the C horizon
Reaction: Very strongly acid or strongly acid in unlimed areas; moderately acid or slightly acid in the upper horizons in limed areas

Ap horizon:
Hue—5YR to 10YR
Value—3 to 5

Chroma—2 to 6
Texture—fine sandy loam in the fine-earth fraction

E horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture—fine sandy loam

BE horizon (if it occurs):
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—6 to 8
Texture—sandy clay loam

Bt horizon:
Hue—10R or 2.5YR
Value—4 or 5
Chroma—6 to 8
Texture—clay loam or clay

BC horizon (if it occurs):
Hue—10R to 5YR
Value—4 to 6
Chroma—4 to 8
Texture—clay loam or sandy clay loam

C horizon:
Hue—10R to 2.5YR
Value—4 to 6
Chroma—4 to 8
Texture—sandy loam, loam, or sandy clay loam

The Cecil soils in Amelia County are considered taxadjuncts to the series because they do not have a kandic horizon. This difference, however, does not significantly affect the use and management of the soils.

Chastain Series

Physiographic province: Southern Piedmont
Landform: Flood plains
Parent material: Recent alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 0 to 1 percent

Associated Soils

- Buncombe soils, which are excessively drained
- Chewacla soils, which are somewhat poorly drained
- Toccoa soils, which are well drained

Taxonomic Classification

Fine, mixed, semiactive, acid, thermic Fluvaquentic Endoaquepts

Typical Pedon

Chastain silty clay loam, 0 to 1 percent slopes, frequently flooded; located 2,250 feet east of the bridge over Namozine Creek along Highway VA-622, in an area of woodland:

A—0 to 5 inches; brown (10YR 5/3) silty clay loam; weak medium granular structure; friable, nonsticky, nonplastic; many fine and medium roots; strongly acid; clear smooth boundary.

Bg1—5 to 12 inches; grayish brown (10YR 5/2) silty clay loam; weak coarse subangular blocky structure; friable, moderately sticky, slightly plastic; common fine roots; common fine prominent dark yellowish brown (10YR 4/6) masses of oxidized iron; strongly acid; gradual wavy boundary.

Bg2—12 to 27 inches; gray (10YR 6/1) silty clay loam; weak coarse subangular blocky structure; friable, moderately sticky, slightly plastic; common fine roots; common fine distinct light yellowish brown (10YR 6/4) masses of oxidized iron; very strongly acid; gradual wavy boundary.

Bg3—27 to 38 inches; gray (10YR 5/1) silty clay; weak medium subangular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; common fine prominent strong brown (7.5YR 4/6) masses of oxidized iron; very strongly acid; gradual smooth boundary.

Bg4—38 to 48 inches; gray (10YR 5/1) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; common fine prominent strong brown (7.5YR 4/6) masses of oxidized iron; very strongly acid; clear wavy boundary.

Cg—48 to 65 inches; gray (10YR 5/1) silty clay loam; massive; firm, moderately sticky, slightly plastic; many fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 50 inches
Depth to bedrock: More than 60 inches
Reaction: In unlimed areas, very strongly acid to moderately acid

A horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—1 to 3
Texture—silty clay loam
Other characteristics—horizon can be neutral in hue with value of 4 to 7

Bg horizon:
Hue—10YR to 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam, clay loam, silty clay, or clay
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red
Other characteristics—horizon can be neutral in hue with value of 4 to 7

Cg horizon:
Hue—10YR to 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam, clay loam, silty clay, or clay

Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red
Other characteristics—horizon can be neutral in hue with value of 4 to 7

Chewacla Series

Physiographic province: Southern Piedmont
Landform: Flood plains
Parent material: Recent alluvium
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Buncombe soils, which are excessively drained
- Chastain soils, which are poorly drained
- Toccoa soils, which are well drained

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts

Typical Pedon

Chewacla silt loam, 0 to 2 percent slopes, frequently flooded; located 3,300 feet south of the intersection of Highways VA-630 and VA-609, about 550 feet west of Highway VA-609, in an area of cropland:

A—0 to 6 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; friable, slightly sticky, nonplastic; common fine roots; common fine mica flakes; very strongly acid; clear smooth boundary.
Bw1—6 to 11 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; common fine roots; common fine prominent black (10YR 2/1) manganese masses and common medium faint strong brown (7.5YR 4/6) masses of oxidized iron; common fine mica flakes; moderately acid; gradual smooth boundary.
Bw2—11 to 21 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; common fine prominent black (10YR 2/1) manganese masses, common medium distinct strong brown (7.5YR 4/6) masses of oxidized iron, and common medium distinct grayish brown (10YR 5/2) iron depletions; common fine mica flakes; slightly acid; abrupt wavy boundary.
Bw3—21 to 26 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; few fine roots; common medium distinct grayish brown (10YR 5/2) iron depletions, common fine prominent black (10YR 2/1) manganese masses, and common medium distinct strong brown (7.5YR 4/6) masses of oxidized iron; common fine mica flakes; slightly acid; gradual smooth boundary.
Bg—26 to 44 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; common medium distinct strong brown (7.5YR 4/6) and common medium faint brown (10YR 5/3) masses of oxidized iron; common fine mica flakes; moderately acid; clear wavy boundary.
Cg1—44 to 50 inches; dark gray (10YR 4/1) silt loam; massive; friable, slightly sticky,

nonplastic; common medium prominent strong brown (7.5YR 4/6) masses of oxidized iron; common fine mica flakes; strongly acid; clear wavy boundary.

Cg2—50 to 65 inches; dark gray (10YR 4/1) silt loam; massive; friable, slightly sticky, slightly plastic; common fine mica flakes; very strongly acid.

Range in Characteristics

Thickness of the solum: 35 to 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 5 percent in the A and B horizons and in the upper part of the C horizon; 0 to 45 percent in the lower part of the C horizon
Mica flakes: Few or common throughout the profile
Reaction: In unlimed areas, very strongly acid to slightly acid in the A and Bw horizons and very strongly acid to slightly alkaline in the Bg and Cg horizons

A horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—loam, fine sandy loam, sandy clay loam, or clay loam
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red

Bg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—loam, sandy clay loam, clay loam, or silty clay loam
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—stratified sandy and loamy sediments; very gravelly sand to clay sediments are at a depth of more than 40 inches
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

Cid Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from phyllite
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Moderately deep
Slope range: 2 to 10 percent

Associated Soils

- Georgeville and Herndon soils, which are very deep
- Winnsboro soils, which are deep

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Cid loam, 2 to 7 percent slopes; located 2,300 feet west of the intersection of Highways VA-622 and VA-708, about 130 feet north of Highway VA-622, in an area of woodland:

A1—0 to 2 inches; dark grayish brown (2.5Y 4/2) loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine, medium, and coarse roots; extremely acid; clear smooth boundary.

A2—2 to 7 inches; pale brown (10YR 6/3) loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine, medium, and coarse roots; very strongly acid; clear wavy boundary.

E—7 to 10 inches; light yellowish brown (2.5Y 6/4) loam; weak coarse granular structure; friable, nonsticky, nonplastic; common fine, medium, and coarse roots; very strongly acid; clear wavy boundary.

BE—10 to 15 inches; olive yellow (2.5Y 6/6) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; common fine distinct yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; clear wavy boundary.

Bt1—15 to 20 inches; yellowish brown (10YR 5/8) clay loam; weak medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; many medium distinct olive yellow (2.5Y 6/6) masses of oxidized iron; very strongly acid; clear wavy boundary.

Bt2—20 to 30 inches; yellowish brown (10YR 5/8) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; few faint clay films on all faces of peds; common medium distinct light yellowish brown (2.5Y 6/4) masses of oxidized iron and common fine prominent light brownish gray (2.5Y 6/2) iron depletions; very strongly acid; clear wavy boundary.

BC—30 to 35 inches; yellowish brown (10YR 5/8) silty clay loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; many medium prominent gray (10YR 5/1) iron depletions; 10 percent angular phyllite channers; very strongly acid; clear wavy boundary.

Cr—35 to 39 inches; brownish yellow (10YR 6/8) and white (10YR 8/1) weathered, consolidated phyllite bedrock that crushes to channery silt loam; abrupt smooth boundary.

R—39 inches; hard phyllite bedrock.

Range in Characteristics

Thickness of the solum: 20 to 35 inches
Depth to hard bedrock: 20 to 40 inches
Rock fragments: 0 to 25 percent in the A, E, and BE horizons; 0 to 15 percent in the Bt horizon; 5 to 25 percent in the BC horizon
Reaction: In unlimed areas, extremely acid to strongly acid

A horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 to 4
Texture—loam in the fine-earth fraction

E horizon:
Hue—10YR or 2.5Y
Value—6 or 7
Chroma—2 to 4
Texture—loam or silt loam in the fine-earth fraction

BE horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—4 to 6
Texture—loam or silt loam in the fine-earth fraction
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

Bt horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—4 to 8
Texture—clay loam, silty clay loam, silty clay, or clay
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red

BC horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—4 to 8
Texture—silty clay or silty clay loam in the fine-earth fraction
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red are in some pedons

Cr horizon:
Color—horizon is multicolored
Texture—weathered and fractured phyllite that crushes to channery or very channery sandy loam, loam, silt loam, or silty clay loam

R horizon:
Texture—hard phyllite

Colfax Series

Physiographic province: Southern Piedmont
Landform: Drainageways
Parent material: Colluvium derived from granite and gneiss
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 2 to 7 percent

Associated Soils

- Appling soils, which are well drained
- Helena soils, which are moderately well drained
- Partlow soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, subactive, thermic Aquic Fragiudults

Typical Pedon

Colfax sandy loam, 2 to 7 percent slopes; located 4,400 feet south-southeast of the intersection of Highways VA-606 and VA-612, about 2,100 feet east of the intersection of Highways VA-670 and VA-612, in an area of woodland:

A—0 to 2 inches; grayish brown (10YR 5/2) sandy loam; weak fine granular structure; very friable, soft, nonsticky, nonplastic; many fine, medium, and coarse roots; many fine pores; very strongly acid; abrupt wavy boundary.

E—2 to 8 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine granular structure; very friable, soft, nonsticky, nonplastic; common fine, medium, and coarse roots; many fine pores; very strongly acid; clear wavy boundary.

BE—8 to 14 inches; brownish yellow (10YR 6/8) sandy clay loam; weak fine subangular blocky structure; friable, slightly hard, slightly sticky, nonplastic; common medium roots; common fine pores; very strongly acid; clear wavy boundary.

Bt1—14 to 20 inches; yellowish brown (10YR 5/8) clay loam; weak medium subangular blocky structure; friable, slightly hard, slightly sticky, slightly plastic; common medium roots; common fine pores; few faint clay films on all faces of peds; common medium prominent light gray (10YR 7/1) iron depletions; very strongly acid; clear wavy boundary.

Bt2—20 to 34 inches; yellowish brown (10YR 5/8) clay loam; weak coarse subangular blocky structure; friable, slightly hard, slightly sticky, slightly plastic; few fine, medium, and coarse roots; few very fine pores; common faint clay films on all faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.

Btx—34 to 65 inches; brownish yellow (10YR 6/6) sandy clay loam; very coarse prismatic structure parting to weak thick platy; very firm, very hard, slightly sticky, nonplastic; brittle; few fine, medium, and coarse roots; few very fine pores; few faint clay films on vertical faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 60 inches or more
Depth to bedrock: More than 60 inches
Depth to fragipan: 16 to 36 inches
Rock fragments: 0 to 15 percent in the solum
Reaction: In unlimed areas, extremely acid to strongly acid

A horizon:
Hue—10YR or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—sandy loam

E horizon:
Hue—10YR to 5Y
Value—5 to 7
Chroma—2 to 4
Texture—sandy loam, fine sandy loam, or loam

BE horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 to 8
Texture—loam or sandy clay loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 to 8
Texture—sandy clay loam or clay loam
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red are in some pedons

Btx horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 to 8
Texture—sandy loam, loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red are in some pedons

BC horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—2 to 6
Texture—sandy loam, loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red are in some pedons

C horizon (if it occurs):
Hue—2.5YR to 5Y
Value—4 to 8
Chroma—1 to 8
Texture—sandy loam or sandy clay loam that has a large amount of highly weathered, soft rock fragments
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red are in some pedons

Creedmoor Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from Triassic-age sandstone and shale
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Low
Depth class: Very deep
Slope range: 2 to 7 percent

Associated Soils

• Mayodan soils, which are well drained

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Creedmoor fine sandy loam, 2 to 7 percent slopes; located 5,800 feet north-northeast of the intersection of Highways VA-622 and VA-709, in an area of woodland:

A—0 to 1 inch; dark gray (10YR 4/1) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine and medium roots and many coarse roots; very strongly acid; abrupt smooth boundary.

E—1 to 5 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak medium granular structure; friable, nonsticky, nonplastic; common fine, medium, and coarse roots; very strongly acid; clear wavy boundary.
Bt1—5 to 10 inches; light yellowish brown (10YR 6/4) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, nonplastic; few fine, medium, and coarse roots; few faint clay films on all faces of peds; common fine faint pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; clear smooth boundary.
Bt2—10 to 14 inches; yellowish brown (10YR 5/6) sandy clay; moderate medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine, medium, and coarse roots; common faint clay films on all faces of peds; common fine distinct light yellowish brown (10YR 6/4) masses of oxidized iron; very strongly acid; clear wavy boundary.
Bt3—14 to 17 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine and medium roots; common faint clay films on all faces of peds; common fine distinct pale brown (10YR 6/3) and light yellowish brown (10YR 6/4) masses of oxidized iron; very strongly acid; clear smooth boundary.
Bt4—17 to 26 inches; yellowish brown (10YR 5/8) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine and medium roots; common faint clay films on all faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron and common fine prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.
Bt5—26 to 32 inches; brownish yellow (10YR 6/6) clay; moderate medium angular blocky structure; firm, very sticky, moderately plastic; few fine roots; common distinct clay films on all faces of peds; many fine prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.
Btg1—32 to 39 inches; gray (10YR 6/1) clay; moderate coarse angular blocky structure; very firm, very sticky, very plastic; common faint clay films on all faces of peds; many fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; clear wavy boundary.
Btg2—39 to 46 inches; light olive gray (5Y 6/2) and light brownish gray (2.5Y 6/2) silty clay; massive; very firm, very sticky, very plastic; few faint clay films on all faces of peds; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; strongly acid; clear smooth boundary.
BCg—46 to 56 inches; light brownish gray (2.5Y 6/2) silty clay; massive; very firm, very sticky, very plastic; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; strongly acid; clear wavy boundary.
Cg—56 to 65 inches; light gray (2.5Y 7/2) silty clay loam; massive; friable, moderately sticky, nonplastic; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: More than 60 inches
Depth to bedrock: 0 to 5 percent
Reaction: In unlimed areas, extremely acid to strongly acid

A horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 to 4
Texture—fine sandy loam

E horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—3 or 4
Texture—sandy loam, fine sandy loam, or loam

BE horizon (if it occurs):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—4 to 6
Texture—sandy loam or sandy clay loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—3 to 8
Texture—sandy clay loam, clay loam, or sandy clay in the upper part; silty clay or clay in the lower part
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red

Btg horizon:
Hue—10YR to 2.5Y
Value—5 to 7
Chroma—1 or 2
Texture—silty clay or clay
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

BCg horizon:
Hue—2.5YR to 2.5Y
Value—4 to 8
Chroma—1 or 2
Texture—clay loam, silty clay loam, or silty clay
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

Cg horizon:
Hue—2.5YR to 2.5Y
Value—4 to 8
Chroma—1 or 2
Texture—loam, silt loam, or silty clay loam
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

Dogue Series

Physiographic province: Southern Piedmont
Landform: Stream terraces
Parent material: Old alluvium
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 7 percent

Associated Soils

- Roanoke soils, which are poorly drained
- State soils, which are well drained

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Dogue fine sandy loam, 0 to 2 percent slopes, rarely flooded; located 1,600 feet west of the bridge over the Appomattox River along U.S. Highway 360, about 1,200 feet south of U.S. Highway 360, in an area of woodland:

A—0 to 2 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine roots; few very fine mica flakes; very strongly acid; abrupt wavy boundary.

E—2 to 8 inches; light yellowish brown (2.5Y 6/4) sandy loam; weak medium granular structure; friable, nonsticky, nonplastic; common fine and medium roots; few very fine mica flakes; very strongly acid; clear smooth boundary.

Bt1—8 to 14 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; common fine and medium roots; few faint clay films on all faces of peds; few very fine mica flakes; strongly acid; clear wavy boundary.

Bt2—14 to 21 inches; brownish yellow (10YR 6/8) clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; few faint clay films on all faces of peds; common medium prominent light yellowish brown (10YR 6/4) masses of oxidized iron; few very fine mica flakes; strongly acid; clear wavy boundary.

Bt3—21 to 27 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm, moderately sticky, slightly plastic; few fine and medium roots; few faint clay films on all faces of peds; few fine prominent brown (10YR 5/3) and common medium distinct reddish yellow (7.5YR 6/6) masses of oxidized iron; few very fine mica flakes; strongly acid; gradual wavy boundary.

Bt4—27 to 32 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions and common medium prominent light yellowish brown (10YR 6/4) masses of oxidized iron; few very fine mica flakes; very strongly acid; gradual wavy boundary.

Bt5—32 to 38 inches; brown (10YR 5/3) and strong brown (7.5YR 5/8) clay loam; moderate coarse subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; many medium prominent gray (10YR 6/1) and light brownish gray (10YR 6/2) iron depletions; few very fine mica flakes; very strongly acid; gradual wavy boundary.

BC—38 to 54 inches; strong brown (7.5YR 5/8) and brown (10YR 5/3) clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many medium prominent gray (10YR 6/1) and light brownish gray (10YR 6/2) iron depletions; few very fine mica flakes; very strongly acid; clear wavy boundary.

Cg—54 to 65 inches; light brownish gray (2.5Y 6/2) sandy clay loam; massive; friable, slightly sticky, nonplastic; few fine distinct pale yellow (2.5Y 7/4) masses of oxidized iron; few very fine mica flakes; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches or more

Depth to bedrock: More than 60 inches
Rock fragments: 0 to 5 percent in the solum; 0 to 15 percent in the C horizon
Reaction: In unlimed areas, extremely acid to strongly acid

A horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—fine sandy loam

E horizon:
Hue—10YR or 2.5Y
Value—6 or 7
Chroma—3 or 4
Texture—sandy loam, fine sandy loam, or loam

BE horizon (if it occurs):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—4 to 6
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6 in the upper part; 4 to 6 in the lower part
Chroma—6 to 8 in the upper part; 3 to 8 in the lower part
Texture—sandy clay loam, clay loam, or clay
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red

Btg horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—sandy clay loam, clay loam, or clay
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

BC horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 8
Texture—sandy clay loam, clay loam, or sandy clay
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red are in some pedons

Cg horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—loam or sandy clay loam
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

Georgeville Series

Physiographic province: Southern Piedmont
Landform: Hillslopes

Parent material: Residuum weathered from phyllite and/or Carolina Slate
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 15 percent

Associated Soils

- Cid soils, which are moderately well drained
- Herndon soils, which have a subsoil that is yellower than that of the Georgeville soils
- Winnsboro soils, which are deep

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Georgeville silt loam, 2 to 7 percent slopes; located 6,200 feet south-southwest of the intersection of Highways VA-622 and VA-708, about 180 feet northwest of Highway VA-622, in an area of woodland:

A—0 to 3 inches; brown (10YR 5/3) silt loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine and common medium roots; very strongly acid; abrupt wavy boundary.

E—3 to 5 inches; strong brown (7.5YR 5/6) silt loam; weak very coarse granular structure; friable, nonsticky, nonplastic; common fine and medium roots; 10 percent angular quartz gravel; strongly acid; abrupt wavy boundary.

Bt1—5 to 9 inches; yellowish red (5YR 5/6) silty clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; few distinct clay films; strongly acid; clear wavy boundary.

Bt2—9 to 20 inches; red (2.5YR 4/8) silty clay; moderate medium subangular blocky structure; friable, very sticky, moderately plastic; few fine and medium roots; many distinct clay films; strongly acid; gradual wavy boundary.

Bt3—20 to 32 inches; red (2.5YR 4/8) silty clay; common medium prominent reddish yellow (7.5YR 6/8) mottles; moderate medium subangular blocky structure; friable, very sticky, moderately plastic; few fine and medium roots; many distinct clay films; very strongly acid; gradual wavy boundary.

Bt4—32 to 52 inches; red (2.5YR 4/8) silty clay loam; common medium prominent white (5YR 8/1), common medium distinct dark red (2.5YR 3/6), and many medium prominent strong brown (7.5YR 5/8) mottles; moderate coarse subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; common distinct clay films; very strongly acid; gradual wavy boundary.

BC—52 to 65 inches; red (2.5YR 4/8) silty clay loam; common medium distinct dark red (2.5YR 3/6) and common medium prominent white (5YR 8/1) mottles; weak coarse subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; few faint clay films; 5 percent angular quartz gravel; very strongly acid.

Range in Characteristics

Thickness of the solum: 50 to 70 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 20 percent in the A and E horizons; 0 to 5 percent in the B horizon
Reaction: In unlimed areas, very strongly acid to moderately acid in the A and E horizons and very strongly acid or strongly acid in the Bt and BC horizons

A horizon:
Hue—5YR to 10YR

Value—4 or 5
Chroma—2 to 8
Texture—silt loam

E horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 to 8
Texture—loam or silt loam

Bt horizon:
Hue—2.5YR or 5YR in the upper part; 10R or 2.5YR in the lower part
Value—4 or 5
Chroma—6 to 8
Texture—silty clay loam, silty clay, or clay

BC horizon:
Hue—10R to 5YR
Value—4 or 5
Chroma—6 to 8
Texture—loam, silt loam, clay loam, or silty clay loam

Helena Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from granite and gneiss
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 2 to 15 percent

Associated Soils

- Appling and Cecil soils, which are well drained
- Colfax soils, which are somewhat poorly drained
- Partlow soils, which are poorly drained

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Helena fine sandy loam, 2 to 7 percent slopes; located 1.2 miles west of the intersection of Highways VA-628 and VA-153, about 670 feet southwest of Highway VA-628, in a pasture:

Ap—0 to 8 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine roots; slightly acid; clear smooth boundary.

Bt1—8 to 15 inches; brownish yellow (10YR 6/6) clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; few fine distinct pale brown (10YR 6/3) masses of oxidized iron; strongly acid; clear wavy boundary.

Bt2—15 to 22 inches; strong brown (7.5YR 5/8) clay; weak coarse subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; many medium prominent light yellowish brown (2.5Y 6/4) masses of oxidized iron; strongly acid; clear wavy boundary.

Bt3—22 to 30 inches; strong brown (7.5YR 5/8) clay; weak coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; few faint clay films on all faces of peds; few fine prominent gray (10YR 6/1) iron depletions and many medium prominent light yellowish brown (2.5Y 6/4) masses of oxidized iron; strongly acid; gradual wavy boundary.

Bt4—30 to 39 inches; light yellowish brown (2.5Y 6/4) and strong brown (7.5YR 5/8) clay loam; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; common distinct clay films on all faces of peds; many fine prominent gray (10YR 6/1) iron depletions; strongly acid; clear wavy boundary.

BCg—39 to 53 inches; gray (10YR 6/1) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; many coarse distinct light yellowish brown (2.5Y 6/4) and many coarse prominent red (2.5YR 4/8) masses of oxidized iron; very strongly acid; clear wavy boundary.

Cg—53 to 65 inches; gray (10YR 6/1) sandy clay loam saprolite; massive; very friable, slightly sticky, nonplastic; many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 15 percent
Reaction: In unlimed areas, extremely acid to slightly acid in the Ap horizon and extremely acid to strongly acid in the Bt, BCg, and Cg horizons

Ap horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—fine sandy loam

E horizon (if it occurs):
Hue—10YR to 5Y
Value—5 to 8
Chroma—2 to 4
Texture—fine sandy loam or loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 to 8
Texture—clay loam, sandy clay, or clay
Redoximorphic features—iron depletions in shades of brown or gray; masses of oxidized iron in shades of yellow, brown, or red

BCg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—clay loam, sandy clay loam, loam, or fine sandy loam
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

Cg horizon:
Hue—10YR to 5Y
Value—5 to 7

Chroma—1 or 2
Texture—sandy loam, loam, or sandy clay loam
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

Herndon Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from phyllite
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 15 percent

Associated Soils

- Cid soils, which are moderately well drained
- Georgeville soils, which have a subsoil that is redder than that of the Herndon soils
- Winnsboro soils, which are deep

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Herndon loam, 2 to 7 percent slopes; located 1.8 miles north of the intersection of Highways VA-622 and VA-708, about 350 feet north of Highway VA-646, in an area of woodland:

A—0 to 2 inches; brown (10YR 5/3) loam; weak fine granular structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; 10 percent gravel; very strongly acid; abrupt wavy boundary.
E—2 to 7 inches; light yellowish brown (2.5Y 6/4) loam; weak fine granular structure; friable, slightly sticky, nonplastic; common fine and medium and common coarse roots; 10 percent gravel; very strongly acid; abrupt wavy boundary.
BE—7 to 11 inches; brownish yellow (10YR 6/6) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; 8 percent gravel; very strongly acid; gradual wavy boundary.
Bt1—11 to 27 inches; strong brown (7.5YR 5/8) clay; common medium faint brownish yellow (10YR 6/8), common medium prominent red (2.5YR 4/6), and common medium faint yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine and medium roots; few faint clay films on all faces of peds; very strongly acid; gradual wavy boundary.
Bt2—27 to 39 inches; strong brown (7.5YR 5/8) clay; common medium distinct yellowish red (5YR 5/6) and common medium prominent red (2.5YR 4/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; few pinkish gray (7.5YR 7/2) highly weathered pararock fragments; very strongly acid; gradual wavy boundary.
BC—39 to 50 inches; 40 percent brownish yellow (10YR 6/8), 35 percent yellowish brown (10YR 5/8), and 25 percent yellow (10YR 7/8) clay loam; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; many white (10YR8/1) highly weathered pararock fragments; very strongly acid; gradual wavy boundary.

C—50 to 65 inches; 35 percent yellowish brown (10YR 5/8), 35 percent brownish yellow (10YR 6/8), 25 percent yellow (10YR 7/8), and 5 percent white (10YR 8/1) loam saprolite; massive; friable, slightly sticky, nonplastic; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 20 percent in the A and E horizons; 0 to 10 percent in the BE horizon; 0 to 5 percent in the Bt horizon
Reaction: In unlimed areas, very strongly acid to slightly acid in the A, E, and BE horizons and extremely acid to strongly acid in the Bt, BC, and C horizons

A horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—loam in the fine-earth fraction

E horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—3 to 6
Texture—loam, silt loam, or very fine sandy loam in the fine-earth fraction

BE horizon:
Hue—10YR
Value—5 or 6
Chroma—4 to 8
Texture—loam, silt loam, or silty clay loam

Bt horizon:
Hue—5YR to 10YR
Value—4 to 7
Chroma—4 to 8
Texture—silty clay loam, silty clay, or clay

BC horizon:
Hue—5YR to 10YR
Value—4 to 7
Chroma—4 to 8
Texture—loam, silt loam, clay loam, or silty clay loam

C horizon:
Color—horizon is multicolored
Texture—fine sandy loam, loam, or silt loam

Mayodan Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from Triassic-age sandstone and shale
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 15 percent

Associated Soils

- Creedmoor soils, which are moderately well drained to somewhat poorly drained

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Mayodan gravelly fine sandy loam, 2 to 7 percent slopes; located 1,015 feet northeast of the intersection of Highways VA-622 and VA-600, about 150 feet west of Highway VA-622, in an area of woodland:

A—0 to 2 inches; dark grayish brown (10YR 4/2) gravelly fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and medium and many coarse roots; 20 percent angular quartz gravel; very strongly acid; clear smooth boundary.

E—2 to 8 inches; light yellowish brown (10YR 6/4) gravelly fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine and medium and common coarse roots; 20 percent angular quartz gravel; very strongly acid; clear smooth boundary.

Bt1—8 to 12 inches; reddish yellow (7.5YR 6/6) sandy clay; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; common fine and medium roots; few faint clay films on all faces of peds; 5 percent angular quartz gravel; very strongly acid; clear smooth boundary.

Bt2—12 to 24 inches; yellowish red (5YR 5/8) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine and medium roots; common distinct clay films on all faces of peds; very strongly acid; gradual smooth boundary.

Bt3—24 to 45 inches; yellowish red (5YR 5/8) silty clay; many medium prominent brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, slightly plastic; common fine and medium roots; common distinct clay films on all faces of peds; 5 percent white (5YR 8/1) soft fragments of highly weathered rock; strongly acid; gradual wavy boundary.

Bt4—45 to 51 inches; yellowish red (5YR 5/8) silty clay loam; many medium prominent brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine and medium roots; few distinct clay films on all faces of peds; 5 percent white (5YR 8/1) soft fragments of highly weathered rock; very strongly acid; gradual wavy boundary.

BC—51 to 65 inches; 45 percent brownish yellow (10YR 6/6) and 55 percent red (2.5YR 5/6) silty clay loam; weak medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine and medium roots; 10 percent white (5YR 8/1) soft fragments of highly weathered rock; very strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 60 inches or more
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 20 percent in the A and E horizons; 0 to 5 percent in the Bt horizon
Reaction: In unlimed areas, very strongly acid to moderately acid in the A and E horizons and very strongly acid or strongly acid in the Bt and BC horizons

A horizon:
Hue—5YR to 2.5Y
Value—3 to 6
Chroma—2 or 3
Texture—fine sandy loam in the fine-earth fraction

E horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—sandy loam or fine sandy loam in the fine-earth fraction

Bt horizon:
Hue—5YR or 7.5YR
Value—5 or 6
Chroma—6 to 8
Texture—sandy clay, clay loam, silty clay loam, silty clay, or clay

BC horizon:
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—2 to 8
Texture—loam, sandy clay loam, clay loam, or silty clay loam

C horizon (if it occurs):
Hue—2.5YR to 10YR
Value—3 to 6
Chroma—2 to 8
Texture—loamy saprolite

Pacolet Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from granite and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 7 to 40 percent

Associated Soils

- Cecil soils, which have a subsoil that is thicker than that of the Pacolet soils
- Wedowee soils, which have a subsoil that is yellower than that of the Pacolet soils

Taxonomic Classification

Fine, kaolinitic, thermic Typic Hapludults

Typical Pedon

Pacolet fine sandy loam, 15 to 25 percent slopes; located 2,200 feet northeast of the railroad crossing on Highway VA-635, in an area of woodland:

A—0 to 3 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; friable, slightly sticky, nonplastic; common fine roots; very strongly acid; abrupt wavy boundary.
BA—3 to 7 inches; yellowish red (5YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; common fine roots; few fine mica flakes; very strongly acid; clear wavy boundary.
Bt—7 to 25 inches; red (2.5YR 4/8) clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; common faint clay films on all faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.

BC—25 to 37 inches; 90 percent red (2.5YR 4/8) and 10 percent reddish yellow (5YR 6/6) clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few faint clay films on vertical faces of peds; common fine mica flakes; strongly acid; clear wavy boundary.

C—37 to 65 inches; yellowish red (5YR 5/6) clay loam saprolite; massive; friable, slightly sticky, slightly plastic; common fine mica flakes; moderately acid.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 20 percent in the A horizon; 0 to 5 percent in the BA and Bt horizons
Mica flakes: Few or common in one or more horizons
Reaction: In unlimed areas, very strongly acid to slightly acid in the A horizon and very strongly acid to moderately acid in the BA, Bt, BC, and C horizons

A horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—2 to 4
Texture—fine sandy loam in the fine-earth fraction; clay loam in severely eroded areas

E horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—sandy loam or fine sandy loam in the fine-earth fraction

BA horizon:
Hue—2.5YR to 10YR
Value—4 or 5
Chroma—4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Hue—10R or 2.5YR
Value—4 or 5
Chroma—6 to 8
Texture—clay loam, sandy clay, or clay

BC horizon:
Hue—10R to 5YR
Value—4 or 5
Chroma—6 to 8
Texture—loam, sandy clay loam, or clay loam

C horizon:
Hue—10R to 5YR
Value—4 or 5
Chroma—6 to 8
Texture—sandy loam, loam, sandy clay loam, or clay loam

The Pacolet soils in Amelia County are considered taxadjuncts to the series because they do not have a kandic horizon. This difference, however, does not significantly affect the use and management of the soils.

Partlow Series

Physiographic province: Southern Piedmont
Landform: Swales and drainageways
Parent material: Old alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Colfax soils, which are somewhat poorly drained
- Helena soils, which are moderately well drained

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Endoaquults

Typical Pedon

Partlow fine sandy loam, 0 to 2 percent slopes, rarely flooded; located 570 feet south-southeast of the intersection of Highways VA-638 and VA-1009, in an area of woodland:

A—0 to 2 inches; very dark gray (10YR 3/1) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and medium and common coarse roots; few very fine mica flakes; strongly acid; abrupt smooth boundary.

E—2 to 6 inches; grayish brown (10YR 5/2) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine, medium, and coarse roots; few fine prominent brownish yellow (10YR 6/6) masses of oxidized iron; few very fine mica flakes; strongly acid; clear smooth boundary.

Btg1—6 to 9 inches; gray (10YR 6/1) sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; common fine and few coarse roots; few faint clay films on all faces of peds; few faint clay bridges between sand grains; few faint silt coats on all faces of peds; common fine prominent light olive brown (2.5Y 5/4) masses of oxidized iron; few very fine mica flakes; strongly acid; clear smooth boundary.

Btg2—9 to 28 inches; gray (10YR 6/1) sandy clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and few coarse roots; few faint clay films on all faces of peds; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; few fine mica flakes; strongly acid; gradual smooth boundary.

Btg3—28 to 34 inches; gray (10YR 6/1) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine, medium, and coarse roots; few faint clay films on all faces of peds; common fine prominent light yellowish brown (2.5Y 6/4) masses of oxidized iron; few fine mica flakes; very strongly acid; gradual smooth boundary.

BCg—34 to 40 inches; gray (10YR 6/1) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; few fine, medium, and coarse roots; few faint clay films on all faces of peds; few fine prominent light yellowish brown (2.5Y 6/4) masses of oxidized iron; few fine mica flakes; strongly acid; clear wavy boundary.

Cg—40 to 65 inches; gray (10YR 6/1) sandy clay loam that has lenses of fine sandy loam; massive; friable, slightly sticky, nonplastic; few fine, medium, and coarse roots; few fine prominent light yellowish brown (2.5Y 6/4) masses of oxidized iron; few fine mica flakes; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 10 percent
Mica flakes: Few or common
Reaction: In unlimed areas, very strongly acid or strongly acid

A horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 to 3
Texture—fine sandy loam

E horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, or loam
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red
Other characteristics—horizon can be neutral in hue with value of 4 to 7

Btg horizon:
Hue—10YR to 5Y
Value—5 or 6
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, sandy clay loam, or clay loam
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red
Other characteristics—horizon can be neutral in hue with value of 4 to 7

BCg horizon:
Hue—10YR to 5Y
Value—5 or 6
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, sandy clay loam, or clay loam
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red
Other characteristics—horizon can be neutral in hue with value of 4 to 7

Cg horizon:
Color—variable
Texture—fine sandy loam, sandy loam, loam, or sandy clay loam
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

Poindexter Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from igneous and metamorphic rock
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 2 to 40 percent

Associated Soils

- Wedowee soils, which are very deep
- Winnsboro soils, which are deep

Taxonomic Classification

Fine-loamy, mixed, active, thermic Typic Hapludalfs

Typical Pedon

Poindexter sandy loam in an area of Wedowee-Poindexter complex, 15 to 25 percent slopes; located 5,110 feet west-southwest of the intersection of Highways VA-642 and VA-678, in an area of woodland:

A—0 to 2 inches; dark grayish brown (10YR 4/2) sandy loam; weak medium granular structure; friable, nonsticky, nonplastic; common medium roots; few fine mica flakes; 5 percent quartz gravel; strongly acid; clear wavy boundary.

E—2 to 6 inches; yellowish brown (10YR 5/4) sandy loam; weak very thick platy structure; very friable, nonsticky, nonplastic; common medium and coarse roots; common fine mica flakes; 10 percent quartz gravel; strongly acid; clear wavy boundary.

BE—6 to 9 inches; yellowish brown (10YR 5/6) loam; weak coarse subangular blocky structure; friable, nonsticky, nonplastic; common medium and coarse roots; common fine mica flakes; strongly acid; clear wavy boundary.

Bt1—9 to 18 inches; yellowish brown (10YR 5/6) clay loam; common medium prominent black (10YR 2/1) and common medium distinct yellow (10YR 7/8) mottles; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium and coarse roots; common distinct clay films on all faces of peds; many fine mica flakes; moderately acid; clear wavy boundary.

Bt2—18 to 24 inches; brownish yellow (10YR 6/8) sandy clay loam; common medium prominent black (10YR 2/1) and common medium distinct yellow (10YR 7/8) mottles; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; few medium and coarse roots; common faint clay films on all faces of peds; many fine mica flakes; slightly acid; clear wavy boundary.

C—24 to 39 inches; 40 percent brownish yellow (10YR 6/8), 30 percent yellowish brown (10YR 5/4), and 30 percent very pale brown (10YR 8/4) sandy loam; massive; friable, nonsticky, nonplastic; many fine mica flakes; neutral; saprolite; gradual wavy boundary.

Cr—39 to 54 inches; black (10YR 2/1), brownish yellow (10YR 6/8), and very pale brown (10YR 8/2) highly weathered biotite gneiss bedrock that crushes to sandy loam.

R—54 inches; hard biotite gneiss bedrock.

Range in Characteristics

Thickness of the solum: 14 to 36 inches
Depth to bedrock: 20 to 40 inches to weathered bedrock; 40 to 60 inches to hard bedrock
Rock fragments: 0 to 10 percent
Mica flakes: Few to many; commonly increasing in number as depth increases
Reaction: In unlimed areas, strongly acid to neutral

A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—sandy loam

E horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—sandy loam or fine sandy loam

BE horizon:
Hue—5YR to 2.5Y
Value—4 or 5
Chroma—4 to 8
Texture—sandy loam, fine sandy loam, or loam

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—loam, sandy clay loam, or clay loam that has lenses of clay in some pedons

BC horizon (if it occurs):
Hue—5YR to 2.5Y
Value—4 to 6
Chroma—4 to 8
Texture—sandy loam, fine sandy loam, or loam

C horizon:
Color—horizon is multicolored
Texture—sandy loam or sandy clay loam saprolite

Cr horizon:
Color—horizon is multicolored
Texture—highly weathered biotite gneiss or diorite that crushes to loamy sand or sandy loam

Roanoke Series

Physiographic province: Southern Piedmont
Landform: Low stream terraces
Parent material: Old alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Low
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Dogue soils, which are moderately well drained
- State soils, which are well drained

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Endoaquults

Typical Pedon

Roanoke fine sandy loam, 0 to 2 percent slopes, rarely flooded; located 1,900 feet north of the bridge over Namozine Creek along Highway VA-622, about 1,000 feet east-northeast of Highway VA-622, in an area of woodland:

Ap—0 to 6 inches; light brownish gray (10YR 6/2) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine, medium, and coarse roots; very strongly acid; abrupt smooth boundary.

Btg1—6 to 8 inches; grayish brown (10YR 5/2) clay loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; common fine, medium, and coarse roots; few faint clay films on all faces of peds; very strongly acid; clear smooth boundary.

Btg2—8 to 20 inches; grayish brown (10YR 5/2) clay; moderate medium angular blocky structure; firm, moderately sticky, moderately plastic; few medium and coarse roots; many distinct clay films on all faces of peds; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg3—20 to 30 inches; grayish brown (10YR 5/2) clay; moderate coarse angular blocky structure; very firm, moderately sticky, moderately plastic; few fine and medium roots; common distinct clay films on all faces of peds; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; gradual wavy boundary.

Btg4—30 to 38 inches; gray (10YR 6/1) clay; weak very coarse subangular blocky structure; firm, very sticky, very plastic; few fine and medium roots; few faint clay films on all faces of peds; many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; gradual wavy boundary.

BCg—38 to 50 inches; gray (10YR 5/1) clay; massive; firm, moderately sticky, moderately plastic; few fine and medium roots; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; clear wavy boundary.

Cg—50 to 65 inches; light brownish gray (10YR 6/2) stratified clay to sandy loam; massive; firm, moderately sticky, moderately plastic; few fine and medium roots; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 10 percent in the solum and 0 to 50 percent in the C horizon
Mica flakes: None or few
Reaction: In unlimed areas, extremely acid to strongly acid in the A, Btg, and BCg horizons and extremely acid to slightly acid in the Cg horizon

A horizon:
Hue—10YR or 2.5Y
Value—2 to 6
Chroma—1 or 2
Texture—fine sandy loam

Btg horizon:
Hue—10YR to 5Y
Value—5 to 7
Chroma—1 or 2
Texture—clay loam, silty clay loam, or clay
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

BCg horizon:
Hue—10YR to 5Y
Value—5 to 7
Chroma—1 or 2
Texture—clay loam, silty clay loam, or clay

Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red

Cg horizon:
Hue—10YR to 5Y
Value—5 to 7
Chroma—1 or 2
Texture—stratified clay to sand
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, or red are in some pedons
Other characteristics—horizon can be neutral in hue with value of 4 to 7

State Series

Physiographic province: Southern Piedmont
Landform: Stream terraces
Parent material: Old alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 6 percent

Associated Soils

- Dogue soils, which are moderately well drained
- Roanoke soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

State fine sandy loam, 2 to 6 percent slopes, rarely flooded; located 1,300 feet south of the northernmost point of the Appomattox River, near the north end of State Route 651, in an area of cropland:

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine roots; few very fine mica flakes; strongly acid; abrupt smooth boundary.
BA—8 to 14 inches; strong brown (7.5YR 5/6) loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; common fine roots; few very fine mica flakes; strongly acid; clear wavy boundary.
Bt1—14 to 27 inches; strong brown (7.5YR 5/8) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few distinct clay films on all faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.
Bt2—27 to 40 inches; 95 percent strong brown (7.5YR 5/6) and 5 percent yellowish brown (10YR 5/6) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.
BC—40 to 48 inches; 35 percent brownish yellow (10YR 6/6), 35 percent brownish yellow (10YR 6/8), and 30 percent light yellowish brown (10YR 6/4) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine mica flakes; strongly acid; gradual wavy boundary.
C—48 to 65 inches; 35 percent brownish yellow (10YR 6/8), 35 percent brownish yellow (10YR 6/6), and 30 percent light yellowish brown (10YR 6/4) fine sandy

loam; massive; very friable, nonsticky, nonplastic; few fine mica flakes; strongly acid.

Range in Characteristics

Thickness of the solum: 35 to 55 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 2 percent in the solum; 0 to 15 percent in the C horizon
Reaction: In unlimed areas, extremely acid to strongly acid

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 4
Texture—fine sandy loam

BA horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—sandy loam, fine sandy loam, loam, silt loam, or sandy clay loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—6 to 8
Texture—sandy clay loam, silt loam, or clay loam

BC horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—4 to 8
Texture—sandy loam, fine sandy loam, loam, or sandy clay loam

C horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture—stratified sand, loamy sand, fine sandy loam, or sandy loam

Toccoa Series

Physiographic province: Southern Piedmont
Landform: Flood plains
Parent material: Recent alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Buncombe soils, which are excessively drained
- Chastain soils, which are poorly drained
- Chewacla soils, which are somewhat poorly drained

Taxonomic Classification

Coarse-loamy, mixed, active, nonacid, thermic Typic Udifluvents

Typical Pedon

Toccoa fine sandy loam, 0 to 2 percent slopes, frequently flooded; located 10,400 feet southeast of the confluence of Deep Creek and the Appomattox River (south of Bevils Bridge), 150 feet southwest of the river, in an area of woodland:

A1—0 to 2 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; common fine roots; few very fine mica flakes; moderately acid; clear wavy boundary.
A2—2 to 6 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; common fine roots; few fine mica flakes; moderately acid; clear wavy boundary.
A3—6 to 11 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; common fine roots; few fine mica flakes; moderately acid; clear wavy boundary.
C1—11 to 26 inches; yellowish brown (10YR 5/6) fine sandy loam; massive; friable, nonsticky, nonplastic; few fine roots; few fine mica flakes; moderately acid; clear wavy boundary.
C2—26 to 54 inches; yellowish brown (10YR 5/6) sandy loam; massive; very friable, nonsticky, nonplastic; few fine roots; few fine prominent very dark grayish brown (10YR 3/2) manganese coatings; common fine mica flakes; moderately acid; gradual wavy boundary.
C3—54 to 65 inches; yellowish brown (10YR 5/6) sandy loam; massive; very friable, nonsticky, nonplastic; few fine prominent very dark grayish brown (10YR 3/2) manganese coatings; common fine mica flakes; 5 percent gravel; moderately acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragments: 0 to 5 percent in the A and upper C horizons; 0 to 35 percent in the lower C horizons below a depth of 40 inches
Mica flakes: Few or common throughout the profile
Reaction: In unlimed areas, strongly acid to slightly acid

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 or 4
Texture—fine sandy loam

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 8
Texture—commonly sandy loam or fine sandy loam; sand, loamy sand, and gravelly strata occur below a depth of 40 inches in some pedons

Wedowee Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from granite and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 40 percent

Associated Soils

- Appling soils, which have a subsoil that is thicker than that of the Wedowee soils
- Cecil and Pacolet soils, which have a subsoil that is redder than that of the Wedowee soils
- Poindexter soils, which are moderately deep

Taxonomic Classification

Fine, kaolinitic, thermic Typic Hapludults

Typical Pedon

Wedowee sandy loam, 15 to 25 percent slopes; located 3,350 feet south of the intersection of Highways VA-602 and VA-612, about 960 feet east of Highway VA-612, in an area of woodland:

A—0 to 2 inches; very dark grayish brown (10YR 3/2) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine, medium, and coarse roots; few very fine mica flakes; 5 percent quartz gravel; very strongly acid; abrupt wavy boundary.

E—2 to 7 inches; brownish yellow (10YR 6/6) sandy loam; weak coarse granular structure; very friable, nonsticky, nonplastic; common fine, medium, and coarse roots; few very fine mica flakes; 10 percent quartz gravel; very strongly acid; abrupt wavy boundary.

BE—7 to 10 inches; strong brown (7.5YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine, medium, and coarse roots; few fine mica flakes; 10 percent quartz gravel; strongly acid; clear wavy boundary.

Bt—10 to 24 inches; 95 percent yellowish red (5YR 5/8) and 5 percent reddish yellow (7.5YR 6/6) sandy clay; moderate medium subangular blocky structure; friable, moderately sticky, nonplastic; few fine, medium, and coarse roots; common faint clay films on all faces of peds; common fine mica flakes; 5 percent quartz gravel; strongly acid; gradual wavy boundary.

BC—24 to 35 inches; 95 percent yellowish red (5YR 5/8) and 5 percent reddish yellow (7.5YR 6/6) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; few fine, medium, and coarse roots; common fine mica flakes; 2 percent quartz gravel; 10 percent krotovinas (volume percent); krotovinas are filled with sandy clay; common medium grains of white mineral; strongly acid; gradual wavy boundary.

C1—35 to 50 inches; 95 percent yellowish red (5YR 5/8) and 5 percent reddish yellow (7.5YR 6/6) sandy clay loam; massive; very friable, slightly sticky, nonplastic; few medium and coarse roots; common fine mica flakes; 2 percent quartz gravel; 10 percent krotovinas (volume percent); krotovinas are filled with sandy clay; common medium grains of white mineral; strongly acid; gradual wavy boundary.

C2—50 to 65 inches; 95 percent yellowish red (5YR 5/8) and 5 percent reddish yellow (7.5YR 6/6) sandy loam; single grain; very friable, nonsticky, nonplastic; common fine mica flakes; 2 percent quartz gravel; 1 percent krotovinas (volume percent); krotovinas are filled with sandy clay; common medium grains of white mineral; strongly acid.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Depth to bedrock: More than 60 inches
Rock fragments: 0 to 10 percent in the A, E, and BE horizons; 0 to 5 percent in the Bt, BC, and C horizons

Mica flakes: None or few in the A horizon and the upper part of the B horizon; none to common in the lower part of the B horizon and in the C horizon
Reaction: In unlimed areas, extremely acid to strongly acid

A horizon:
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—2 to 4
Texture—sandy loam

E horizon:
Hue—7.5YR or 10YR
Value—4 to 7
Chroma—4 to 6
Texture—coarse sandy loam, sandy loam, fine sandy loam, or loam

BE horizon:
Hue—5YR to 10YR
Value—5 to 7
Chroma—4 to 6
Texture—loam or sandy clay loam

Bt horizon:
Hue—5YR or 7.5YR
Value—5 or 6
Chroma—6 to 8
Texture—clay loam, sandy clay, or clay

BC horizon:
Hue—5YR or 7.5YR
Value—5 or 6
Chroma—6 to 8
Texture—loam, sandy clay loam, or clay loam

C horizon:
Color—horizon is multicolored
Texture—clay loam, sandy clay loam, sandy loam, or loam

The Wedowee soils in Amelia County are considered taxadjuncts to the series because they do not have a kandic horizon. This difference, however, does not significantly affect the use and management of the soils.

Winnsboro Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Mafic residuum weathered from igneous and metamorphic rock
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Deep
Slope range: 2 to 15 percent

Associated Soils

- Cid and Poindexter soils, which are moderately deep
- Georgeville and Herndon soils, which are very deep

Taxonomic Classification

Fine, mixed, active, thermic Typic Hapludalfs

Typical Pedon

Winnsboro sandy loam, 2 to 7 percent slopes; located 750 feet north on Highway VA-645 from the intersection of Highways VA-645 and VA-658, about 30 feet east of Highway VA-645, in an area of cropland:

Ap—0 to 6 inches; brown (10YR 4/3) sandy loam; weak fine and medium granular structure; very friable, nonsticky, nonplastic; common fine and medium roots; many fine and medium irregular pores; slightly acid; clear smooth boundary.

E—6 to 9 inches; pale brown (10YR 6/3) sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common fine and medium roots; many fine and medium irregular pores; few medium black (10YR 2/1) iron-manganese concretions; slightly acid; clear wavy boundary.

Bt1—9 to 24 inches; light olive brown (2.5Y 5/4) clay; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine and medium roots; common fine irregular pores; few distinct clay films on surfaces along pores; slightly acid; gradual wavy boundary.

Bt2—24 to 34 inches; light olive brown (2.5Y 5/4) clay; moderate medium subangular blocky structure; very firm, very sticky, moderately plastic; few fine, medium, and coarse roots; common very fine and fine irregular pores; few distinct clay films on surfaces along pores and on all faces of peds; few pressure faces; slightly acid; gradual wavy boundary.

BC—34 to 39 inches; light olive brown (2.5Y 5/4) clay loam; weak medium subangular blocky structure; firm, moderately sticky, slightly plastic; many fine greenish gray remnants of weathered saprolite; slightly acid; clear wavy boundary.

C—39 to 45 inches; yellowish brown (10YR 5/6) loam saprolite; common medium prominent very dark grayish brown (2.5Y 3/2) and common medium distinct yellow (2.5Y 7/6) mottles; massive; friable, slightly sticky, nonplastic; slightly acid; clear wavy boundary.

Cr—45 to 65 inches; very dark gray (5Y 3/1) and yellow (2.5Y 7/6) weathered bedrock that crushes to sandy loam.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Depth to bedrock: 40 to 60 inches to weathered bedrock; more than 60 inches to hard bedrock
Rock fragments: 0 to 10 percent throughout the profile
Reaction: In unlimed areas, strongly acid to slightly acid in the Ap and E horizons and slightly acid to slightly alkaline in the Bt, BC, and C horizons

Ap horizon:
Hue—7.5YR to 2.5Y
Value—3 to 5
Chroma—2 to 4
Texture—sandy loam

E horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—2 to 8
Texture—sandy loam, fine sandy loam, loam, or sandy clay loam

Bt horizon:
Hue—7.5YR to 2.5Y

Value—4 to 6 in the upper part; 5 or 6 in the lower part
Chroma—4 to 8
Texture—clay or clay loam

BC horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 to 8
Texture—loam, sandy clay loam, or clay loam

C horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 to 8
Texture—sandy loam, loam, sandy clay loam, or clay loam

Cr horizon:
Color—horizon is multicolored
Texture—weathered bedrock that crushes to sandy loam, loam, or sandy clay loam

Formation of the Soils

This section describes the factors and processes that have affected the formation and morphology of the soils in Amelia County.

Factors of Soil Formation

The five major factors of soil formation are parent material, relief, climate, plants and animals, and time. Climate and plants and animals are the active forces in soil formation. Their effects on the parent material are modified by relief and the length of time that the parent material has been subjected to weathering. In some areas, one factor may dominate in the formation of a soil and determine most of its properties. Generally, however, the interaction of all five factors determines the kind of soil that forms.

Parent Material

Parent material is the material in which a soil forms. In Amelia County, parent materials can be divided into two broad classes—residual parent material and transported parent material.

Residual parent material has weathered in place from the underlying bedrock. It consists of the highly weathered saprolite which remains after the weathering of the rock. The characteristics of residual parent material are directly related to the characteristics of the underlying bedrock.

Transported parent material has eroded from uplands and been moved by floodwaters. It consists of the deposits of sand, silt, clay, and rock fragments on terraces and flood plains of rivers and streams. The characteristics of transported parent material are related to the characteristics of the soils or rocks from which the materials eroded.

The residual parent material in the county has weathered in place from gneiss, schist, granite, diorite, sandstone, shale, and phyllite (Commonwealth of Virginia, 1963). The parent material in about 80 percent of the county is derived from gneiss, schist, diorite, and granite.

Residual material derived from sandstone and shale covers about 5 percent of Amelia County, mostly in the extreme eastern part of the county. This material originated during the Triassic period. During this period, sediments accumulated in a huge basin that was created when a large block of underlying rock weakened and sank. The sediments were washed from nearby soils and rock. As the sediments became thicker and heavier, the floor of the basin was forced down deeper and the lower layers of sediments were compressed into shale and sandstone (Dietrich, 1970).

Residual material derived from phyllite covers about 5 percent of Amelia County, mostly in the extreme eastern part of the county.

Rocks can be classified as acidic or basic. The classification depends on the type and amount of minerals in the rocks. Basic rocks commonly contain some amount of calcium, which acidic rocks do not.

Granite gneiss, muscovite (mica) gneiss, mica schist, and granite are acidic rocks that weathered to form the residual parent material of Appling, Cecil, Colfax, Helena, Pacolet, and Wedowee soils. Arkosic sandstone and shale of Triassic age are acidic rocks that weathered to form the residual parent material of Creedmoor and Mayodan soils. Phyllites are acidic rocks that weathered to form the residual parent material of Cid, Georgeville, and Herndon soils (Goodwin, 1970). These soils commonly have a very strongly acid or strongly acid subsoil.

Basic rocks, such as biotite gneiss, diorite, and hornblende gneiss, weathered to form the residual parent material of Poindexter and Winnsboro soils. These soils commonly have a moderately acid to neutral subsoil.

Transported parent material covers about 10 percent of the county. Buncombe, Chastain, Chewacla, and Toccoa soils formed in sediments that were moved and deposited by floodwaters on the flood plains of streams and rivers. Some soils that formed in deposition materials on stream terraces are Dogue, Roanoke, and State soils. Partlow soils formed in local alluvial sediments that were deposited along upland drainageways.

Relief

Relief affects the formation of soils by influencing the quantity of water infiltration, the rate of surface runoff, soil drainage, soil temperature, and geologic erosion. It can alter the effects of climatic factors acting on parent materials to the extent that several different kinds of soils can form from the same kind of parent material. Because relief affects the amount of radiant energy absorbed by the soil, it affects the type of native vegetation growing on the soil.

Relief in Amelia County ranges from nearly level to very steep. The nearly level soils are commonly on flood plains of streams, on low stream terraces, and in upland drainageways. Most of these soils are often wet because of frequent flooding or a high water table and usually have a slow rate of surface runoff. The soils typically have a gray subsoil which may be mottled, and they are somewhat poorly drained or poorly drained. Chastain, Chewacla, Partlow, and Roanoke soils are examples of nearly level soils.

The gently sloping and strongly sloping soils are commonly well drained or moderately well drained. Geologic erosion is slight on these soils, the rate of surface runoff is medium or rapid, and water infiltration is optimum. The translocation of bases and clay has occurred downward through the soils. Appling, Cecil, Helena, Mayodan, and Winnsboro soils are examples of gently sloping and strongly sloping soils. Most of these soils have well defined horizons.

The moderately steep to very steep soils commonly have a very rapid rate of surface runoff, reduced water infiltration, reduced movement of clay and bases through the profile, and a severe hazard of erosion. They commonly have weakly developed soil horizons. Poindexter soils are an example of these soils.

Poindexter and Winnsboro soils are examples of soils that formed from the same general type of parent material but, because of relief, have different characteristics. The moderately steep to very steep Poindexter soils have weak horizon development because they have a very rapid rate of surface runoff and erosion removed some of the soil material before the layers had time to develop. The gently sloping and strongly sloping Winnsboro soils have well defined horizons because the rate of surface runoff is slower and erosion is not so severe.

Climate

Climate determines, to a large extent, the rate and degree of weathering. The weathering of parent material and minerals in the soil is more rapid and intense under a warm, humid climate, such as that in Amelia County, than under a cold, dry climate. The influences of climate are expressed through or in combination with other soil-forming factors, especially in the weathering of parent material and in the type and abundance of plants growing on a soil.

The amount of precipitation and the downward movement of water through the soil affect the movement of clay and the leaching of minerals in the soil. Precipitation also is a factor in soil erosion.

The climate of the survey area promotes the leaching of soluble minerals and the movement of clay downward through the soil. Because of the abundance of precipitation, clay has moved downward and accumulated in the subsoil of such soils as Appling, Cecil, and Mayodan soils.

Weathering, translocation, and leaching of soil material occur throughout most of the year. These processes are activated by climate and determine, to a large degree, the characteristics of most of the soils in the county.

The climate is uniform throughout Amelia County. Its effect on soil formation may be modified locally by the steepness and position of slopes. Local variation in climate can cause some variation among soils. Variations resulting from climate, however, are not great enough to account for the wide differences between many soils in the county.

Plants and Animals

All living organisms, including plants, animals, bacteria, and fungi, are important to soil formation. Plants generally influence the composition of organic matter, the color of the surface layer, and the supply of nutrients in the organic matter. Animals, especially burrowing animals, help to keep the soil open and porous. Bacteria and fungi decompose plants and thus release nutrients available for use by other plants.

The native trees in Amelia County have had more influence on soil formation than any other living organism. Humans, however, have greatly changed, physically and chemically, the surface layer of soils where areas of the forests have been cleared and cultivated. Humans have mixed some of the soil horizons by plowing and have added fertilizer, lime, pesticides, and herbicides to the soils.

Time

The formation of soil requires time for changes to occur in the parent material. Soils that formed in parent material that is resistant to weathering require more time to develop well defined horizons than soils that formed in easily weathered parent material. Soils on the flood plains of streams may have slowed or arrested horizon development if sediments are continually deposited on them.

Processes of Horizon Differentiation

Several processes are involved in the formation of soil horizons. Among these processes are the accumulation of organic matter, the leaching of soluble salts, the reduction and transfer of iron, the formation of soil structure, and the formation and downward movement of clay minerals. These processes occur continually and generally simultaneously. They have been taking place for thousands of years.

Organic matter accumulates as plant and animal material decomposes. It darkens the surface layer and helps to form the A horizon. Once organic matter is lost from a soil, it normally takes a long time to replace. In the soils in Amelia County, the content of organic matter in the surface layer averages about 1 or 2 percent.

Soils that have distinct subsoil horizons were leached of some of the bases and other soluble salts before clay minerals moved downward. Among the factors that affect this leaching are the kinds of salts originally present, the depth to which water penetrates, and the texture of the soil profile.

Well drained and moderately well drained soils in Amelia County have a red to yellowish brown subsoil. These colors are caused mainly by thin coatings of iron oxides on sand and silt grains. In some soils, such as Toccoa soils, the colors are inherited from the parent material, which consists of more recent alluvium.

The reduction and transfer of iron occur mainly in the wetter, more poorly drained soils. Moderately well drained and somewhat poorly drained soils have yellowish brown, strong brown, and red mottles, which indicate the segregation of iron. In poorly drained soils, such as Chastain, Partlow, and Roanoke soils, the subsoil and underlying material are grayish, indicating reduction and transfer of iron in solution.

Basic Soil Morphology

A soil profile and its layers, or horizons, result from the interaction of the soil-forming factors. The soil profile generally extends from the surface down to materials that are little altered by the soil-forming processes. It can be observed on the side of a dug pit.

Most of the soils have four major horizons, called the A, E, B, and C horizons. These major horizons may be further subdivided by the use of numbers and letters to indicate changes within one horizon. For example, a Bt horizon is a B horizon that has an accumulation of clay.

The A horizon is the surface layer and has the largest accumulation of organic matter. The E horizon is the subsurface layer that has the maximum amount of leaching and eluviation of clay and iron. It underlies the A horizon.

The B horizon underlies an A or E horizon and is commonly called the subsoil. It is the horizon of maximum accumulation, or illuviation, of clay, iron, aluminum, or other compounds leached from the surface layer. In some soils, the B horizon formed by alteration in place rather than by illuviation. The alteration can be caused by the oxidation and reduction of iron or by the weathering of clay minerals. The B horizon commonly has blocky or prismatic structure, and it generally is firmer and lighter in color than the A horizon but darker than the E and C horizons.

The C horizon is generally below the B horizon or, in some cases, directly below the A horizon. It consists of materials that are little altered by the soil-forming processes.

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the "National Soil Survey Handbook" (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.
AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.
Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.
Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.
Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.
Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.
Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.
Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.
Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.
Aspect. The direction toward which a slope faces. Also called slope aspect.
Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.
Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conglomerate. A coarse-grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw. A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Earthy fill. See Mine spoil.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth’s surface.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Foothills. A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. See Saturated hydraulic conductivity.

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$- or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A generic term for an elevated area of the land surface, rising more than

1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. A blocky or massive, fine-grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower-lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse-grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:

A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*

B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.

2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments ranging from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (K_{sat}). The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy’s Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as “K_{sat}.” Terms describing saturated hydraulic conductivity are *very high*, 100 or more micrometers per second (14.17 or more inches per hour); *high*, 10 to 100 micrometers per second (1.417 to 14.17 inches per hour); *moderately high*, 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour); *moderately low*, 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour); *low*, 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour); and *very low*, less than 0.01 micrometer per second (less than 0.001417 inch per hour). To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune. A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Level	0 to 2 percent
Gently sloping	2 to 7 percent
Strongly sloping	7 to 15 percent
Steep	15 to 25 percent
Very steep	25 percent and higher

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement (in tables). Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to Ca^{++} + Mg^{++}. The degrees of sodicity and their respective ratios are:

Slight	less than 13:1
Moderate	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth’s surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse-grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1971-2000 at Amelia, Virginia)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temp. higher than--	2 years in 10 will have-- Minimum temp. lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snow-fall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January--	47.0	24.7	35.9	72	1	69	3.64	2.03	5.17	7	4.5
February-	50.1	27.1	38.6	76	5	93	3.29	1.67	4.90	6	4.2
March----	59.6	34.1	46.8	84	14	249	4.25	2.47	5.65	7	1.7
April----	69.4	41.9	55.7	89	23	471	3.28	1.55	5.06	5	0.4
May------	76.8	51.3	64.1	92	34	743	3.94	2.58	5.28	7	0.0
June-----	84.7	60.3	72.5	97	43	967	3.23	1.65	4.74	5	0.0
July-----	88.6	64.8	76.7	101	51	1,132	4.33	2.12	6.46	7	0.0
August---	86.5	62.9	74.7	98	48	1,056	4.07	1.87	6.32	6	0.0
September	80.8	55.9	68.3	95	38	848	4.08	1.83	5.92	5	0.0
October--	70.6	43.3	57.0	88	26	526	4.12	1.50	6.03	4	0.0
November-	60.7	35.5	48.1	81	16	270	3.74	1.81	5.15	6	0.3
December-	50.9	27.9	39.4	75	6	111	2.99	1.37	4.60	5	1.6
Yearly:											
Average	68.8	44.1	56.5	---	---	---	---	---	---	---	---
Extreme	102	-12	---	101	-2	---	---	---	---	---	---
Total--	---	---	---	---	---	6,534	44.96	33.59	49.53	70	12.6

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Amelia, Virginia)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 7	Apr. 20	May 4
2 years in 10 later than--	Apr. 1	Apr. 15	Apr. 28
5 years in 10 later than--	Mar. 22	Apr. 5	Apr. 17
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 26	Oct. 13	Oct. 1
2 years in 10 earlier than--	Nov. 1	Oct. 19	Oct. 8
5 years in 10 earlier than-	Nov. 13	Oct. 31	Oct. 21

Table 3.—Growing Season

(Recorded in the period 1971-2000 at Amelia, Virginia)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	214	183	154
8 years in 10	222	192	165
5 years in 10	236	210	187
2 years in 10	250	228	209
1 year in 10	258	238	221

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1B	Appling fine sandy loam, 2 to 7 percent slopes	32,513	14.2
1C	Appling fine sandy loam, 7 to 15 percent slopes	21,646	9.4
2B	Buncombe loamy sand, 2 to 5 percent slopes, rarely flooded	296	0.1
3B	Cecil fine sandy loam, 2 to 7 percent slopes	33,380	14.6
3C	Cecil fine sandy loam, 7 to 15 percent slopes	11,808	5.2
4A	Chastain silty clay loam, 0 to 1 percent slopes, frequently flooded	5,388	2.4
5A	Chewacla silt loam, 0 to 2 percent slopes, frequently flooded	11,800	5.1
6B	Cid loam, 2 to 7 percent slopes	1,467	0.6
6C	Cid loam, 7 to 10 percent slopes	868	0.4
7B	Colfax sandy loam, 2 to 7 percent slopes	1,630	0.7
8B	Creedmoor fine sandy loam, 2 to 7 percent slopes	3,269	1.4
9A	Dogue fine sandy loam, 0 to 2 percent slopes, rarely flooded	1,360	0.6
9B	Dogue fine sandy loam, 2 to 7 percent slopes, rarely flooded	1,794	0.8
10B	Georgeville silt loam, 2 to 7 percent slopes	3,247	1.4
10C	Georgeville silt loam, 7 to 15 percent slopes	1,812	0.8
11B	Helena fine sandy loam, 2 to 7 percent slopes	6,865	3.0
11C	Helena fine sandy loam, 7 to 15 percent slopes	578	0.3
12B	Herndon loam, 2 to 7 percent slopes	1,176	0.5
12C	Herndon loam, 7 to 15 percent slopes	891	0.4
13B	Mayodan gravelly fine sandy loam, 2 to 7 percent slopes	1,780	0.8
13C	Mayodan gravelly fine sandy loam, 7 to 15 percent slopes	1,537	0.7
14D	Pacolet fine sandy loam, 15 to 25 percent slopes	2,270	1.0
14E	Pacolet fine sandy loam, 25 to 40 percent slopes	333	0.1
15C3	Pacolet clay loam, 7 to 15 percent slopes, severely eroded	1,041	0.5
15D3	Pacolet clay loam, 15 to 25 percent slopes, severely eroded	493	0.2
16A	Partlow fine sandy loam, 0 to 2 percent slopes, rarely flooded	3,694	1.6
17A	Roanoke fine sandy loam, 0 to 2 percent slopes, rarely flooded	2,007	0.9
18B	State fine sandy loam, 2 to 6 percent slopes, rarely flooded	223	*
19A	Toccoa fine sandy loam, 0 to 2 percent slopes, frequently flooded	1,440	0.6
20C	Wedowee sandy loam, 7 to 15 percent slopes	12,886	5.6
20D	Wedowee sandy loam, 15 to 25 percent slopes	8,297	3.6
20E	Wedowee sandy loam, 25 to 40 percent slopes	206	*
21B	Wedowee-Poindexter complex, 2 to 7 percent slopes	1,840	0.8
21C	Wedowee-Poindexter complex, 7 to 15 percent slopes	8,689	3.8
21D	Wedowee-Poindexter complex, 15 to 25 percent slopes	23,877	10.4
21E	Wedowee-Poindexter complex, 25 to 40 percent slopes	1,278	0.6
22B	Winnsboro sandy loam, 2 to 7 percent slopes	8,059	3.5
22C	Winnsboro sandy loam, 7 to 15 percent slopes	5,877	2.6
W	Water	1,585	0.7
	Total	229,200	100.0

* Less than 0.1 percent.

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part I

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Virginia Soil Management Group	Alfalfa hay	Barley	Corn	Pasture	Soybeans
			Tons	Bu	Bu	AUM	Bu
1B:							
Appling-----------	2e	V	4.0	70	100	6.5	35
1C:							
Appling-----------	3e	V	4.0	70	88	6.0	31
2B:							
Buncombe----------	3s	II	---	60	65	3.0	20
3B:							
Cecil-------------	2e	X	4.0	70	100	6.5	35
3C:							
Cecil-------------	3e	X	3.5	62	88	6.0	31
4A:							
Chastain----------	6w	LL	---	---	---	6.0	---
5A:							
Chewacla----------	6w	I	---	---	---	9.0	---
6B:							
Cid---------------	2e	KK	---	40	65	6.0	20
6C:							
Cid---------------	3e	KK	---	35	57	5.5	18
7B:							
Colfax------------	4w	BB	---	60	85	6.0	25
8B:							
Creedmoor---------	2e	KK	---	40	65	5.0	20
9A:							
Dogue-------------	2w	K	4.0	80	130	8.0	40
9B:							
Dogue-------------	2e	K	4.0	80	130	8.0	40
10B:							
Georgeville-------	2e	X	4.0	70	100	7.0	35
10C:							
Georgeville-------	3e	X	3.5	62	88	6.5	31
11B:							
Helena------------	2e	KK	---	40	65	6.0	20
11C:							
Helena------------	3e	KK	---	35	57	6.0	18
12B:							
Herndon-----------	2e	V	3.5	70	100	6.0	35

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part I—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Alfalfa hay	Barley	Corn	Pasture	Soybeans
			Tons	Bu	Bu	AUM	Bu
12C:							
Herndon-----------	3e	V	3.1	62	88	5.5	31
13B:							
Mayodan-----------	2e	V	3.1	63	90	6.0	32
13C:							
Mayodan-----------	3e	V	2.8	55	79	5.5	20
14D:							
Pacolet-----------	4e	X	3.2	56	80	3.0	28
14E:							
Pacolet-----------	6e	X	---	---	---	3.0	---
15C3:							
Pacolet-----------	4e	X	2.2	43	62	3.0	22
15D3:							
Pacolet-----------	6e	X	---	---	---	2.0	---
16A:							
Partlow-----------	4w	HH	---	60	85	6.0	25
17A:							
Roanoke-----------	4w	NN	---	30	65	5.0	20
18B:							
State-------------	2e	B	5.5	90	160	7.0	50
19A:							
Toccoa------------	3w	II	---	60	65	7.0	20
20C:							
Wedowee-----------	3e	V	3.5	62	88	5.0	31
20D:							
Wedowee-----------	4e	V	3.2	56	80	3.0	28
20E:							
Wedowee-----------	6e	V	---	---	---	2.0	---
21B:							
Wedowee-----------	2e	V	4.0	70	100	5.0	35
Poindexter--------	2e	FF	---	60	85	5.0	25
21C:							
Wedowee-----------	3e	V	3.5	62	88	4.0	31
Poindexter--------	3e	FF	---	53	75	4.0	22
21D:							
Wedowee-----------	4e	V	3.2	56	80	3.0	28
Poindexter--------	4e	FF	---	48	68	3.0	20

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part I—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Alfalfa hay	Barley	Corn	Pasture	Soybeans
			Tons	Bu	Bu	AUM	Bu
21E:							
Wedowee-----------	6e	V	---	---	---	2.0	---
Poindexter--------	6e	FF	---	---	---	2.0	---
22B:							
Winnsboro---------	2e	KK	---	40	65	6.0	20
22C:							
Winnsboro---------	3e	KK	---	35	57	5.5	18
W.							
Water							

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part II

Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Virginia Soil Management Group	Tobacco	Wheat
			Lbs	Bu
1B:				
Appling-----------	2e	V	2400	56
1C:				
Appling-----------	3e	V	1900	56
2B:				
Buncombe----------	3s	II	1700	48
3B:				
Cecil-------------	2e	X	1700	56
3C:				
Cecil-------------	3e	X	1700	49
4A:				
Chastain----------	6w	LL	---	---
5A:				
Chewacla----------	6w	I	---	---
6B:				
Cid---------------	2e	KK	1800	32
6C:				
Cid---------------	3e	KK	1600	28
7B:				
Colfax------------	4w	BB	---	48
8B:				
Creedmoor---------	2e	KK	1900	32
9A:				
Dogue-------------	2w	K	---	64
9B:				
Dogue-------------	2e	K	1700	64
10B:				
Georgeville-------	2e	X	2100	56
10C:				
Georgeville-------	3e	X	---	49
11B:				
Helena------------	2e	KK	1900	32
11C:				
Helena------------	3e	KK	1600	28
12B:				
Herndon-----------	2e	V	2000	56

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part II—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Tobacco	Wheat
			Lbs	Bu
12C:				
Herndon-----------	3e	V	---	49
13B:				
Mayodan-----------	2e	V	2100	50
13C:				
Mayodan-----------	3e	V	1800	44
14D:				
Pacolet-----------	4e	X	---	45
14E:				
Pacolet-----------	6e	X	---	---
15C3:				
Pacolet-----------	4e	X	---	35
15D3:				
Pacolet-----------	6e	X	---	---
16A:				
Partlow-----------	4w	HH	---	48
17A:				
Roanoke-----------	4w	NN	---	24
18B:				
State-------------	2e	B	2200	64
19A:				
Toccoa------------	3w	II	---	48
20C:				
Wedowee-----------	3e	V	1700	56
20D:				
Wedowee-----------	4e	V	---	45
20E:				
Wedowee-----------	6e	V	---	---
21B:				
Wedowee-----------	2e	V	---	56
Poindexter--------	2e	FF	---	48
21C:				
Wedowee-----------	3e	V	---	49
Poindexter--------	3e	FF	---	42
21D:				
Wedowee-----------	4e	V	---	45
Poindexter--------	4e	FF	---	38

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part II—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Tobacco	Wheat
			Lbs	Bu
21E:				
Wedowee-----------	6e	V	---	---
Poindexter--------	6e	FF	---	---
22B:				
Winnsboro---------	2e	KK	1700	32
22C:				
Winnsboro---------	3e	KK	1600	28
W.				
Water				

Table 6.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland)

Map Symbol	Map unit name
1B	Appling fine sandy loam, 2 to 7 percent slopes
3B	Cecil fine sandy loam, 2 to 7 percent slopes
9A	Dogue fine sandy loam, 0 to 2 percent slopes, rarely flooded
9B	Dogue fine sandy loam, 2 to 7 percent slopes, rarely flooded
10B	Georgeville silt loam, 2 to 7 percent slopes
11B	Helena fine sandy loam, 2 to 7 percent slopes
12B	Herndon loam, 2 to 7 percent slopes
13B	Mayodan gravelly fine sandy loam, 2 to 7 percent slopes
18B	State fine sandy loam, 2 to 6 percent slopes, rarely flooded
22B	Winnsboro sandy loam, 2 to 7 percent slopes

Table 7.—Hydric Soils

Map symbol	Soil name
4A	Chastain silty clay loam, 0 to 1 percent slopes, frequently flooded
16A	Partlow fine sandy loam, 0 to 2 percent slopes, rarely flooded
17A	Roanoke fine sandy loam, 0 to 2 percent slopes, rarely flooded

Table 8.—Agricultural Waste Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1B:					
Appling	90	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
		Low adsorption	0.26		
1C:					
Appling	90	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
		Slope	0.37	Slope	0.37
		Low adsorption	0.26		
2B:					
Buncombe	90	Very limited		Very limited	
		Filtering capacity	0.99	Too acid	1.00
		Too acid	0.73	Filtering capacity	0.99
		Leaching	0.45	Droughty	0.45
3B:					
Cecil	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.67	Too acid	0.96
		Too acid	0.37	Low adsorption	0.32
3C:					
Cecil	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.67	Too acid	0.96
		Too acid	0.37	Slope	0.37
		Slope	0.37	Low adsorption	0.32
4A:					
Chastain	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Slow water movement	1.00
5A:					
Chewacla	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.73	Too acid	1.00
6B:					
Cid	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Low adsorption	1.00
		Too acid	0.73	Slow water movement	1.00

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
6C:					
Cid	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Low adsorption	1.00
		Too acid	0.73	Slow water movement	1.00
7B:					
Colfax	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Droughty	0.21	Droughty	0.21
8B:					
Creedmoor	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
9A:					
Dogue	90	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.95
		Slow water movement	0.30	Flooding	0.40
9B:					
Dogue	90	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.95
		Slow water movement	0.30	Flooding	0.40
10B:					
Georgeville	90	Somewhat limited		Very limited	
		Low adsorption	0.74	Too acid	1.00
		Too acid	0.73	Low adsorption	0.72
10C:					
Georgeville	90	Somewhat limited		Very limited	
		Low adsorption	0.74	Too acid	1.00
		Too acid	0.73	Low adsorption	0.72
		Slope	0.37	Slope	0.37
11B:					
Helena	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too acid	0.02	Too acid	0.07

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
11C:					
Helena--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Slope	0.37	Slope	0.37
12B:					
Herndon-------------	90	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
		Low adsorption	0.54	Low adsorption	0.28
12C:					
Herndon-------------	90	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
		Low adsorption	0.54	Slope	0.37
		Slope	0.37	Low adsorption	0.28
13B:					
Mayodan-------------	90	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
13C:					
Mayodan-------------	90	Somewhat limited		Somewhat limited	
		Slope	0.37	Too acid	0.91
		Too acid	0.32	Slope	0.37
14D:					
Pacolet-------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.73	Too acid	1.00
		Low adsorption	0.60	Low adsorption	0.34
14E:					
Pacolet-------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.73	Too acid	1.00
		Low adsorption	0.60	Low adsorption	0.34
15C3:					
Pacolet-------------	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.66	Too acid	0.77
		Slope	0.37	Low adsorption	0.58
		Too acid	0.22	Slope	0.37
15D3:					
Pacolet-------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.66	Too acid	0.77
		Too acid	0.22	Low adsorption	0.58
16A:					
Partlow-------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff	0.40	Too acid	0.96
		Too acid	0.37	Flooding	0.40

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
17A:					
Roanoke-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Too acid	0.89	Too acid	1.00
18B:					
State---------------	90	Somewhat limited		Somewhat limited	
		Too acid	0.37	Too acid	0.96
				Flooding	0.40
19A:					
Toccoa--------------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Too acid	0.11	Too acid	0.42
		Depth to saturated zone	0.02	Depth to saturated zone	0.02
20C:					
Wedowee-------------	90	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
		Slope	0.37	Slope	0.37
		Low adsorption	0.20		
20D:					
Wedowee-------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.73	Too acid	1.00
		Low adsorption	0.20		
20E:					
Wedowee-------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.73	Too acid	1.00
		Low adsorption	0.20		
21B:					
Wedowee-------------	50	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
		Low adsorption	0.20		
Poindexter----------	35	Somewhat limited		Very limited	
		Too acid	0.37	Low adsorption	1.00
		Droughty	0.18	Too acid	0.96
		Depth to bedrock	0.01	Droughty	0.18
21C:					
Wedowee-------------	50	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
		Slope	0.37	Slope	0.37
		Low adsorption	0.20		
Poindexter----------	35	Somewhat limited		Very limited	
		Too acid	0.37	Low adsorption	1.00
		Slope	0.37	Too acid	0.96
		Droughty	0.18	Slope	0.37

Table 8.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
21D:					
Wedowee	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.73	Too acid	1.00
		Low adsorption	0.20		
Poindexter	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.37	Slope	1.00
		Droughty	0.18	Too acid	0.96
21E:					
Wedowee	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.73	Too acid	1.00
		Low adsorption	0.20		
Poindexter	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.37	Slope	1.00
		Droughty	0.18	Too acid	0.96
22B:					
Winnsboro	90	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Too acid	0.02	Slow water movement	1.00
				Too acid	0.07
22C:					
Winnsboro	90	Very limited		Very limited	
		Slow water movement	1.00	Low adsorption	1.00
		Slope	0.37	Slow water movement	1.00
		Too acid	0.02	Slope	0.37
W:					
Water	100	Not rated		Not rated	

Table 8.—Agricultural Waste Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
1B:					
Appling	90	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface application	0.32	Too acid	1.00
		Low adsorption	0.26	Low adsorption	0.26
1C:					
Appling	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for sprinkler application	0.60	Too steep for surface application	0.94
2B:					
Buncombe	90	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Filtering capacity	0.99	Too acid	1.00
		Droughty	0.45	Flooding	0.40
3B:					
Cecil	90	Somewhat limited		Very limited	
		Too acid	0.96	Seepage	1.00
		Low adsorption	0.67	Too acid	0.96
		Too steep for surface application	0.32	Low adsorption	0.67
3C:					
Cecil	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.96	Too acid	0.96
		Low adsorption	0.67	Too steep for surface application	0.94
4A:					
Chastain	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Ponding	1.00

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
5A:					
Chewacla	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Seepage	1.00
6B:					
Cid	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Too acid	1.00	Seepage	1.00
6C:					
Cid	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Seepage	1.00
7B:					
Colfax	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Depth to cemented pan	1.00
		Too steep for surface application	0.32	Seepage	1.00
8B:					
Creedmoor	90	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Too acid	1.00
9A:					
Dogue	90	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Depth to saturated zone	0.95	Too acid	1.00
		Slow water movement	0.22	Depth to saturated zone	0.95
9B:					
Dogue	90	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Depth to saturated zone	0.95	Too acid	1.00
		Too steep for surface application	0.32	Depth to saturated zone	0.95

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
10B:					
Georgeville---------	90	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Low adsorption	0.74	Too acid	1.00
		Too steep for surface application	0.32	Low adsorption	0.74
10C:					
Georgeville---------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too acid	1.00
				Too steep for surface application	0.94
		Too acid	1.00		
		Low adsorption	0.74		
11B:					
Helena--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Depth to saturated zone	0.99
		Depth to saturated zone	0.99		
				Too acid	0.07
		Too steep for surface application	0.32		
11C:					
Helena--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Depth to saturated zone	0.99
		Too steep for surface application	1.00		
				Too steep for surface application	0.94
		Depth to saturated zone	0.99		
12B:					
Herndon-------------	90	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Low adsorption	0.54	Too acid	1.00
		Too steep for surface application	0.32	Low adsorption	0.54
12C:					
Herndon-------------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too acid	1.00
				Too steep for surface application	0.94
		Too acid	1.00		
		Too steep for sprinkler application	0.60		
13B:					
Mayodan-------------	90	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.91

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
13C:					
Mayodan-------------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	0.94
		Too steep for sprinkler application	0.60	Too acid	0.91
14D:					
Pacolet-------------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
14E:					
Pacolet-------------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
15C3:					
Pacolet-------------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.77	Too steep for surface application	0.94
		Low adsorption	0.66	Too acid	0.77
15D3:					
Pacolet-------------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Too acid	0.77	Too acid	0.77
16A:					
Partlow-------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.96	Depth to saturated zone	1.00
				Too acid	0.96

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
17A:					
Roanoke	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Too acid	1.00
18B:					
State	90	Somewhat limited		Very limited	
		Too acid	0.96	Seepage	1.00
		Too steep for surface application	0.08	Too acid	0.96
				Flooding	0.40
19A:					
Toccoa	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Too acid	0.42	Seepage	1.00
		Depth to saturated zone	0.02	Too acid	0.42
20C:					
Wedowee	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for sprinkler application	0.60	Too steep for surface application	0.94
20D:					
Wedowee	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
20E:					
Wedowee	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
21B:					
Wedowee	50	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface application	0.32	Too acid	1.00
		Low adsorption	0.20	Low adsorption	0.20

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
21B:					
Poindexter----------	35	Somewhat limited		Very limited	
		Too acid	0.96	Seepage	1.00
		Too steep for surface application	0.32	Depth to bedrock	1.00
				Too acid	0.96
		Droughty	0.18		
21C:					
Wedowee------------	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too acid	1.00
				Too steep for surface application	0.94
		Too acid	1.00		
		Too steep for sprinkler application	0.60		
Poindexter----------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Depth to bedrock	1.00
				Too acid	0.96
		Too acid	0.96		
		Too steep for sprinkler application	0.60		
21D:					
Wedowee------------	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
				Too acid	1.00
		Too acid	1.00		
Poindexter----------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
				Depth to bedrock	1.00
		Too acid	0.96		
21E:					
Wedowee------------	50	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
				Too acid	1.00
		Too acid	1.00		

Table 8.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
21E:					
Poindexter----------	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	0.96	Depth to bedrock	1.00
22B:					
Winnsboro-----------	90	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	0.32	Depth to bedrock	0.84
		Too acid	0.07	Too acid	0.07
22C:					
Winnsboro-----------	90	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
		Too steep for sprinkler application	0.60	Depth to bedrock	0.84
W:					
Water---------------	100	Not rated		Not rated	

Table 8.—Agricultural Waste Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
1B:					
Appling	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14	Too steep for surface application	0.32
		Slope	0.12	Low adsorption	0.26
1C:					
Appling	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	0.94
2B:					
Buncombe	90	Not limited		Very limited	
				Too acid	1.00
				Filtering capacity	0.99
				Too steep for surface application	0.08
3B:					
Cecil	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.96
		Slope	0.12	Low adsorption	0.67
				Too steep for surface application	0.32
3C:					
Cecil	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too acid	0.96
				Too steep for sprinkler irrigation	0.94
4A:					
Chastain	90	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Ponding	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
5A:					
Chewacla	90	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	1.00
6B:					
Cid	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too acid	1.00
6C:					
Cid	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
7B:					
Colfax	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slow water movement	1.00	Too acid	1.00
8B:					
Creedmoor	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Too acid	0.14	Too acid	1.00
9A:					
Dogue	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.95
		Too acid	0.14	Slow water movement	0.15
9B:					
Dogue	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.95
		Too acid	0.14	Too steep for surface application	0.32

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
10B:					
Georgeville----------	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14	Low adsorption	0.74
		Slope	0.12	Too steep for surface application	0.32
10C:					
Georgeville----------	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	0.94
11B:					
Helena---------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Slow water movement	0.94
		Too acid	0.14	Too steep for surface application	0.32
11C:					
Helena---------------	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Too steep for sprinkler irrigation	0.94
12B:					
Herndon--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14	Low adsorption	0.54
		Slope	0.12	Too steep for surface application	0.32
12C:					
Herndon--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	0.94

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
13B:					
Mayodan-------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Too acid	0.14	Too steep for surface application	0.32
		Slope	0.12		
13C:					
Mayodan-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.14	Too steep for sprinkler irrigation	0.94
				Too acid	0.91
14D:					
Pacolet-------------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
14E:					
Pacolet-------------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
15C3:					
Pacolet-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00		
				Too steep for sprinkler irrigation	0.94
				Too acid	0.77
15D3:					
Pacolet-------------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
				Too steep for sprinkler irrigation	1.00
				Too acid	0.77

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
16A:					
Partlow	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.96
17A:					
Roanoke	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
		Too acid	0.55	Slow water movement	0.94
18B:					
State	90	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Too acid	0.96
		Slow water movement	1.00	Too steep for surface application	0.08
19A:					
Toccoa	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Too acid	0.42
		Slow water movement	0.32	Depth to saturated zone	0.02
20C:					
Wedowee	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too acid	1.00
				Too steep for sprinkler irrigation	0.94
20D:					
Wedowee	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
20E:					
Wedowee	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
21B:					
Wedowee	50	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Slope	0.12	Too steep for surface application	0.32
				Low adsorption	0.20
Poindexter	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too acid	0.96
		Slope	0.12	Too steep for surface application	0.32
21C:					
Wedowee	50	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too acid	1.00
				Too steep for sprinkler irrigation	0.94
Poindexter	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too acid	0.96
21D:					
Wedowee	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Poindexter	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
21E:					
Wedowee	50	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 8.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
21E:					
Poindexter----------	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
22B:					
Winnsboro-----------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.94
		Depth to bedrock	1.00	Depth to bedrock	0.84
		Slope	0.12	Too steep for surface application	0.32
22C:					
Winnsboro-----------	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	0.94
		Slope	1.00	Slow water movement	0.94
W:					
Water---------------	100	Not rated		Not rated	

Table 9.—Forestland Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
1B:				
Appling	loblolly pine	84	114	loblolly pine, shortleaf pine
	scarlet oak	74	57	
	shortleaf pine	65	100	
	Virginia pine	74	114	
	white oak	64	43	
	yellow-poplar	88	86	
1C:				
Appling	loblolly pine	84	114	loblolly pine, shortleaf pine
	scarlet oak	74	57	
	shortleaf pine	65	100	
	Virginia pine	74	114	
	white oak	64	43	
	yellow-poplar	88	86	
2B:				
Buncombe	loblolly pine	90	129	loblolly pine, yellow-poplar
	yellow-poplar	100	114	
3B:				
Cecil	loblolly pine	83	114	loblolly pine, shortleaf pine
	northern red oak	81	57	
	post oak	72	57	
	scarlet oak	81	57	
	shortleaf pine	69	114	
	southern red oak	79	57	
	sweetgum	76	72	
	Virginia pine	71	114	
	white oak	79	57	
	yellow-poplar	92	86	
3C:				
Cecil	loblolly pine	83	114	loblolly pine, shortleaf pine
	northern red oak	81	57	
	post oak	72	57	
	scarlet oak	81	57	
	shortleaf pine	69	114	
	southern red oak	79	57	
	sweetgum	76	72	
	Virginia pine	71	114	
	white oak	79	57	
	yellow-poplar	92	86	
4A:				
Chastain	sweetgum	95	114	baldcypress, sweetgum
5A:				
Chewacla	loblolly pine	95	143	American sycamore, loblolly pine, sweetgum, yellow-poplar
	sweetgum	97	129	
	water oak	80	72	
	yellow-poplar	95	100	
6B:				
Cid	shortleaf pine	56	86	loblolly pine, shortleaf pine
	white oak	52	29	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
6C:				
Cid-------------------	shortleaf pine------	56	86	loblolly pine, shortleaf pine
	white oak----------	52	29	
7B:				
Colfax-----------------	loblolly pine-------	80	114	loblolly pine, Virginia pine
	red maple----------	65	43	
	shortleaf pine------	70	114	
	sweetgum-----------	80	86	
	yellow-poplar-------	80	72	
8B:				
Creedmoor--------------	loblolly pine-------	87	129	loblolly pine
	Virginia pine-------	64	100	
	yellow-poplar-------	97	100	
9A:				
Dogue------------------	loblolly pine-------	90	129	loblolly pine
	southern red oak----	80	57	
	sweetgum-----------	90	100	
	white oak----------	80	57	
	yellow-poplar-------	93	100	
9B:				
Dogue------------------	loblolly pine-------	90	129	loblolly pine
	southern red oak----	80	57	
	sweetgum-----------	90	100	
	white oak----------	80	57	
	yellow-poplar-------	93	100	
10B:				
Georgeville------------	loblolly pine-------	81	114	black walnut, eastern redcedar, loblolly pine, Virginia pine, yellow-poplar
	scarlet oak---------	70	57	
	shortleaf pine------	63	100	
	southern red oak----	67	43	
	white oak----------	69	57	
10C:				
Georgeville------------	loblolly pine-------	81	114	black walnut, eastern redcedar, loblolly pine, Virginia pine, yellow-poplar
	scarlet oak---------	70	57	
	shortleaf pine------	63	100	
	southern red oak----	67	43	
	white oak----------	69	57	
11B:				
Helena-----------------	loblolly pine-------	84	114	loblolly pine, yellow-poplar
	shortleaf pine------	66	100	
11C:				
Helena-----------------	loblolly pine-------	84	114	loblolly pine, yellow-poplar
	shortleaf pine------	66	100	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
12B:				
Herndon	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	61	86	
	southern red oak	72	57	
	white oak	65	43	
	yellow-poplar	91	86	
12C:				
Herndon	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	61	86	
	southern red oak	72	57	
	white oak	65	43	
	yellow-poplar	91	86	
13B:				
Mayodan	loblolly pine	87	129	loblolly pine
	shortleaf pine	70	114	
	Virginia pine	60	86	
	white oak	54	43	
13C:				
Mayodan	loblolly pine	87	129	loblolly pine
	shortleaf pine	70	114	
	Virginia pine	60	86	
	white oak	54	43	
14D:				
Pacolet	loblolly pine	78	114	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	70	114	
	yellow-poplar	90	86	
14E:				
Pacolet	loblolly pine	78	114	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	70	114	
	yellow-poplar	90	86	
15C3:				
Pacolet	loblolly pine	70	86	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	60	86	
	yellow-poplar	80	72	
15D3:				
Pacolet	loblolly pine	70	86	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	60	86	
	yellow-poplar	80	72	
16A:				
Partlow	loblolly pine	78	114	loblolly pine, sweetgum, yellow-poplar
	sweetgum	75	72	
	yellow-poplar	80	72	
17A:				
Roanoke	sweetgum	90	100	sweetgum
	white oak	75	57	
	willow oak	76	57	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
18B:				
State------------------	loblolly pine-------	86	129	black walnut,
	southern red oak----	85	72	loblolly pine,
	Virginia pine-------	85	129	yellow-poplar
	yellow-poplar-------	100	114	
19A:				
Toccoa-----------------	loblolly pine-------	90	129	American sycamore,
	sweetgum------------	100	143	cherrybark oak,
	yellow-poplar-------	107	114	loblolly pine,
				yellow-poplar
20C:				
Wedowee----------------	loblolly pine-------	80	114	loblolly pine,
	northern red oak----	70	57	shortleaf pine,
	shortleaf pine------	70	114	Virginia pine,
	southern red oak----	70	57	yellow-poplar
	Virginia pine-------	70	114	
	white oak-----------	65	43	
20D:				
Wedowee----------------	loblolly pine-------	80	114	loblolly pine,
	northern red oak----	70	57	shortleaf pine,
	shortleaf pine------	70	114	Virginia pine,
	southern red oak----	70	57	yellow-poplar
	Virginia pine-------	70	114	
	white oak-----------	65	43	
20E:				
Wedowee----------------	loblolly pine-------	80	114	loblolly pine,
	northern red oak----	70	57	shortleaf pine,
	shortleaf pine------	70	114	Virginia pine,
	southern red oak----	70	57	yellow-poplar
	Virginia pine-------	70	114	
	white oak-----------	65	43	
21B:				
Wedowee----------------	loblolly pine-------	80	114	loblolly pine,
	northern red oak----	70	57	shortleaf pine,
	shortleaf pine------	70	114	Virginia pine,
	southern red oak----	70	57	yellow-poplar
	Virginia pine-------	70	114	
	white oak-----------	65	43	
Poindexter-------------	loblolly pine-------	70	86	loblolly pine,
	shortleaf pine------	60	86	shortleaf pine
	southern red oak----	60	43	
	Virginia pine-------	65	100	
21C:				
Wedowee----------------	loblolly pine-------	80	114	loblolly pine,
	northern red oak----	70	57	shortleaf pine,
	shortleaf pine------	70	114	Virginia pine,
	southern red oak----	70	57	yellow-poplar
	Virginia pine-------	70	114	
	white oak-----------	65	43	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
21C:				
Poindexter	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
	Virginia pine	65	100	
21D:				
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	white oak	65	43	
Poindexter	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
	Virginia pine	65	100	
21E:				
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	white oak	65	43	
Poindexter	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
	Virginia pine	65	100	
22B:				
Winnsboro	loblolly pine	73	100	eastern redcedar, loblolly pine
	post oak	55	43	
	red maple	70	43	
	shortleaf pine	63	100	
	southern red oak	84	72	
	sweetgum	78	72	
	Virginia pine	63	100	
	white oak	69	57	
	yellow-poplar	88	86	
22C:				
Winnsboro	loblolly pine	73	100	eastern redcedar, loblolly pine
	post oak	55	43	
	red maple	70	43	
	shortleaf pine	63	100	
	southern red oak	84	72	
	sweetgum	78	72	
	Virginia pine	63	100	
	white oak	69	57	
	yellow-poplar	88	86	
W.				
Water				

Table 10.—Forestland Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Appling-------------	90	Slight		Well suited		Moderate	
						Low strength	0.50
1C:							
Appling-------------	90	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
2B:							
Buncombe------------	90	Slight		Well suited		Moderate	
						Low strength	0.50
3B:							
Cecil---------------	90	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
3C:							
Cecil---------------	90	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
4A:							
Chastain------------	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Flooding	1.00		
				Wetness	1.00		
5A:							
Chewacla------------	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Low strength	0.50		
6B:							
Cid-----------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Restrictive layer	0.50	Wetness	0.50		
6C:							
Cid-----------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
				Wetness	0.50		
7B:							
Colfax--------------	90	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
8B:							
Creedmoor-----------	90	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Wetness	0.50	Low strength	0.50

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9A:							
Dogue	90	Slight		Well suited		Moderate	
						Low strength	0.50
9B:							
Dogue	90	Slight		Well suited		Moderate	
						Low strength	0.50
10B:							
Georgeville	90	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
10C:							
Georgeville	90	Slight		Moderately suited		Severe	
				Slope	0.50	Low strength	1.00
				Low strength	0.50		
11B:							
Helena	90	Slight		Well suited		Moderate	
						Low strength	0.50
11C:							
Helena	90	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
12B:							
Herndon	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
12C:							
Herndon	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
13B:							
Mayodan	90	Slight		Well suited		Moderate	
						Low strength	0.50
13C:							
Mayodan	90	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
14D:							
Pacolet	90	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
14E:							
Pacolet	90	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
15C3:							
Pacolet	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
15D3:							
Pacolet-------------	90	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
16A:							
Partlow-------------	90	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	1.00
				Low strength	0.50		
17A:							
Roanoke-------------	90	Slight		Poorly suited		Moderate	
				Wetness	1.00	Low strength	0.50
18B:							
State---------------	90	Slight		Well suited		Moderate	
						Low strength	0.50
19A:							
Toccoa--------------	90	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
20C:							
Wedowee-------------	90	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
20D:							
Wedowee-------------	90	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
20E:							
Wedowee-------------	90	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
21B:							
Wedowee-------------	50	Slight		Well suited		Moderate	
						Low strength	0.50
Poindexter----------	35	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
21C:							
Wedowee-------------	50	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Poindexter----------	35	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
21D:							
Wedowee-------------	50	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Poindexter----------	35	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21E:							
Wedowee-------------	50	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Poindexter----------	35	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				
22B:							
Winnsboro-----------	90	Slight		Well suited		Moderate	
						Low strength	0.50
22C:							
Winnsboro-----------	90	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
1B:							
Appling-------------	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
1C:							
Appling-------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
2B:							
Buncombe------------	90	Slight		Slight		Well suited	
3B:							
Cecil---------------	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
3C:							
Cecil---------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
4A:							
Chastain------------	90	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
5A:							
Chewacla------------	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50
6B:							
Cid-----------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
6C:							
Cid-----------------	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
7B:							
Colfax--------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
8B:							
Creedmoor-----------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
9A:							
Dogue---------------	90	Slight		Slight		Well suited	

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
9B:							
Dogue	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
10B:							
Georgeville	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
10C:							
Georgeville	90	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
11B:							
Helena	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
11C:							
Helena	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
12B:							
Herndon	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
12C:							
Herndon	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
13B:							
Mayodan	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
13C:							
Mayodan	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
14D:							
Pacolet	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
14E:							
Pacolet	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
15C3:							
Pacolet	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
15D3:							
Pacolet	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
16A:							
Partlow	90	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
17A:							
Roanoke	90	Slight		Slight		Poorly suited	
						Wetness	1.00
18B:							
State	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
19A:							
Toccoa	90	Slight		Slight		Poorly suited	
						Flooding	1.00
20C:							
Wedowee	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
20D:							
Wedowee	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
20E:							
Wedowee	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
21B:							
Wedowee	50	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Poindexter	35	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
21C:							
Wedowee	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Poindexter	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
21D:							
Wedowee	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Poindexter	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
21E:							
Wedowee	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Poindexter	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
22B:							
Winnsboro	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22C:							
Winnsboro	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
W:							
Water	100	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
1B:							
Appling	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
1C:							
Appling	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
2B:							
Buncombe	90	Well suited		Well suited		Well suited	
3B:							
Cecil	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
3C:							
Cecil	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
4A:							
Chastain	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
5A:							
Chewacla	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
6B:							
Cid	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
6C:							
Cid	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
7B:							
Colfax	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
8B:							
Creedmoor	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
9A:							
Dogue	90	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
9B:							
Dogue	90	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
				Slope	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
10B:							
Georgeville	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
10C:							
Georgeville	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
11B:							
Helena	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
11C:							
Helena	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
12B:							
Herndon	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
12C:							
Herndon	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
13B:							
Mayodan	90	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
				Slope	0.50		
13C:							
Mayodan	90	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
				Slope	0.50		
14D:							
Pacolet	90	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
14E:							
Pacolet	90	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
15C3:							
Pacolet	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
15D3:							
Pacolet	90	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
16A:							
Partlow	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
17A:							
Roanoke	90	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
18B:							
State	90	Well suited		Well suited		Well suited	
19A:							
Toccoa	90	Well suited		Well suited		Well suited	
20C:							
Wedowee	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
20D:							
Wedowee	90	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
20E:							
Wedowee	90	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
21B:							
Wedowee	50	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Poindexter	35	Well suited		Moderately suited		Well suited	
				Slope	0.50		
21C:							
Wedowee	50	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Poindexter	35	Well suited		Moderately suited		Well suited	
				Slope	0.50		
21D:							
Wedowee	50	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
Poindexter	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
21E:							
Wedowee	50	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
Poindexter	35	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
22B:							
Winnsboro	90	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
				Slope	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
22C:							
Winnsboro-----------	90	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
				Slope	0.50		
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part IV

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1B:					
Appling	90	Well suited		Well suited	
1C:					
Appling	90	Well suited		Well suited	
2B:					
Buncombe	90	Well suited		Well suited	
3B:					
Cecil	90	Well suited		Well suited	
3C:					
Cecil	90	Well suited		Well suited	
4A:					
Chastain	90	Well suited		Well suited	
5A:					
Chewacla	90	Well suited		Well suited	
6B:					
Cid	90	Well suited		Well suited	
6C:					
Cid	90	Well suited		Well suited	
7B:					
Colfax	90	Well suited		Well suited	
8B:					
Creedmoor	90	Well suited		Well suited	
9A:					
Dogue	90	Well suited		Well suited	
9B:					
Dogue	90	Well suited		Well suited	
10B:					
Georgeville	90	Well suited		Well suited	
10C:					
Georgeville	90	Well suited		Well suited	
11B:					
Helena	90	Well suited		Well suited	
11C:					
Helena	90	Well suited		Well suited	

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
12B:					
Herndon	90	Well suited		Well suited	
12C:					
Herndon	90	Well suited		Well suited	
13B:					
Mayodan	90	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
13C:					
Mayodan	90	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
14D:					
Pacolet	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
14E:					
Pacolet	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
15C3:					
Pacolet	90	Well suited		Well suited	
15D3:					
Pacolet	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
16A:					
Partlow	90	Well suited		Well suited	
17A:					
Roanoke	90	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
18B:					
State	90	Well suited		Well suited	
19A:					
Toccoa	90	Well suited		Well suited	
20C:					
Wedowee	90	Well suited		Well suited	
20D:					
Wedowee	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
20E:					
Wedowee	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
21B:					
Wedowee	50	Well suited		Well suited	
Poindexter	35	Well suited		Well suited	
21C:					
Wedowee	50	Well suited		Well suited	
Poindexter	35	Well suited		Well suited	
21D:					
Wedowee	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Poindexter	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
21E:					
Wedowee	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Poindexter	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
22B:					
Winnsboro	90	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
22C:					
Winnsboro	90	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
W:					
Water	100	Not rated		Not rated	

Table 10.—Forestland Management, Part V

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1B:					
Appling	90	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
1C:					
Appling	90	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
2B:					
Buncombe	90	High		Low	
		Texture/rock fragments	1.00		
3B:					
Cecil	90	Moderate		Low	
		Texture/rock fragments	0.50		
3C:					
Cecil	90	Moderate		Low	
		Texture/rock fragments	0.50		
4A:					
Chastain	90	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
5A:					
Chewacla	90	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
6B:					
Cid	90	Moderate		Low	
		Texture/rock fragments	0.50		
6C:					
Cid	90	Moderate		Low	
		Texture/rock fragments	0.50		
7B:					
Colfax	90	Low		High	
		Texture/surface depth/rock fragments	0.10	Wetness	1.00

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
8B:					
Creedmoor-----------	90	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
9A:					
Dogue---------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
9B:					
Dogue---------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
10B:					
Georgeville---------	90	Moderate		Low	
		Texture/rock fragments	0.50		
10C:					
Georgeville---------	90	Moderate		Low	
		Texture/rock fragments	0.50		
11B:					
Helena--------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
11C:					
Helena--------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
12B:					
Herndon-------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
12C:					
Herndon-------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
13B:					
Mayodan-------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
13C:					
Mayodan-------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
14D:					
Pacolet-------------	90	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
14E:					
Pacolet	90	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
15C3:					
Pacolet	90	Low		Low	
15D3:					
Pacolet	90	Low		Low	
16A:					
Partlow	90	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
17A:					
Roanoke	90	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
				Soil reaction	0.50
18B:					
State	90	Moderate		Low	
		Texture/rock fragments	0.50		
19A:					
Toccoa	90	Low		Low	
		Texture/rock fragments	0.10		
20C:					
Wedowee	90	Moderate		Low	
		Texture/rock fragments	0.50		
20D:					
Wedowee	90	Moderate		Low	
		Texture/rock fragments	0.50		
20E:					
Wedowee	90	Moderate		Low	
		Texture/slope/ rock fragments	0.50		
21B:					
Wedowee	50	Moderate		Low	
		Texture/rock fragments	0.50		
Poindexter	35	Moderate		Low	
		Texture/rock fragments	0.50		

Table 10.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
21C:					
Wedowee	50	Moderate		Low	
		Texture/rock fragments	0.50		
Poindexter	35	Moderate		Low	
		Texture/rock fragments	0.50		
21D:					
Wedowee	50	Moderate		Low	
		Texture/rock fragments	0.50		
Poindexter	35	Moderate		Low	
		Texture/rock fragments	0.50		
21E:					
Wedowee	50	Moderate		Low	
		Texture/slope/ rock fragments	0.50		
Poindexter	35	Moderate		Low	
		Texture/slope/ rock fragments	0.50		
22B:					
Winnsboro	90	Moderate		Low	
		Texture/rock fragments	0.50		
22C:					
Winnsboro	90	Moderate		Low	
		Texture/rock fragments	0.50		
W:					
Water	100	Not rated		Not rated	

Table 11.—Recreational Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
1B:							
Appling	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.88
						Too sandy	0.01
1C:							
Appling	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
2B:							
Buncombe	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Too sandy	0.79	Too sandy	0.79
		Too sandy	0.79			Slope	0.50
3B:							
Cecil	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.88
						Too sandy	0.01
3C:							
Cecil	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
4A:							
Chastain	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Ponding	1.00	Flooding	1.00
		Ponding	1.00	Slow water movement	0.98	Ponding	1.00
5A:							
Chewacla	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
6B:							
Cid	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.95	Slow water movement	0.94	Depth to saturated zone	0.95
		Slow water movement	0.94	Depth to saturated zone	0.68	Slow water movement	0.94
						Slope	0.88
6C:							
Cid	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Slow water movement	0.94	Slope	1.00
		Slow water movement	0.94	Depth to saturated zone	0.68	Depth to saturated zone	0.95
		Slope	0.04	Slope	0.04	Slow water movement	0.94

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
7B:							
Colfax	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
		Depth to cemented pan	0.16	Depth to cemented pan	0.16	Slope	0.88
						Depth to cemented pan	0.15
8B:							
Creedmoor	90	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Too sandy	0.01	Too sandy	0.01	Slope	0.88
9A:							
Dogue	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water movement	0.15	Slow water movement	0.15
		Slow water movement	0.15	Depth to saturated zone	0.03	Depth to saturated zone	0.07
		Depth to saturated zone	0.07				
9B:							
Dogue	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water movement	0.15	Slope	0.88
		Slow water movement	0.15	Depth to saturated zone	0.03	Slow water movement	0.15
		Depth to saturated zone	0.07			Depth to saturated zone	0.07
10B:							
Georgeville	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
10C:							
Georgeville	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
11B:							
Helena	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.88
						Depth to saturated zone	0.39
11C:							
Helena	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Depth to saturated zone	0.39	Slope	0.37	Slow water movement	0.94
		Slope	0.37	Depth to saturated zone	0.19	Depth to saturated zone	0.39
12B:							
Herndon	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
						Gravel content	0.56

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
12C:							
Herndon	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
						Gravel content	0.56
13B:							
Mayodan	90	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
		Too sandy	0.01	Too sandy	0.01	Slope	0.88
						Too sandy	0.01
13C:							
Mayodan	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
		Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
14D:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
14E:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
15C3:							
Pacolet	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
15D3:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
16A:							
Partlow	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00				
17A:							
Roanoke	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	0.94	Slow water movement	0.94
		Slow water movement	0.94				
18B:							
State	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.50
19A:							
Toccoa	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
20C:							
Wedowee	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
20D:							
Wedowee	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
20E:							
Wedowee	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
21B:							
Wedowee	50	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Poindexter	35	Not limited		Not limited		Somewhat limited	
						Slope	0.88
						Depth to bedrock	0.01
21C:							
Wedowee	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Poindexter	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
						Depth to bedrock	0.01
21D:							
Wedowee	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
21E:							
Wedowee	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
22B:							
Winnsboro	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
						Slope	0.88
22C:							
Winnsboro	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Slope	0.37	Slope	0.37	Slow water movement	0.94
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11.—Recreational Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
1B:							
Appling-------------	90	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
1C:							
Appling-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.37
2B:							
Buncombe------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Droughty	0.28
3B:							
Cecil---------------	90	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
3C:							
Cecil---------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.37
4A:							
Chastain------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40	Ponding	1.00
5A:							
Chewacla------------	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.99
6B:							
Cid-----------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.32	Depth to saturated zone	0.32	Depth to saturated zone	0.68
						Depth to bedrock	0.10
6C:							
Cid-----------------	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	0.32	Depth to saturated zone	0.32	Depth to bedrock	0.10
						Slope	0.04
7B:							
Colfax--------------	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
						Depth to cemented pan	0.15

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8B:							
Creedmoor	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
		Too sandy	0.01	Too sandy	0.01		
9A:							
Dogue	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
9B:							
Dogue	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
10B:							
Georgeville	90	Not limited		Not limited		Not limited	
10C:							
Georgeville	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.37
11B:							
Helena	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
11C:							
Helena	90	Not limited		Not limited		Somewhat limited	
						Slope	0.37
						Depth to saturated zone	0.19
12B:							
Herndon	90	Not limited		Not limited		Not limited	
12C:							
Herndon	90	Not limited		Not limited		Somewhat limited	
						Slope	0.37
13B:							
Mayodan	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.08
13C:							
Mayodan	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.37
						Gravel content	0.08
14D:							
Pacolet	90	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
14E:							
Pacolet	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
15C3:							
Pacolet	90	Not limited		Not limited		Somewhat limited	
						Slope	0.37
15D3:							
Pacolet	90	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
16A:							
Partlow	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
17A:							
Roanoke	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
18B:							
State	90	Not limited		Not limited		Not limited	
19A:							
Toccoa	90	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
		Too sandy	0.01	Too sandy	0.01		
20C:							
Wedowee	90	Not limited		Not limited		Somewhat limited	
						Slope	0.37
20D:							
Wedowee	90	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
20E:							
Wedowee	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
21B:							
Wedowee	50	Not limited		Not limited		Not limited	
Poindexter	35	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.01
21C:							
Wedowee	50	Not limited		Not limited		Somewhat limited	
						Slope	0.37
Poindexter	35	Not limited		Not limited		Somewhat limited	
						Slope	0.37
						Depth to bedrock	0.01
21D:							
Wedowee	50	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Poindexter	35	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.01

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
21E:							
Wedowee-------------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
Poindexter----------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
						Depth to bedrock	0.01
22B:							
Winnsboro-----------	90	Not limited		Not limited		Not limited	
22C:							
Winnsboro-----------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.37
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 12.—Building Site Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
1B:							
Appling-------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
1C:							
Appling-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
2B:							
Buncombe------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
3B:							
Cecil---------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
3C:							
Cecil---------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
4A:							
Chastain------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
5A:							
Chewacla------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
6B:							
Cid-----------------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.95	Depth to saturated zone	1.00	Depth to saturated zone	0.95
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.01	Shrink-swell	0.50	Slope	0.12
6C:							
Cid-----------------	90	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.95	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to saturated zone	0.95
		Slope	0.04	Shrink-swell	0.50	Shrink-swell	0.50

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
7B:							
Colfax	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.16	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.16
						Slope	0.12
8B:							
Creedmoor	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Depth to saturated zone	0.99
						Slope	0.12
9A:							
Dogue	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07
9B:							
Dogue	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.07	Shrink-swell	0.50	Slope	0.12
10B:							
Georgeville	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
10C:							
Georgeville	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
11B:							
Helena	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39	Shrink-swell	1.00	Depth to saturated zone	0.39
						Slope	0.12
11C:							
Helena	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39	Shrink-swell	1.00	Slope	1.00
		Slope	0.37	Slope	0.37	Depth to saturated zone	0.39
12B:							
Herndon	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
12C:							
Herndon	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
13B:							
Mayodan-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12
13C:							
Mayodan-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.37	Slope	0.37	Shrink-swell	0.50
14D:							
Pacolet-------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
14E:							
Pacolet-------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
15C3:							
Pacolet-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
15D3:							
Pacolet-------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
16A:							
Partlow-------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
17A:							
Roanoke-------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
18B:							
State---------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.15		
19A:							
Toccoa--------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.73		
20C:							
Wedowee-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
20D:							
Wedowee-------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 12.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
20E:							
Wedowee	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
21B:							
Wedowee	50	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Poindexter	35	Not limited		Somewhat limited		Somewhat limited	
				Depth to hard bedrock	0.13	Slope	0.12
				Depth to soft bedrock	0.01		
21C:							
Wedowee	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
Poindexter	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
				Depth to hard bedrock	0.13		
				Depth to soft bedrock	0.01		
21D:							
Wedowee	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.13		
				Depth to soft bedrock	0.01		
21E:							
Wedowee	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.13		
				Depth to soft bedrock	0.01		
22B:							
Winnsboro	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.12
22C:							
Winnsboro	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.37	Slope	0.37	Slope	1.00
W:							
Water	100	Not rated		Not rated		Not rated	

Table 12.—Building Site Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Appling-------------	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.32		
				Cutbanks cave	0.10		
1C:							
Appling-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
		Low strength	0.10	Too clayey	0.32		
				Cutbanks cave	0.10		
2B:							
Buncombe------------	90	Somewhat limited		Very limited		Somewhat limited	
		Flooding	0.40	Cutbanks cave	1.00	Droughty	0.28
3B:							
Cecil---------------	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.50		
				Cutbanks cave	0.10		
3C:							
Cecil---------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Too clayey	0.50	Slope	0.37
		Low strength	0.10	Slope	0.37		
				Cutbanks cave	0.10		
4A:							
Chastain------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Flooding	0.80	Ponding	1.00
5A:							
Chewacla------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	0.99	Flooding	0.80	Depth to saturated zone	0.99
		Low strength	0.78	Cutbanks cave	0.10		
6B:							
Cid-----------------	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	0.68	Depth to saturated zone	1.00	Depth to bedrock	0.10
		Shrink-swell	0.50	Cutbanks cave	0.10		
6C:							
Cid-----------------	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	0.68	Depth to saturated zone	1.00	Depth to bedrock	0.10
		Shrink-swell	0.50	Cutbanks cave	0.10	Slope	0.04

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
7B:							
Colfax	90	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to thick cemented pan	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to cemented pan	0.15
		Depth to thick cemented pan	0.16	Cutbanks cave	0.10		
8B:							
Creedmoor	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Shrink-swell	1.00	Too clayey	0.50		
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
9A:							
Dogue	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Flooding	0.40	Too clayey	0.02		
9B:							
Dogue	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Flooding	0.40	Too clayey	0.02		
10B:							
Georgeville	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.50		
				Cutbanks cave	0.10		
10C:							
Georgeville	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Too clayey	0.50	Slope	0.37
		Low strength	0.10	Slope	0.37		
				Cutbanks cave	0.10		
11B:							
Helena	90	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Too clayey	0.12		
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
11C:							
Helena	90	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	0.37
		Low strength	1.00	Slope	0.37	Depth to saturated zone	0.19
		Slope	0.37	Too clayey	0.12		
12B:							
Herndon	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.24		
				Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
12C:							
Herndon	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
		Low strength	0.10	Too clayey	0.24		
				Cutbanks cave	0.10		
13B:							
Mayodan	90	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.24	Gravel content	0.08
		Shrink-swell	0.50	Cutbanks cave	0.10		
13C:							
Mayodan	90	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.37	Slope	0.37
		Shrink-swell	0.50	Too clayey	0.24	Gravel content	0.08
		Slope	0.37	Cutbanks cave	0.10		
14D:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
14E:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
15C3:							
Pacolet	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
				Cutbanks cave	0.10		
15D3:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
16A:							
Partlow	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Cutbanks cave	0.10		
17A:							
Roanoke	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.28		
		Shrink-swell	0.50	Cutbanks cave	0.10		
18B:							
State	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.15		
		Flooding	0.40	Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
19A:							
Toccoa	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Depth to saturated zone	0.73		
				Cutbanks cave	0.10		
20C:							
Wedowee	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
				Cutbanks cave	0.10		
				Too clayey	0.02		
20D:							
Wedowee	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
				Too clayey	0.02		
20E:							
Wedowee	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
				Too clayey	0.02		
21B:							
Wedowee	50	Not limited		Somewhat limited		Not limited	
				Cutbanks cave	0.10		
				Too clayey	0.02		
Poindexter	35	Not limited		Somewhat limited		Somewhat limited	
				Depth to hard bedrock	0.13	Depth to bedrock	0.01
				Cutbanks cave	0.10		
				Depth to soft bedrock	0.01		
21C:							
Wedowee	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
				Cutbanks cave	0.10		
				Too clayey	0.02		
Poindexter	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
				Depth to hard bedrock	0.13	Depth to bedrock	0.01
				Cutbanks cave	0.10		
21D:							
Wedowee	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
				Too clayey	0.02		
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.13	Depth to bedrock	0.01
				Cutbanks cave	0.10		

Table 12.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
21E:							
Wedowee	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
				Too clayey	0.02		
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.13	Depth to bedrock	0.01
				Cutbanks cave	0.10		
22B:							
Winnsboro	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.28		
		Shrink-swell	1.00	Cutbanks cave	0.10		
22C:							
Winnsboro	90	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.37	Slope	0.37
		Shrink-swell	1.00	Too clayey	0.28		
		Slope	0.37	Cutbanks cave	0.10		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 13.—Sanitary Facilities, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1B:					
Appling	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
1C:					
Appling	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
2B:					
Buncombe	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
				Slope	0.32
3B:					
Cecil	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.82	Seepage	0.92
				Slope	0.68
3C:					
Cecil	90	Somewhat limited		Very limited	
		Slow water movement	0.82	Slope	1.00
		Slope	0.37	Seepage	0.92
4A:					
Chastain	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Ponding	1.00
5A:					
Chewacla	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.92
6B:					
Cid	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.99

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
6C:					
Cid------------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Depth to saturated zone	1.00	Slope	1.00
7B:					
Colfax---------------	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Slope	0.68
8B:					
Creedmoor------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
9A:					
Dogue----------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Flooding	0.40
9B:					
Dogue----------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.68
10B:					
Georgeville----------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
10C:					
Georgeville----------	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
11B:					
Helena---------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	1.00	Slope	0.68

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
11C:					
Helena	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Slope	0.37		
12B:					
Herndon	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
12C:					
Herndon	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
13B:					
Mayodan	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
13C:					
Mayodan	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
14D:					
Pacolet	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
14E:					
Pacolet	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
15C3:					
Pacolet	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
15D3:					
Pacolet	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16A:					
Partlow----------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Flooding	0.40
		Slow water movement	0.50		
17A:					
Roanoke----------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	1.00
				Flooding	0.40
		Seepage, bottom layer	1.00		
18B:					
State------------------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Flooding	0.40
		Slow water movement	0.50	Slope	0.32
		Depth to saturated zone	0.40		
19A:					
Toccoa-----------------	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	0.92
		Seepage, bottom layer	1.00		
20C:					
Wedowee----------------	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
		Slope	0.37		
20D:					
Wedowee----------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
20E:					
Wedowee----------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
21B:					
Wedowee----------------	50	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50

Table 13.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
21B:					
Poindexter----------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.68
21C:					
Wedowee------------	50	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
Poindexter----------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
21D:					
Wedowee------------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Poindexter----------	35	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
21E:					
Wedowee------------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Poindexter----------	35	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
22B:					
Winnsboro-----------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to soft bedrock	0.84
		Depth to bedrock	0.94	Slope	0.68
22C:					
Winnsboro-----------	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	0.94	Depth to soft bedrock	0.84
		Slope	0.37		
W:					
Water---------------	100	Not rated		Not rated	

Table 13.—Sanitary Facilities, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Appling-------------	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
1C:							
Appling-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.37	Too clayey	0.50
		Slope	0.37			Slope	0.37
2B:							
Buncombe------------	90	Very limited		Very limited		Very limited	
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Flooding	0.40	Seepage	1.00
		Flooding	0.40				
3B:							
Cecil---------------	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
3C:							
Cecil---------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.37	Too clayey	0.50
		Slope	0.37			Slope	0.37
4A:							
Chastain------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Ponding	1.00	Hard to compact	1.00
5A:							
Chewacla------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
6B:							
Cid-----------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	0.99	Too clayey	1.00
		Too clayey	1.00			Depth to saturated zone	0.99
6C:							
Cid-----------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	0.99	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Depth to saturated zone	0.99

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
7B:							
Colfax	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
8B:							
Creedmoor	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
9A:							
Dogue	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40	Depth to saturated zone	0.68
		Seepage, bottom layer	1.00				
9B:							
Dogue	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40	Depth to saturated zone	0.68
		Seepage, bottom layer	1.00				
10B:							
Georgeville	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
10C:							
Georgeville	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.37	Too clayey	0.50
		Slope	0.37			Slope	0.37
11B:							
Helena	90	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.75	Too clayey	1.00
		Depth to saturated zone	0.99			Hard to compact	1.00
						Depth to saturated zone	0.86
11C:							
Helena	90	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.75	Too clayey	1.00
		Depth to saturated zone	0.99	Slope	0.37	Hard to compact	1.00
		Slope	0.37			Depth to saturated zone	0.86
12B:							
Herndon	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
12C:							
Herndon	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.37	Too clayey	0.50
		Slope	0.37			Slope	0.37
13B:							
Mayodan	90	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
13C:							
Mayodan	90	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.37	Too clayey	1.00
		Slope	0.37			Hard to compact	1.00
						Slope	0.37
14D:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50				
14E:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50				
15C3:							
Pacolet	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.37	Slope	0.37
		Slope	0.37				
15D3:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50				
16A:							
Partlow	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Flooding	0.40		
		Flooding	0.40				
17A:							
Roanoke	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Seepage, bottom layer	1.00			Hard to compact	1.00
18B:							
State	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Seepage, bottom layer	1.00	Flooding	0.40		
		Too clayey	0.50				

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
19A:							
Toccoa	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.50
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00		
20C:							
Wedowee	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
20D:							
Wedowee	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
20E:							
Wedowee	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
21B:							
Wedowee	50	Not limited		Not limited		Not limited	
Poindexter	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
21C:							
Wedowee	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
Poindexter	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.37
		Slope	0.37	Slope	0.37	Seepage	0.21
21D:							
Wedowee	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
21E:							
Wedowee	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Poindexter	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21

Table 13.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22B:							
Winnsboro-----------	90	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.84	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.84
22C:							
Winnsboro-----------	90	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.84	Too clayey	1.00
		Too clayey	1.00	Slope	0.37	Hard to compact	1.00
		Slope	0.37			Depth to bedrock	0.84
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 14.—Construction Materials, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1B:					
Appling	90	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
1C:					
Appling	90	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
2B:					
Buncombe	90	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.10
		Bottom layer	0.00	Bottom layer	0.64
3B:					
Cecil	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
3C:					
Cecil	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
4A:					
Chastain	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
5A:					
Chewacla	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
6B:					
Cid	90	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
6C:					
Cid	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
7B:					
Colfax	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
8B:					
Creedmoor-----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
9A:					
Dogue---------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
9B:					
Dogue---------------	90	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
10B:					
Georgeville---------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
10C:					
Georgeville---------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
11B:					
Helena--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
11C:					
Helena--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
12B:					
Herndon-------------	90	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
12C:					
Herndon-------------	90	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
13B:					
Mayodan-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
13C:					
Mayodan-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
14D:					
Pacolet-------------	90	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
14E:					
Pacolet-------------	90	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
15C3:					
Pacolet-------------	90	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
15D3:					
Pacolet-------------	90	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
16A:					
Partlow-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
17A:					
Roanoke-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
18B:					
State---------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
19A:					
Toccoa--------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
20C:					
Wedowee-------------	90	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
20D:					
Wedowee-------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
20E:					
Wedowee-------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
21B:					
Wedowee-------------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Poindexter----------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02

Table 14.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
21C:					
Wedowee-------------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Poindexter----------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
21D:					
Wedowee-------------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Poindexter----------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
21E:					
Wedowee-------------	50	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Poindexter----------	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.02
22B:					
Winnsboro-----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
22C:					
Winnsboro-----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
W:					
Water---------------	100	Not rated		Not rated	

Table 14.—Construction Materials, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
1B:							
Appling	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
1C:							
Appling	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12			Slope	0.63
2B:							
Buncombe	90	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.02
		Organic matter content low	0.01			Too acid	0.95
		Too sandy	0.02				
3B:							
Cecil	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.02			Too acid	0.95
		Too acid	0.46				
3C:							
Cecil	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.02			Slope	0.63
		Too acid	0.46			Too acid	0.95
4A:							
Chastain	90	Fair		Poor		Poor	
		Too clayey	0.08	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.12	Low strength	0.00	Too clayey	0.07
				Shrink-swell	0.87	Too acid	0.59
5A:							
Chewacla	90	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Water erosion	0.99				
6B:							
Cid	90	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.02	Low strength	0.00	Wetness depth	0.18
		Too acid	0.50	Wetness depth	0.18	Too acid	0.59

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
6C:							
Cid-----------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.02	Low strength	0.00	Wetness depth	0.18
				Wetness depth	0.18	Too acid	0.59
		Too acid	0.50				
7B:							
Colfax--------------	90	Fair		Poor		Poor	
		Too acid	0.50	Depth to cemented pan	0.00	Wetness depth	0.00
		Droughty	0.79			Too acid	0.59
		Depth to cemented pan	0.85	Low strength	0.00	Too clayey	0.76
				Wetness depth	0.00		
8B:							
Creedmoor-----------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.12	Wetness depth	0.12	Wetness depth	0.12
		Organic matter content low	0.12	Shrink-swell	0.26	Too acid	0.59
9A:							
Dogue---------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.12	Wetness depth	0.76	Too acid	0.59
		Organic matter content low	0.12	Shrink-swell	0.92	Wetness depth	0.76
9B:							
Dogue---------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.12	Wetness depth	0.76	Too acid	0.59
		Organic matter content low	0.12	Shrink-swell	0.92	Wetness depth	0.76
10B:							
Georgeville---------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
10C:							
Georgeville---------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12			Slope	0.63
11B:							
Helena--------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.12	Shrink-swell	0.41	Wetness depth	0.53
		Organic matter content low	0.12	Wetness depth	0.53	Too acid	0.95

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
11C:							
Helena--------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.12	Shrink-swell	0.41	Wetness depth	0.53
		Organic matter content low	0.12	Wetness depth	0.53	Slope	0.63
12B:							
Herndon-------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
12C:							
Herndon-------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12			Slope	0.63
13B:							
Mayodan-------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.12	Shrink-swell	0.87	Too acid	0.59
		Organic matter content low	0.12				
13C:							
Mayodan-------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.12	Shrink-swell	0.87	Too acid	0.59
		Organic matter content low	0.12			Slope	0.63
14D:							
Pacolet-------------	90	Fair		Fair		Poor	
		Too clayey	0.02	Slope	0.50	Slope	0.00
		Organic matter content low	0.12			Too clayey	0.01
						Too acid	0.95
		Too acid	0.50				
14E:							
Pacolet-------------	90	Fair		Poor		Poor	
		Too clayey	0.02	Slope	0.00	Slope	0.00
		Organic matter content low	0.12			Too clayey	0.01
						Too acid	0.95
		Too acid	0.50				
15C3:							
Pacolet-------------	90	Fair		Good		Fair	
		Too clayey	0.02			Too clayey	0.01
		Organic matter content low	0.12			Slope	0.63
						Too acid	0.95
		Too acid	0.50				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15D3:							
Pacolet-------------	90	Fair		Fair		Poor	
		Too clayey	0.02	Slope	0.50	Slope	0.00
		Organic matter content low	0.12			Too clayey	0.01
		Too acid	0.50			Too acid	0.95
16A:							
Partlow-------------	90	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.46			Too acid	0.95
17A:							
Roanoke-------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.01	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.24
18B:							
State---------------	90	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too acid	0.95
		Too acid	0.46				
19A:							
Toccoa--------------	90	Fair		Good		Good	
		Organic matter content low	0.50				
		Too acid	0.84				
20C:							
Wedowee-------------	90	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.12			Slope	0.63
		Too acid	0.50			Too acid	0.95
20D:							
Wedowee-------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.50	Slope	0.00
		Organic matter content low	0.12			Too clayey	0.00
		Too acid	0.50			Too acid	0.95
20E:							
Wedowee-------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12			Too clayey	0.00
		Too acid	0.50			Too acid	0.95
21B:							
Wedowee-------------	50	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.95
		Too acid	0.50				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
21B:							
Poindexter----------	35	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Depth to bedrock	0.99
		Too acid	0.50				
		Droughty	0.82				
21C:							
Wedowee-------------	50	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.12			Slope	0.63
						Too acid	0.95
		Too acid	0.50				
Poindexter----------	35	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.63
						Depth to bedrock	0.99
		Too acid	0.50				
		Droughty	0.82				
21D:							
Wedowee-------------	50	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.50	Slope	0.00
		Organic matter content low	0.12			Too clayey	0.00
						Too acid	0.95
		Too acid	0.50				
Poindexter----------	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.50	Depth to bedrock	0.99
		Too acid	0.50				
		Droughty	0.82				
21E:							
Wedowee-------------	50	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12			Too clayey	0.00
						Too acid	0.95
		Too acid	0.50				
Poindexter----------	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
				Depth to bedrock	0.00	Depth to bedrock	0.99
		Too acid	0.50				
		Droughty	0.82				
22B:							
Winnsboro-----------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Depth to bedrock	0.16		
				Shrink-swell	0.62		
		Water erosion	0.90				

Table 14.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
22C:							
Winnsboro	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Depth to bedrock	0.16	Slope	0.63
				Shrink-swell	0.62		
		Water erosion	0.90				
W:							
Water	100	Not rated		Not rated		Not rated	

Table 15.—Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Appling	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.32				
1C:							
Appling	90	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70				
2B:							
Buncombe	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	0.08				
3B:							
Cecil	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Piping	1.00	Depth to water	1.00
		Slope	0.32				
3C:							
Cecil	90	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.95				
4A:							
Chastain	90	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
				Ponding	1.00		
5A:							
Chewacla	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.95	Depth to saturated zone	1.00	Cutbanks cave	0.10
						Slow refill	0.05
				Piping	0.83		
6B:							
Cid	90	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.52	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.32				
				Thin layer	0.70		
				Piping	0.05		
6C:							
Cid	90	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to bedrock	0.52				
				Thin layer	0.70		
				Piping	0.05		

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
7B:							
Colfax	90	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.74	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	0.99		
		Slope	0.32	Thin layer	0.74		
8B:							
Creedmoor	90	Somewhat limited		Very limited		Very limited	
		Slope	0.32	Depth to saturated zone	1.00	Depth to water	1.00
				Hard to pack	0.16		
9A:							
Dogue	90	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	0.95	Cutbanks cave	0.10
						Depth to saturated zone	0.02
9B:							
Dogue	90	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	0.95	Cutbanks cave	0.10
		Slope	0.32			Depth to saturated zone	0.02
10B:							
Georgeville	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.32				
10C:							
Georgeville	90	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70				
11B:							
Helena	90	Somewhat limited		Very limited		Very limited	
		Slope	0.32	Depth to saturated zone	0.99	Depth to water	1.00
		Seepage	0.05	Piping	0.01		
11C:							
Helena	90	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.99	Depth to water	1.00
		Seepage	0.05	Piping	0.01		
12B:							
Herndon	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.32				
12C:							
Herndon	90	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
13B:							
Mayodan	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Hard to pack	0.14	Depth to water	1.00
		Slope	0.32				
13C:							
Mayodan	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.14	Depth to water	1.00
		Seepage	0.70				
14D:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70				
14E:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70				
15C3:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70				
15D3:							
Pacolet	90	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70				
16A:							
Partlow	90	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
17A:							
Roanoke	90	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Hard to pack	0.22		
18B:							
State	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.88	Depth to water	1.00
		Slope	0.08	Seepage	0.01		
19A:							
Toccoa	90	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Seepage	0.03	Depth to saturated zone	0.68
				Depth to saturated zone	0.02	Cutbanks cave	0.10
20C:							
Wedowee	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.04	Depth to water	1.00
		Seepage	0.70				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
20D:							
Wedowee-------------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.04	Depth to water	1.00
		Seepage	0.70				
20E:							
Wedowee-------------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.04	Depth to water	1.00
		Seepage	0.70				
21B:							
Wedowee-------------	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.04	Depth to water	1.00
		Slope	0.32				
Poindexter----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.52	Depth to water	1.00
		Slope	0.32	Seepage	0.02		
		Depth to bedrock	0.03				
21C:							
Wedowee-------------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.04	Depth to water	1.00
		Seepage	0.70				
Poindexter----------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.52	Depth to water	1.00
		Seepage	1.00	Seepage	0.02		
		Depth to bedrock	0.03				
21D:							
Wedowee-------------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.04	Depth to water	1.00
		Seepage	0.70				
Poindexter----------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.52	Depth to water	1.00
		Seepage	1.00	Seepage	0.02		
		Depth to bedrock	0.03				
21E:							
Wedowee-------------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.04	Depth to water	1.00
		Seepage	0.70				
Poindexter----------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.52	Depth to water	1.00
		Seepage	1.00	Seepage	0.02		
		Depth to bedrock	0.03				
22B:							
Winnsboro-----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.32	Thin layer	0.26	Depth to water	1.00
		Seepage	0.05				
		Depth to bedrock	0.01				

Table 15.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22C:							
Winnsboro-----------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.26	Depth to water	1.00
		Seepage	0.05				
		Depth to bedrock	0.01				
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 16.—Engineering Properties

(Absence of an entry indicates that the data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1B:												
Appling---------	0-3	Fine sandy loam, gravelly fine sandy loam	SM	A-4, A-2	0	0-5	75-100	70-100	60-100	20-45	9-20	NP-2
	3-11	Fine sandy loam, sandy loam, gravelly fine sandy loam	SM	A-2, A-4	0	0-5	75-100	70-100	60-100	20-45	9-20	NP-2
	11-14	Sandy clay loam	ML, SC-SM, SM	A-4, A-2	0	0-5	85-100	85-100	70-95	35-60	20-31	2-7
	14-37	Clay, clay loam	ML	A-6, A-4, A-7	0	0-5	85-100	85-100	70-100	55-95	31-49	7-15
	37-48	Clay loam, sandy clay loam	ML	A-4	0	0-5	85-100	85-100	65-95	50-80	20-34	2-8
	48-65	Loam, clay loam, sandy clay loam	ML	A-4	0	0	100	100	85-100	60-85	16-34	NP-8
1C:												
Appling---------	0-3	Fine sandy loam, gravelly fine sandy loam	SM	A-4, A-2	0	0-5	75-100	70-100	60-100	20-45	9-20	NP-2
	3-11	Fine sandy loam, sandy loam, gravelly fine sandy loam	SM	A-2, A-4	0	0-5	75-100	70-100	60-100	20-45	9-20	NP-2
	11-14	Sandy clay loam	SC-SM, SM, ML	A-4, A-2	0	0-5	85-100	85-100	70-95	35-60	20-31	2-7
	14-37	Clay, clay loam	ML	A-6, A-4, A-7	0	0-5	85-100	85-100	70-100	55-95	31-49	7-15
	37-48	Clay loam, sandy clay loam	ML	A-4	0	0-5	85-100	85-100	65-95	50-80	20-34	2-8
	48-65	Loam, clay loam, sandy clay loam	ML	A-4	0	0	100	100	85-100	60-85	16-34	NP-8
2B:												
Buncombe--------	0-6	Loamy sand	SM	A-2	0	0	98-100	98-100	75-85	20-30	10-18	NP-3
	6-25	Loamy sand, sand	SM	A-2	0	0	98-100	98-100	75-85	20-30	10-18	NP-3
	25-65	Sand, loamy sand	SM, SP-SM	A-3, A-2	0	0	90-100	80-100	60-85	5-15	10-18	NP-3
3B:												
Cecil-----------	0-5	Fine sandy loam, gravelly fine sandy loam	SM	A-2, A-4	0	0-4	85-100	70-100	60-100	20-50	9-20	NP-2
	5-15	Clay loam, clay	ML	A-4, A-7	0	0-2	95-100	90-100	75-100	60-95	27-49	5-15
	15-43	Clay, clay loam	ML, MH	A-4, A-7	0	0-3	95-100	90-100	70-100	60-100	31-56	7-18
	43-65	Loam, sandy loam, sandy clay loam	ML	A-4	0	0	100	100	80-100	55-80	13-27	NP-5

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
3C:												
Cecil-----------	0-5	Gravelly fine sandy loam, fine sandy loam	SM	A-2, A-4	0	0-4	85-100	70-100	60-100	20-50	9-20	NP-2
	5-15	Clay loam, clay	ML	A-4, A-7	0	0-2	95-100	90-100	75-100	60-95	27-49	5-15
	15-43	Clay, clay loam	ML, MH	A-4, A-7	0	0-3	95-100	90-100	70-100	60-100	31-56	7-18
	43-65	Loam, sandy loam, sandy clay loam	ML	A-4	0	0	100	100	80-100	55-80	13-27	NP-5
4A:												
Chastain--------	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	36-48	16-25
	5-27	Silty clay loam, clay loam, clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	80-100	44-66	22-39
	27-48	Silty clay, clay loam, clay, silty clay loam	CH, CL	A-7	0	0	100	100	90-100	85-100	44-66	22-39
	48-65	Silty clay loam, clay loam, clay, silty clay	CH, CL	A-7, A-6	0	0	100	100	85-100	75-100	36-66	16-39
5A:												
Chewacla--------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	75-100	60-85	21-36	4-16
	6-26	Loam, fine sandy loam, clay loam, sandy clay loam	CL	A-6, A-7, A-4	0	0	95-100	90-100	75-100	55-80	28-44	10-22
	26-44	Silty clay loam, loam, clay loam, sandy clay loam	CL	A-6, A-7, A-4	0	0	95-100	90-100	80-100	70-95	28-44	10-22
	44-65	Silt loam, stratified sand to loam, very gravelly sand, clay	CL, SM, CH	A-4, A-7, A-1	0	0	70-100	40-100	30-100	25-100	16-57	NP-32
6B:												
Cid-------------	0-7	Loam, channery loam	CL, SC-SM	A-4, A-6	0-5	0-20	80-100	80-100	65-95	45-70	21-34	4-14
	7-15	Loam, silt loam, channery loam	CL, SC-SM	A-4, A-6	0-5	0-20	80-100	80-100	65-95	45-70	21-34	4-14
	15-30	Clay, silty clay, clay loam, silty clay loam	CH, CL	A-7	0-5	0-15	90-100	90-100	75-100	60-95	44-66	22-39
	30-35	Silty clay loam, silty clay, channery silty clay loam	CL, CH	A-7	0-5	4-20	80-95	80-95	70-95	65-95	44-66	22-39
	35-39	Bedrock			---	---	---	---	---	---	---	---
	39-43	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
6C:												
Cid-------------	0-7	Loam, channery loam	CL, SC-SM	A-4, A-6	0-5	0-20	80-100	80-100	65-95	45-70	21-34	4-14
	7-15	Loam, silt loam, channery loam	CL, SC-SM	A-4, A-6	0-5	0-20	80-100	80-100	65-95	45-70	21-34	4-14
	15-30	Clay, silty clay, clay loam, silty clay loam	CH, CL	A-7	0-5	0-15	90-100	90-100	75-100	60-95	44-66	22-39
	30-35	Silty clay loam, silty clay, channery silty clay loam	CH, CL	A-7	0-5	4-20	80-95	80-95	70-95	65-95	44-66	22-39
	35-39	Bedrock			---	---	---	---	---	---	---	---
	39-43	Bedrock			---	---	---	---	---	---	---	---
7B:												
Colfax----------	0-2	Sandy loam	SC-SM, SM	A-1, A-4	0	0-3	85-100	75-100	50-85	25-45	12-25	NP-7
	2-8	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-4, A-1	0	0-3	85-100	75-100	50-85	25-45	12-25	NP-7
	8-14	Sandy clay loam, loam	CL, SC-SM	A-4, A-6, A-2	0	0-3	85-100	75-100	55-95	30-60	20-38	4-14
	14-34	Clay loam, sandy clay loam	CL, SC-SM	A-4, A-6	0	0-3	85-100	75-100	60-95	45-75	25-38	7-14
	34-65	Sandy clay loam, sandy loam, loam	CL, SC-SM	A-2, A-4, A-6	0	0-2	85-100	80-100	60-95	30-60	20-38	4-14
8B:												
Creedmoor-------	0-5	Fine sandy loam, sandy loam, loam	SC-SM, SC, SM	A-2, A-4, A-6	0-1	0-3	95-100	95-100	85-95	30-45	18-30	2-11
	5-14	Sandy clay loam, clay loam, sandy clay	SC, CL, CH	A-2, A-7	0-1	0-3	95-100	95-100	70-95	35-65	30-52	11-28
	14-46	Clay, silty clay	CH, CL	A-7	0-1	0-4	95-100	95-100	75-100	65-90	44-66	22-39
	46-56	Silty clay, silty clay loam, clay loam	CH, CL	A-7, A-6	0-1	0-4	95-100	95-100	80-100	75-100	39-62	18-36
	56-65	Silty clay loam, silt loam, loam	SM, CL	A-6, A-7, A-2	0-1	0-4	95-100	95-100	70-100	30-95	16-44	NP-22
9A:												
Dogue-----------	0-8	Fine sandy loam, loam, sandy loam	SC-SM, SC	A-4, A-6, A-2	0	0	95-100	90-100	80-95	30-50	21-30	4-11
	8-38	Clay, clay loam, sandy clay loam	CH, CL	A-7, A-6	0	0	95-100	90-100	75-100	55-85	39-57	18-32
	38-54	Clay loam, sandy clay, sandy clay loam	CH, CL	A-6, A-7	0	0	95-100	90-100	75-100	60-80	39-52	18-28
	54-65	Sandy clay loam, loam	CL, SC-SM	A-2, A-6	0	0	90-100	75-100	55-90	25-55	21-39	4-18

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
9B:												
Dogue-----------	0-8	Fine sandy loam, loam, sandy loam	SC, SC-SM	A-4, A-6, A-2	0	0	95-100	90-100	80-95	30-50	21-30	4-11
	8-38	Clay, clay loam, sandy clay loam	CH, CL	A-7, A-6	0	0	95-100	90-100	75-100	55-85	39-57	18-32
	38-54	Clay loam, sandy clay, sandy clay loam	CH, CL	A-6, A-7	0	0	95-100	90-100	75-100	60-80	39-52	18-28
	54-65	Sandy clay loam, loam	CL, SC-SM	A-2, A-6	0	0	90-100	75-100	55-90	25-55	21-39	4-18
10B:												
Georgeville-----	0-5	Silt loam, loam, gravelly silt loam	ML, CL-ML, SM	A-4	0-1	0-1	85-100	65-100	55-100	45-85	13-25	NP-4
	5-9	Silty clay loam, clay, silty clay	CL-ML, ML	A-4	0-1	0-1	95-100	90-100	85-100	75-100	25-38	4-10
	9-52	Silty clay, clay, silty clay loam	ML, MH	A-7, A-4	0	0-1	95-100	90-100	75-100	75-100	31-53	7-16
	52-65	Silty clay loam, loam, silt loam, clay loam	CL-ML, ML	A-4	0	0-2	95-100	90-100	75-100	65-100	16-34	NP-8
10C:												
Georgeville-----	0-5	Silt loam, loam, gravelly silt loam	ML, CL-ML, SM	A-4	0-1	0-1	85-100	65-100	55-100	45-85	13-25	NP-4
	5-9	Silty clay loam, clay, silty clay	CL-ML, ML	A-4	0-1	0-1	95-100	90-100	85-100	75-100	25-38	4-10
	9-52	Silty clay, clay, silty clay loam	ML, MH	A-7, A-4	0	0-1	95-100	90-100	75-100	75-100	31-53	7-16
	52-65	Silty clay loam, loam, silt loam, clay loam	CL-ML, ML	A-4	0	0-2	95-100	90-100	75-100	65-100	16-34	NP-8
11B:												
Helena----------	0-8	Fine sandy loam	SC, SM	A-2, A-4, A-6	0	0-2	90-100	75-100	65-95	25-45	16-30	NP-11
	8-15	Clay loam, sandy clay, clay	CL, CH	A-7, A-6	0	0-2	90-100	75-100	65-100	50-90	36-57	16-32
	15-39	Clay, sandy clay, clay loam	CH, CL	A-7	0	0-2	90-100	75-100	65-100	50-95	44-66	22-39
	39-53	Sandy clay loam, clay loam, fine sandy loam	SC, CL	A-6, A-7, A-2	0	0-2	90-100	75-100	55-95	25-60	26-48	8-25
	53-65	Sandy clay loam, sandy loam, loam	SC, CL	A-2, A-7, A-6	0	0-2	90-100	75-100	60-95	30-60	26-44	8-22

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
11C:												
Helena----------	0-8	Fine sandy loam	SC, SM	A-2, A-4, A-6	0	0-2	90-100	75-100	65-95	25-45	16-30	NP-11
	8-15	Clay loam, sandy clay, clay	CL, CH	A-7, A-6	0	0-2	90-100	75-100	65-100	50-90	36-57	16-32
	15-39	Clay, sandy clay, clay loam	CH, CL	A-7	0	0-2	90-100	75-100	65-100	50-95	44-66	22-39
	39-53	Sandy clay loam, clay loam, fine sandy loam	SC, CL	A-6, A-7, A-2	0	0-2	90-100	75-100	55-95	25-60	26-48	8-25
	53-65	Sandy clay loam, sandy loam, loam	CL, SC	A-2, A-7, A-6	0	0-2	90-100	75-100	60-95	30-60	26-44	8-22
12B:												
Herndon---------	0-7	Loam, silt loam, very fine sandy loam, gravelly loam	ML, CL-ML, SM	A-4, A-2	0	0-1	85-100	65-100	50-95	35-75	9-25	NP-4
	7-11	Loam, silt loam, silty clay loam	ML	A-4	0	0-1	90-100	80-100	70-100	50-80	16-29	NP-6
	11-39	Clay, silty clay, silty clay loam	ML	A-6, A-4, A-7	0	0-1	95-100	90-100	70-100	60-95	31-49	7-15
	39-50	Clay loam, silty clay loam, loam, silt loam	ML, SM	A-4	0	0-1	95-100	90-100	65-95	45-75	13-29	NP-6
	50-65	Loam, silt loam, fine sandy loam	ML, CL-ML	A-4	0	0-1	95-100	90-100	70-95	50-75	13-25	NP-4
12C:												
Herndon---------	0-7	Loam, silt loam, very fine sandy loam, gravelly loam	CL-ML, ML, SM	A-4, A-2	0	0-1	85-100	65-100	50-95	35-75	9-25	NP-4
	7-11	Loam, silt loam, silty clay loam	ML	A-4	0	0-1	90-100	80-100	70-100	50-80	16-29	NP-6
	11-39	Clay, silty clay, silty clay loam	ML	A-6, A-4, A-7	0	0-1	95-100	90-100	70-100	60-95	31-49	7-15
	39-50	Clay loam, silty clay loam, loam, silt loam	ML, SM	A-4	0	0-1	95-100	90-100	65-95	45-75	13-29	NP-6
	50-65	Loam, silt loam, fine sandy loam	CL-ML, ML	A-4	0	0-1	95-100	90-100	70-95	50-75	13-25	NP-4
13B:												
Mayodan---------	0-8	Gravelly fine sandy loam, sandy loam, fine sandy loam	SC, SM, SC-SM	A-2, A-6	0	0-1	85-100	70-100	60-100	20-50	16-30	NP-11
	8-51	Silty clay, clay, sandy clay, silty clay loam, clay loam	CH, CL	A-7	0	0-1	95-100	90-100	80-100	75-100	44-66	22-39
	51-65	Silty clay loam, loam, sandy clay loam, clay loam	CL	A-7, A-4	0	0-1	95-100	90-100	70-100	60-95	26-48	8-25

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
13C:												
Mayodan---------	0-8	Gravelly fine sandy loam, sandy loam, fine sandy loam	SC, SM, SC-SM	A-2, A-6	0	0-1	85-100	70-100	60-100	20-50	16-30	NP-11
	8-51	Silty clay, clay, sandy clay, silty clay loam, clay loam	CH, CL	A-7	0	0-1	95-100	90-100	80-100	75-100	44-66	22-39
	51-65	Silty clay loam, loam, sandy clay loam, clay loam	CL	A-7, A-4	0	0-1	95-100	90-100	70-100	60-95	26-48	8-25
14D:												
Pacolet---------	0-3	Fine sandy loam, gravelly fine sandy loam	SM	A-2, A-4	0	0-1	80-100	65-100	55-95	20-50	11-20	NP-2
	3-7	Sandy clay loam, loam, clay loam	ML, SM	A-2, A-4	0	0-1	95-100	90-100	65-95	30-60	16-34	NP-8
	7-25	Clay loam, clay, sandy clay	ML, MH	A-7, A-4	0	0-1	95-100	90-100	80-100	65-100	31-52	7-16
	25-37	Clay loam, loam, sandy clay loam	ML	A-4	0	0-1	95-100	90-100	70-100	50-85	16-34	NP-8
	37-65	Clay loam, loam, sandy clay loam, sandy loam	CL-ML, ML	A-4	0	0-1	95-100	90-100	65-95	50-80	13-31	NP-7
14E:												
Pacolet---------	0-3	Fine sandy loam, gravelly fine sandy loam	SM	A-2, A-4	0	0-1	80-100	65-100	55-95	20-50	11-20	NP-2
	3-7	Sandy clay loam, loam, clay loam	ML, SM	A-2, A-4	0	0-1	95-100	90-100	65-95	30-60	16-34	NP-8
	7-25	Clay loam, clay, sandy clay	ML, MH	A-7, A-4	0	0-1	95-100	90-100	80-100	65-100	31-52	7-16
	25-37	Clay loam, loam, sandy clay loam	ML	A-4	0	0-1	95-100	90-100	70-100	50-85	16-34	NP-8
	37-65	Clay loam, loam, sandy clay loam, sandy loam	CL-ML, ML	A-4	0	0-1	95-100	90-100	65-95	50-80	13-31	NP-7
15C3:												
Pacolet---------	0-7	Clay loam	CL-ML, ML	A-4	0	0-1	90-100	85-100	70-95	55-75	25-31	4-7
	7-25	Clay loam, clay, sandy clay	ML, MH	A-7, A-4	0	0-1	95-100	90-100	80-100	65-100	31-52	7-16
	25-37	Clay loam, loam, sandy clay loam	ML	A-4	0	0-1	95-100	90-100	70-100	50-85	16-34	NP-8
	37-65	Clay loam, loam, sandy clay loam, sandy loam	CL-ML, ML	A-4	0	0-1	95-100	90-100	65-95	50-80	13-31	NP-7

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
15D3:												
Pacolet---------	0-7	Clay loam	CL-ML, ML	A-4	0	0-1	90-100	85-100	70-95	55-75	25-31	4-7
	7-25	Clay loam, clay, sandy clay	ML, MH	A-7, A-4	0	0-1	95-100	90-100	80-100	65-100	31-52	7-16
	25-37	Clay loam, loam, sandy clay loam	ML	A-4	0	0-1	95-100	90-100	70-100	50-85	16-34	NP-8
	37-65	Clay loam, loam, sandy clay loam, sandy loam	CL-ML, ML	A-4	0	0-1	95-100	90-100	65-95	50-80	13-31	NP-7
16A:												
Partlow---------	0-6	Fine sandy loam, sandy loam, loam	CL-ML, CL	A-4	0	0	90-100	80-100	65-100	25-50	17-39	2-17
	6-40	Sandy clay loam, clay loam, fine sandy loam, sandy loam	CL, SC, SC-SM	A-6, A-7	0	0	90-100	80-100	65-95	35-60	27-44	12-25
	40-65	Sandy clay loam, fine sandy loam, loam, sandy loam	CL, ML, SC, SM	A-2-4, A-4, A-6	0	0	90-100	80-100	60-100	25-65	16-44	2-25
17A:												
Roanoke---------	0-6	Fine sandy loam	SC, SC-SM	A-4, A-2	0	0	90-100	80-100	70-95	30-45	21-28	4-10
	6-8	Clay loam, silty clay loam	CL	A-6, A-7	0	0	90-100	80-100	70-95	55-80	36-44	16-22
	8-50	Clay, silty clay loam, clay loam	CL, CH	A-7	0	0	90-100	80-100	65-100	56-95	44-66	22-39
	50-65	Clay, stratified very gravelly sand to clay	CL, CH, SM	A-6, A-7, A-2, A-1, A-4	0	0-5	70-100	35-100	20-100	15-85	16-57	NP-32
18B:												
State-----------	0-8	Fine sandy loam	SC, SC-SM, SM	A-4, A-2	0	0	95-100	95-100	80-95	35-50	16-26	NP-8
	8-48	Clay loam, silt loam, loam, sandy clay loam	CL	A-4, A-6, A-7	0	0	95-100	95-100	80-95	55-80	28-43	10-21
	48-65	Fine sandy loam, loamy sand, sand	SM, SC	A-4, A-2, A-6	0	0	85-100	75-100	60-95	20-50	16-30	NP-11
19A:												
Toccoa----------	0-11	Fine sandy loam	SM, SC-SM, SC	A-4, A-2	0	0	95-100	90-100	75-95	30-45	16-26	NP-8
	11-26	Fine sandy loam, sandy loam	SC, SM, SC-SM	A-2, A-4	0	0	95-100	90-100	75-100	30-50	14-29	NP-10
	26-65	Sandy loam, fine sandy loam, sand, loamy sand, gravelly sandy loam	SC, SC-SM, SM	A-1, A-4	0	0	75-100	50-100	35-85	15-50	14-29	NP-10

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
20C:												
Wedowee---------	0-7	Sandy loam, fine sandy loam, loam, coarse sandy loam	SM	A-2, A-4	0	0	90-100	80-100	55-85	25-45	9-20	NP-2
	7-10	Sandy clay loam, loam	ML, SM	A-4, A-2	0	0	90-100	80-100	65-95	30-55	16-27	NP-5
	10-24	Sandy clay, clay, clay loam	ML, SM	A-4, A-7	0	0	95-100	90-100	70-95	40-65	31-42	7-12
	24-35	Sandy clay loam, loam, clay loam	SM, ML	A-4, A-2	0	0	95-100	90-100	65-95	35-60	20-34	2-8
	35-65	Sandy loam, loam, clay loam, sandy clay loam	ML, SM	A-4, A-2	0	0	95-100	90-100	65-95	30-55	16-31	NP-7
20D:												
Wedowee---------	0-7	Sandy loam, fine sandy loam, loam, coarse sandy loam	SM	A-2, A-4	0	0	90-100	80-100	55-85	25-45	9-20	NP-2
	7-10	Sandy clay loam, loam	ML, SM	A-4, A-2	0	0	90-100	80-100	65-95	30-55	16-27	NP-5
	10-24	Sandy clay, clay, clay loam	ML, SM	A-4, A-7	0	0	95-100	90-100	70-95	40-65	31-42	7-12
	24-35	Sandy clay loam, loam, clay loam	SM, ML	A-4, A-2	0	0	95-100	90-100	65-95	35-60	20-34	2-8
	35-65	Sandy loam, loam, clay loam, sandy clay loam	ML, SM	A-4, A-2	0	0	95-100	90-100	65-95	30-55	16-31	NP-7
20E:												
Wedowee---------	0-7	Sandy loam, fine sandy loam, loam, coarse sandy loam	SM	A-2, A-4	0	0	90-100	80-100	55-85	25-45	9-20	NP-2
	7-10	Sandy clay loam, loam	ML, SM	A-4, A-2	0	0	90-100	80-100	65-95	30-55	16-27	NP-5
	10-24	Sandy clay, clay, clay loam	ML, SM	A-4, A-7	0	0	95-100	90-100	70-95	40-65	31-42	7-12
	24-35	Sandy clay loam, loam, clay loam	SM, ML	A-4, A-2	0	0	95-100	90-100	65-95	35-60	20-34	2-8
	35-65	Sandy loam, loam, clay loam, sandy clay loam	ML, SM	A-4, A-2	0	0	95-100	90-100	65-95	30-55	16-31	NP-7
21B:												
Wedowee---------	0-7	Sandy loam, fine sandy loam, loam, coarse sandy loam	SM	A-2, A-4	0	0	90-100	80-100	55-85	25-45	9-20	NP-2
	7-10	Sandy clay loam, loam	ML, SM	A-4, A-2	0	0	90-100	80-100	65-95	30-55	16-27	NP-5
	10-24	Sandy clay, clay, clay loam	ML, SM	A-4, A-7	0	0	95-100	90-100	70-95	40-65	31-42	7-12
	24-35	Sandy clay loam, loam, clay loam	SM, ML	A-4, A-2	0	0	95-100	90-100	65-95	35-60	20-34	2-8
	35-65	Sandy loam, loam, clay loam, sandy clay loam	ML, SM	A-4, A-2	0	0	95-100	90-100	65-95	30-55	16-31	NP-7

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
21B:												
Poindexter------	0-6	Sandy loam, fine sandy loam	SC, SC-SM, SM	A-4, A-2	0	0	90-100	80-100	60-85	30-45	16-28	NP-10
	6-24	Sandy clay loam, clay loam, loam	CL, SC	A-6, A-7, A-2	0	0	90-100	80-100	65-95	35-60	30-44	11-22
	24-39	Sandy loam, sandy clay loam	CL, SC, SC-SM	A-4, A-7, A-2	0	0	90-100	80-100	60-95	30-60	21-44	4-22
	39-54	Bedrock			---	---	---	---	---	---	---	---
	54-58	Bedrock			---	---	---	---	---	---	---	---
21C:												
Wedowee---------	0-7	Sandy loam, fine sandy loam, loam, coarse sandy loam	SM	A-2, A-4	0	0	90-100	80-100	55-85	25-45	9-20	NP-2
	7-10	Sandy clay loam, loam	ML, SM	A-4, A-2	0	0	90-100	80-100	65-95	30-55	16-27	NP-5
	10-24	Sandy clay, clay, clay loam	ML, SM	A-4, A-7	0	0	95-100	90-100	70-95	40-65	31-42	7-12
	24-35	Sandy clay loam, loam, clay loam	SM, ML	A-4, A-2	0	0	95-100	90-100	65-95	35-60	20-34	2-8
	35-65	Sandy loam, loam, clay loam, sandy clay loam	ML, SM	A-4, A-2	0	0	95-100	90-100	65-95	30-55	16-31	NP-7
Poindexter------	0-6	Sandy loam, fine sandy loam	SC, SC-SM, SM	A-4, A-2	0	0	90-100	80-100	60-85	30-45	16-28	NP-10
	6-24	Sandy clay loam, clay loam, loam	CL, SC	A-6, A-7, A-2	0	0	90-100	80-100	65-95	35-60	30-44	11-22
	24-39	Sandy loam, sandy clay loam	CL, SC, SC-SM	A-4, A-7, A-2	0	0	90-100	80-100	60-95	30-60	21-44	4-22
	39-54	Bedrock			---	---	---	---	---	---	---	---
	54-58	Bedrock			---	---	---	---	---	---	---	---
21D:												
Wedowee---------	0-7	Sandy loam, fine sandy loam, loam, coarse sandy loam	SM	A-2, A-4	0	0	90-100	80-100	55-85	25-45	9-20	NP-2
	7-10	Sandy clay loam, loam	ML, SM	A-4, A-2	0	0	90-100	80-100	65-95	30-55	16-27	NP-5
	10-24	Sandy clay, clay, clay loam	ML, SM	A-4, A-7	0	0	95-100	90-100	70-95	40-65	31-42	7-12
	24-35	Sandy clay loam, loam, clay loam	SM, ML	A-4, A-2	0	0	95-100	90-100	65-95	35-60	20-34	2-8
	35-65	Sandy loam, loam, clay loam, sandy clay loam	ML, SM	A-4, A-2	0	0	95-100	90-100	65-95	30-55	16-31	NP-7

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
21D:												
Poindexter------	0-6	Sandy loam, fine sandy loam	SC, SC-SM, SM	A-4, A-2	0	0	90-100	80-100	60-85	30-45	16-28	NP-10
	6-24	Sandy clay loam, clay loam, loam	CL, SC	A-6, A-7, A-2	0	0	90-100	80-100	65-95	35-60	30-44	11-22
	24-39	Sandy loam, sandy clay loam	CL, SC, SC-SM	A-4, A-7, A-2	0	0	90-100	80-100	60-95	30-60	21-44	4-22
	39-54	Bedrock			---	---	---	---	---	---	---	---
	54-58	Bedrock			---	---	---	---	---	---	---	---
21E:												
Wedowee---------	0-7	Sandy loam, fine sandy loam, loam, coarse sandy loam	SM	A-2, A-4	0	0	90-100	80-100	55-85	25-45	9-20	NP-2
	7-10	Sandy clay loam, loam	ML, SM	A-4, A-2	0	0	90-100	80-100	65-95	30-55	16-27	NP-5
	10-24	Sandy clay, clay, clay loam	ML, SM	A-4, A-7	0	0	95-100	90-100	70-95	40-65	31-42	7-12
	24-35	Sandy clay loam, loam, clay loam	SM, ML	A-4, A-2	0	0	95-100	90-100	65-95	35-60	20-34	2-8
	35-65	Sandy loam, loam, clay loam, sandy clay loam	ML, SM	A-4, A-2	0	0	95-100	90-100	65-95	30-55	16-31	NP-7
Poindexter------	0-6	Sandy loam, fine sandy loam	SC, SC-SM, SM	A-4, A-2	0	0	90-100	80-100	60-85	30-45	16-28	NP-10
	6-24	Sandy clay loam, clay loam, loam	CL, SC	A-6, A-7, A-2	0	0	90-100	80-100	65-95	35-60	30-44	11-22
	24-39	Sandy loam, sandy clay loam	CL, SC, SC-SM	A-4, A-7, A-2	0	0	90-100	80-100	60-95	30-60	21-44	4-22
	39-54	Bedrock			---	---	---	---	---	---	---	---
	54-58	Bedrock			---	---	---	---	---	---	---	---
22B:												
Winnsboro-------	0-9	Sandy loam, fine sandy loam, loam	SC, SC-SM	A-2, A-4, A-6	0-1	0-1	95-100	85-100	60-85	30-45	21-30	4-11
	9-34	Clay, clay loam	CH, CL	A-7	0-1	0-1	95-100	85-100	65-100	55-90	44-66	22-39
	34-45	Loam, sandy clay loam, sandy loam, clay loam	CL	A-4, A-6, A-7	0-1	0-1	95-100	85-100	65-100	50-80	26-44	8-22
	45-65	Bedrock			---	---	---	---	---	---	---	---

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
22C:												
Winnsboro-------	0-9	Sandy loam, fine sandy loam, loam	SC, SC-SM	A-2, A-4, A-6	0-1	0-1	95-100	85-100	60-85	30-45	21-30	4-11
	9-34	Clay, clay loam	CH, CL	A-7	0-1	0-1	95-100	85-100	65-100	55-90	44-66	22-39
	34-45	Loam, sandy clay loam, sandy loam, clay loam	CL	A-4, A-6, A-7	0-1	0-1	95-100	85-100	65-100	50-80	26-44	8-22
	45-65	Bedrock			---	---	---	---	---	---	---	---
W.												
Water												

Table 17.—Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
1B:														
Appling--------------	0-3	55-75	10-40	5-20	1.40-1.65	14.00-42.00	0.11-0.16	0.0-2.9	0.5-2.0	.20	.20	4	3	86
	3-11	55-75	10-40	5-20	1.40-1.65	14.00-42.00	0.09-0.16	0.0-2.9	0.5-2.0	.15	.20			
	11-14	55-75	10-25	20-35	1.25-1.45	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.5	.17	.20			
	14-37	20-45	10-40	35-60	1.25-1.45	4.00-14.00	0.10-0.13	0.0-2.9	0.0-0.5	.20	.20			
	37-48	25-65	10-40	20-40	1.25-1.45	4.00-14.00	0.10-0.13	0.0-2.9	0.0-0.5	.28	.28			
	48-65	25-65	10-50	15-40	1.25-1.45	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.37	.37			
1C:														
Appling--------------	0-3	55-75	10-40	5-20	1.40-1.65	14.00-42.00	0.11-0.16	0.0-2.9	0.5-2.0	.20	.20	4	3	86
	3-11	55-75	10-40	5-20	1.40-1.65	14.00-42.00	0.09-0.16	0.0-2.9	0.5-2.0	.15	.20			
	11-14	55-75	10-25	20-35	1.25-1.45	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.5	.17	.20			
	14-37	20-45	10-40	35-60	1.25-1.45	4.00-14.00	0.10-0.13	0.0-2.9	0.0-0.5	.20	.20			
	37-48	25-65	10-40	20-40	1.25-1.45	4.00-14.00	0.10-0.13	0.0-2.9	0.0-0.5	.28	.28			
	48-65	25-65	10-50	15-40	1.25-1.45	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.37	.37			
2B:														
Buncombe-------------	0-6	75-90	2-15	3-12	1.60-1.75	42.00-141.00	0.06-0.10	0.0-2.9	0.5-1.0	.10	.10	5	2	134
	6-25	75-98	1-20	3-12	1.60-1.75	42.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
	25-65	75-98	1-20	3-12	1.50-1.75	4.00-141.00	0.04-0.10	0.0-2.9	0.0-0.1	.05	.05			
3B:														
Cecil----------------	0-5	55-75	10-40	5-20	1.30-1.50	14.00-42.00	0.11-0.16	0.0-2.9	0.5-1.0	.20	.20	4	3	86
	5-15	15-40	10-45	30-60	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	15-43	15-40	10-45	35-70	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.2	.17	.17			
	43-65	35-75	10-45	10-30	1.30-1.60	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.2	.43	.43			
3C:														
Cecil----------------	0-5	55-75	10-40	5-20	1.30-1.50	14.00-42.00	0.11-0.16	0.0-2.9	0.5-1.0	.20	.20	4	3	86
	5-15	15-40	10-45	30-60	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	15-43	15-40	10-45	35-70	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.2	.17	.17			
	43-65	35-75	10-45	10-30	1.30-1.60	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.2	.43	.43			
4A:														
Chastain-------------	0-5	5-20	40-55	27-40	1.20-1.40	1.40-4.00	0.12-0.18	3.0-5.9	1.0-6.0	.32	.32	5	6	48
	5-27	5-40	10-60	35-60	1.30-1.50	0.42-1.40	0.12-0.17	3.0-5.9	0.5-3.0	.32	.32			
	27-48	5-40	10-60	35-60	1.30-1.50	0.42-1.40	0.12-0.17	3.0-5.9	0.2-3.0	.32	.32			
	48-65	5-40	10-60	27-60	1.30-1.50	0.42-1.40	0.12-0.17	3.0-5.9	0.2-3.0	.32	.32			
5A:														
Chewacla-------------	0-6	15-40	50-80	10-27	1.30-1.60	4.00-14.00	0.20-0.24	0.0-2.9	1.0-4.0	.32	.32	5	6	48
	6-26	20-65	10-50	18-35	1.30-1.50	4.00-14.00	0.12-0.21	0.0-2.9	0.5-2.0	.32	.32			
	26-44	15-65	10-60	18-35	1.30-1.50	4.00-14.00	0.12-0.21	0.0-2.9	0.5-2.0	.37	.37			
	44-65	15-95	5-80	5-50	1.30-1.60	4.00-14.00	0.03-0.24	0.0-2.9	0.5-2.0	.49	.49			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
6B:														
Cid------------------	0-7	30-50	30-50	10-25	1.35-1.60	4.00-14.00	0.15-0.21	0.0-2.9	0.5-2.0	.37	.37	2	5	56
	7-15	15-50	30-75	10-25	1.35-1.60	4.00-14.00	0.15-0.22	0.0-2.9	0.0-0.5	.37	.37			
	15-30	10-35	20-60	35-60	1.25-1.55	0.42-1.40	0.11-0.15	3.0-5.9	0.0-0.2	.28	.28			
	30-35	5-20	40-60	35-60	1.25-1.55	0.42-1.40	0.10-0.15	3.0-5.9	0.0-0.2	.28	.37			
	35-39	---	---	---	---	0.00-0.42	---	---	---	---	---			
	39-43	---	---	---	---	0.00-0.00	---	---	---	---	---			
6C:														
Cid------------------	0-7	30-50	30-50	10-25	1.35-1.60	4.00-14.00	0.15-0.21	0.0-2.9	0.5-2.0	.37	.37	2	5	56
	7-15	15-50	30-75	10-25	1.35-1.60	4.00-14.00	0.15-0.22	0.0-2.9	0.0-0.5	.37	.37			
	15-30	10-35	20-60	35-60	1.25-1.55	0.42-1.40	0.11-0.15	3.0-5.9	0.0-0.2	.28	.28			
	30-35	5-20	40-60	35-60	1.25-1.55	0.42-1.40	0.10-0.15	3.0-5.9	0.0-0.2	.28	.37			
	35-39	---	---	---	---	0.00-0.42	---	---	---	---	---			
	39-43	---	---	---	---	0.00-0.00	---	---	---	---	---			
7B:														
Colfax---------------	0-2	55-75	10-40	5-20	1.20-1.50	4.00-42.00	0.10-0.12	0.0-2.9	1.0-3.0	.17	.17	3	3	86
	2-8	30-75	10-50	5-20	1.20-1.50	4.00-42.00	0.08-0.12	0.0-2.9	0.5-2.5	.20	.20			
	8-14	30-75	10-50	15-35	1.25-1.55	4.00-14.00	0.13-0.18	0.0-2.9	0.5-2.0	.20	.20			
	14-34	25-70	10-50	20-35	1.25-1.55	4.00-14.00	0.13-0.18	0.0-2.9	0.5-2.0	.28	.28			
	34-65	30-75	10-50	15-35	1.65-1.80	0.42-1.40	0.00-0.05	0.0-2.9	0.5-2.0	.28	.28			
8B:														
Creedmoor------------	0-5	40-75	10-50	7-20	1.55-1.70	14.00-42.00	0.12-0.21	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	5-14	30-75	10-50	20-45	1.45-1.65	1.40-4.00	0.12-0.15	3.0-5.9	0.0-0.5	.24	.24			
	14-46	5-40	10-55	35-60	1.30-1.50	0.01-0.42	0.11-0.14	6.0-8.9	0.0-0.5	.24	.24			
	46-56	5-40	25-65	30-55	1.30-1.50	0.01-0.42	0.13-0.15	6.0-8.9	0.0-0.5	.37	.37			
	56-65	5-50	30-75	5-35	1.60-1.95	0.01-0.42	0.14-0.22	0.0-2.9	0.0-0.5	.49	.49			
9A:														
Dogue----------------	0-8	35-75	10-50	10-20	1.30-1.45	14.00-42.00	0.12-0.19	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	8-38	15-70	10-45	30-50	1.45-1.60	1.40-4.00	0.11-0.13	3.0-5.9	0.0-0.5	.24	.24			
	38-54	30-70	10-40	30-45	1.45-1.60	1.40-4.00	0.11-0.13	3.0-5.9	0.0-0.5	.28	.28			
	54-65	35-70	10-45	10-30	1.30-1.50	4.00-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.20	.20			
9B:														
Dogue----------------	0-8	35-75	10-50	10-20	1.30-1.45	14.00-42.00	0.12-0.19	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	8-38	15-70	10-45	30-50	1.45-1.60	1.40-4.00	0.11-0.13	3.0-5.9	0.0-0.5	.24	.24			
	38-54	30-70	10-40	30-45	1.45-1.60	1.40-4.00	0.11-0.13	3.0-5.9	0.0-0.5	.28	.28			
	54-65	35-70	10-45	10-30	1.30-1.50	4.00-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.20	.20			
10B:														
Georgeville----------	0-5	20-50	30-70	10-27	1.20-1.40	4.00-14.00	0.12-0.22	0.0-2.9	0.0-0.5	.37	.43	4	6	48
	5-9	5-35	15-60	27-45	1.20-1.40	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.43	.43			
	9-52	5-35	15-60	35-65	1.20-1.40	4.00-14.00	0.11-0.15	0.0-2.9	0.0-0.5	.24	.24			
	52-65	10-50	20-80	15-40	1.20-1.40	4.00-14.00	0.12-0.22	0.0-2.9	0.0-0.5	.43	.43			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
10C:														
Georgeville----------	0-5	20-50	30-70	10-27	1.20-1.40	4.00-14.00	0.12-0.22	0.0-2.9	0.0-0.5	.37	.43	4	6	48
	5-9	5-35	15-60	27-45	1.20-1.40	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.43	.43			
	9-52	5-35	15-60	35-65	1.20-1.40	4.00-14.00	0.11-0.15	0.0-2.9	0.0-0.5	.24	.24			
	52-65	10-50	20-80	15-40	1.20-1.40	4.00-14.00	0.12-0.22	0.0-2.9	0.0-0.5	.43	.43			
11B:														
Helena---------------	0-8	55-75	10-40	5-20	1.58-1.62	14.00-42.00	0.12-0.16	0.0-2.9	0.5-2.0	.24	.24	4	3	86
	8-15	20-55	10-40	27-50	1.46-1.56	0.42-4.00	0.12-0.13	6.0-8.9	0.0-0.5	.32	.32			
	15-39	20-55	10-40	35-60	1.46-1.56	0.42-1.40	0.12-0.13	6.0-8.9	0.0-0.5	.24	.24			
	39-53	30-75	10-50	15-40	1.44-1.55	1.40-4.00	0.10-0.19	3.0-8.9	0.0-0.5	.20	.20			
	53-65	30-75	10-50	15-35	1.40-1.60	1.40-4.00	0.10-0.19	3.0-8.9	0.0-0.5	.20	.24			
11C:														
Helena---------------	0-8	55-75	10-40	5-20	1.58-1.62	14.00-42.00	0.12-0.16	0.0-2.9	0.5-2.0	.24	.24	4	3	86
	8-15	20-55	10-40	27-50	1.46-1.56	0.42-4.00	0.12-0.13	6.0-8.9	0.0-0.5	.32	.32			
	15-39	20-55	10-40	35-60	1.46-1.56	0.42-1.40	0.12-0.13	6.0-8.9	0.0-0.5	.24	.24			
	39-53	30-75	10-50	15-40	1.44-1.55	1.40-4.00	0.10-0.19	3.0-8.9	0.0-0.5	.20	.20			
	53-65	30-75	10-50	15-35	1.40-1.60	1.40-4.00	0.10-0.19	3.0-8.9	0.0-0.5	.20	.24			
12B:														
Herndon--------------	0-7	20-70	20-70	5-27	1.20-1.40	4.00-14.00	0.14-0.22	0.0-2.9	0.5-1.0	.28	.32	5	5	56
	7-11	10-50	30-75	15-32	1.30-1.60	4.00-14.00	0.14-0.22	0.0-2.9	0.0-0.5	.32	.37			
	11-39	5-30	10-65	35-60	1.30-1.60	4.00-14.00	0.11-0.15	0.0-2.9	0.0-0.5	.20	.20			
	39-50	10-50	20-70	10-32	1.20-1.40	4.00-14.00	0.12-0.22	0.0-2.9	0.0-0.5	.32	.32			
	50-65	10-70	10-75	10-27	1.20-1.40	4.00-14.00	0.15-0.22	0.0-2.9	0.0-0.5	.37	.37			
12C:														
Herndon--------------	0-7	20-70	20-70	5-27	1.20-1.40	4.00-14.00	0.14-0.22	0.0-2.9	0.5-1.0	.28	.32	5	5	56
	7-11	10-50	30-75	15-32	1.30-1.60	4.00-14.00	0.14-0.22	0.0-2.9	0.0-0.5	.32	.37			
	11-39	5-30	10-65	35-60	1.30-1.60	4.00-14.00	0.11-0.15	0.0-2.9	0.0-0.5	.20	.20			
	39-50	10-50	20-70	10-32	1.20-1.40	4.00-14.00	0.12-0.22	0.0-2.9	0.0-0.5	.32	.32			
	50-65	10-70	10-75	10-27	1.20-1.40	4.00-14.00	0.15-0.22	0.0-2.9	0.0-0.5	.37	.37			
13B:														
Mayodan--------------	0-8	55-80	10-40	5-20	1.40-1.65	14.00-42.00	0.09-0.16	0.0-2.9	0.5-2.0	.15	.20	4	5	56
	8-51	5-60	10-60	35-60	1.25-1.55	4.00-14.00	0.11-0.15	3.0-5.9	0.0-0.5	.28	.28			
	51-65	10-70	10-60	15-40	1.25-1.55	4.00-14.00	0.12-0.19	3.0-5.9	0.0-0.5	.37	.37			
13C:														
Mayodan--------------	0-8	55-80	10-40	5-20	1.40-1.65	14.00-42.00	0.09-0.16	0.0-2.9	0.5-2.0	.15	.20	4	5	56
	8-51	5-60	10-60	35-60	1.25-1.55	4.00-14.00	0.11-0.15	3.0-5.9	0.0-0.5	.28	.28			
	51-65	10-70	10-60	15-40	1.25-1.55	4.00-14.00	0.12-0.19	3.0-5.9	0.0-0.5	.37	.37			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
14D:														
Pacolet--------------	0-3	55-80	5-40	8-20	1.00-1.50	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.20	.20	3	3	86
	3-7	25-70	5-50	15-40	1.30-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.20	.20			
	7-25	20-60	5-45	35-65	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	25-37	25-70	5-45	15-40	1.20-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.32	.32			
	37-65	25-80	5-45	10-35	1.20-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.32	.32			
14E:														
Pacolet--------------	0-3	55-80	5-40	8-20	1.00-1.50	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.20	.20	3	3	86
	3-7	25-70	5-50	15-40	1.30-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.20	.20			
	7-25	20-60	5-45	35-65	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	25-37	25-70	5-45	15-40	1.20-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.32	.32			
	37-65	25-80	5-45	10-35	1.20-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.32	.32			
15C3:														
Pacolet--------------	0-7	20-45	20-45	27-35	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	2	6	48
	7-25	20-60	5-45	35-65	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	25-37	25-70	5-45	15-40	1.20-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.32	.32			
	37-65	25-80	5-45	10-35	1.20-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.32	.32			
15D3:														
Pacolet--------------	0-7	20-45	20-45	27-35	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	2	6	48
	7-25	20-60	5-45	35-65	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	25-37	25-70	5-45	15-40	1.20-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.32	.32			
	37-65	25-80	5-45	10-35	1.20-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.32	.32			
16A:														
Partlow--------------	0-6	35-75	10-45	5-25	1.25-1.45	14.00-42.00	0.12-0.19	0.0-2.9	0.5-2.0	.17	.17	4	3	86
	6-40	20-70	10-45	18-35	1.30-1.60	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.20	.20			
	40-65	30-75	10-45	5-35	1.30-1.60	14.00-42.00	0.12-0.19	0.0-2.9	0.0-0.5	.24	.24			
17A:														
Roanoke--------------	0-6	55-80	10-40	10-18	1.20-1.50	14.00-42.00	0.12-0.18	0.0-2.9	1.0-3.0	.24	.24	4	3	86
	6-8	10-40	20-60	27-35	1.20-1.50	0.01-141.00	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
	8-50	10-40	10-60	35-60	1.35-1.65	0.42-1.40	0.10-0.19	3.0-5.9	0.0-0.5	.24	.24			
	50-65	10-95	5-80	5-50	1.20-1.50	0.01-141.00	0.04-0.14	3.0-5.9	0.0-0.5	.17	.17			
18B:														
State----------------	0-8	55-75	10-40	5-15	1.25-1.40	4.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	8-48	20-65	15-65	18-34	1.35-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.5	.32	.32			
	48-65	55-95	5-45	5-20	1.35-1.70	14.00-141.00	0.05-0.15	0.0-2.9	0.0-0.5	.24	.24			
19A:														
Toccoa---------------	0-11	55-80	5-40	5-15	1.35-1.45	14.00-42.00	0.09-0.20	0.0-2.9	1.0-3.0	.15	.15	4	3	86
	11-26	55-80	5-45	2-19	1.40-1.50	14.00-42.00	0.09-0.15	0.0-2.9	0.0-1.0	.32	.32			
	26-65	55-95	2-45	2-19	1.40-1.50	14.00-42.00	0.02-0.15	0.0-2.9	0.0-1.0	.24	.28			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
20C:														
Wedowee--------------	0-7	35-75	10-45	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.15	.17	3	3	86
	7-10	50-75	10-30	15-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.24			
	10-24	20-60	5-45	35-50	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.10			
	24-35	25-75	5-45	20-40	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.17			
	35-65	25-75	5-45	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.20			
20D:														
Wedowee--------------	0-7	35-75	10-45	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.15	.17	3	3	86
	7-10	50-75	10-30	15-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.24			
	10-24	20-60	5-45	35-50	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.10			
	24-35	25-75	5-45	20-40	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.17			
	35-65	25-75	5-45	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.20			
20E:														
Wedowee--------------	0-7	35-75	10-45	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.15	.17	3	3	86
	7-10	50-75	10-30	15-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.24			
	10-24	20-60	5-45	35-50	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.10			
	24-35	25-75	5-45	20-40	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.17			
	35-65	25-75	5-45	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.20			
21B:														
Wedowee--------------	0-7	35-75	10-45	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.15	.17	3	3	86
	7-10	50-75	10-30	15-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.24			
	10-24	20-60	5-45	35-50	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.10			
	24-35	25-75	5-45	20-40	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.17			
	35-65	25-75	5-45	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.20			
Poindexter-----------	0-6	55-80	5-40	5-18	1.30-1.55	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	6-24	25-70	10-50	20-35	1.35-1.45	4.00-14.00	0.10-0.19	0.0-2.9	0.0-0.5	.28	.28			
	24-39	45-80	10-40	10-35	1.30-1.55	4.00-42.00	0.10-0.13	0.0-2.9	0.0-0.5	.32	.32			
	39-54	---	---	---	---	0.01-0.42	---	---	---	---	---			
	54-58	---	---	---	---	0.00-0.00	---	---	---	---	---			
21C:														
Wedowee--------------	0-7	35-75	10-45	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.15	.17	3	3	86
	7-10	50-75	10-30	15-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.24			
	10-24	20-60	5-45	35-50	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.10			
	24-35	25-75	5-45	20-40	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.17			
	35-65	25-75	5-45	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.20			
Poindexter-----------	0-6	55-80	5-40	5-18	1.30-1.55	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	6-24	25-70	10-50	20-35	1.35-1.45	4.00-14.00	0.10-0.19	0.0-2.9	0.0-0.5	.28	.28			
	24-39	45-80	10-40	10-35	1.30-1.55	4.00-42.00	0.10-0.13	0.0-2.9	0.0-0.5	.32	.32			
	39-54	---	---	---	---	0.01-0.42	---	---	---	---	---			
	54-58	---	---	---	---	0.00-0.00	---	---	---	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
21D:														
Wedowee	0-7	35-75	10-45	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.15	.17	3	3	86
	7-10	50-75	10-30	15-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.24			
	10-24	20-60	5-45	35-50	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.10			
	24-35	25-75	5-45	20-40	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.17			
	35-65	25-75	5-45	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.20			
Poindexter	0-6	55-80	5-40	5-18	1.30-1.55	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	6-24	25-70	10-50	20-35	1.35-1.45	4.00-14.00	0.10-0.19	0.0-2.9	0.0-0.5	.28	.28			
	24-39	45-80	10-40	10-35	1.30-1.55	4.00-42.00	0.10-0.13	0.0-2.9	0.0-0.5	.32	.32			
	39-54	---	---	---	---	0.01-0.42	---	---	---	---	---			
	54-58	---	---	---	---	0.00-0.00	---	---	---	---	---			
21E:														
Wedowee	0-7	35-75	10-45	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.15	.17	3	3	86
	7-10	50-75	10-30	15-30	1.30-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.24			
	10-24	20-60	5-45	35-50	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.15	.10			
	24-35	25-75	5-45	20-40	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.17			
	35-65	25-75	5-45	15-35	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.20			
Poindexter	0-6	55-80	5-40	5-18	1.30-1.55	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	6-24	25-70	10-50	20-35	1.35-1.45	4.00-14.00	0.10-0.19	0.0-2.9	0.0-0.5	.28	.28			
	24-39	45-80	10-40	10-35	1.30-1.55	4.00-42.00	0.10-0.13	0.0-2.9	0.0-0.5	.32	.32			
	39-54	---	---	---	---	0.01-0.42	---	---	---	---	---			
	54-58	---	---	---	---	0.00-0.00	---	---	---	---	---			
22B:														
Winnsboro	0-9	30-80	10-45	10-20	1.30-1.70	14.00-42.00	0.11-0.19	0.0-2.9	0.5-2.0	.28	.28	4	3	86
	9-34	20-45	10-45	35-60	1.20-1.50	0.42-1.40	0.10-0.13	6.0-8.9	0.0-1.0	.24	.24			
	34-45	30-80	10-45	15-35	1.30-1.60	1.40-4.00	0.11-0.20	0.0-2.9	0.0-0.5	.43	.43			
	45-65	---	---	---	---	0.00-0.42	---	---	---	---	---			
22C:														
Winnsboro	0-9	30-80	10-45	10-20	1.30-1.70	14.00-42.00	0.11-0.19	0.0-2.9	0.5-2.0	.28	.28	4	3	86
	9-34	20-45	10-45	35-60	1.20-1.50	0.42-1.40	0.10-0.13	6.0-8.9	0.0-1.0	.24	.24			
	34-45	30-80	10-45	15-35	1.30-1.60	1.40-4.00	0.11-0.20	0.0-2.9	0.0-0.5	.43	.43			
	45-65	---	---	---	---	0.00-0.42	---	---	---	---	---			
W.														
Water														

Table 18.—Chemical Soil Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
1B:				
Appling	0-3	1.6-6.5	1.2-4.9	4.5-6.5
	3-11	1.6-6.5	1.2-4.9	4.5-6.5
	11-14	2.0-4.6	1.5-3.5	4.5-5.5
	14-37	3.5-7.1	2.6-5.3	4.5-5.5
	37-48	2.0-5.1	1.5-3.8	4.5-5.5
	48-65	1.8-5.1	1.1-3.8	4.5-5.5
1C:				
Appling	0-3	1.6-6.5	1.2-4.9	4.5-6.5
	3-11	1.6-6.5	1.2-4.9	4.5-6.5
	11-14	2.0-4.6	1.5-3.5	4.5-5.5
	14-37	3.5-7.1	2.6-5.3	4.5-5.5
	37-48	2.0-5.1	1.5-3.8	4.5-5.5
	48-65	1.8-5.1	1.1-3.8	4.5-5.5
2B:				
Buncombe	0-6	1.9-5.2	1.4-3.9	4.5-6.5
	6-25	0.8-4.1	0.6-3.1	4.5-6.5
	25-65	0.8-3.2	0.6-2.4	4.5-6.5
3B:				
Cecil	0-5	1.6-4.2	1.2-3.2	4.5-6.5
	5-15	3.0-7.1	2.2-5.3	4.5-5.5
	15-43	3.5-7.5	2.6-5.6	4.5-5.5
	43-65	1.0-3.5	0.8-2.6	4.5-5.5
3C:				
Cecil	0-5	1.6-4.2	1.2-3.2	4.5-6.5
	5-15	3.0-7.1	2.2-5.3	4.5-5.5
	15-43	3.5-7.5	2.6-5.6	4.5-5.5
	43-65	1.0-3.5	0.8-2.6	4.5-5.5
4A:				
Chastain	0-5	12-28	8.8-21	4.5-6.0
	5-27	13-28	10-21	4.5-6.0
	27-48	13-28	9.5-21	4.5-6.0
	48-65	9.9-28	7.4-21	4.5-6.0
5A:				
Chewacla	0-6	5.8-18	4.3-14	4.5-6.5
	6-26	7.4-17	5.6-13	4.5-6.5
	26-44	7.4-17	5.6-13	4.5-7.8
	44-65	2.9-22	2.2-16	4.5-7.8
6B:				
Cid	0-7	4.6-13	3.5-9.9	3.5-5.5
	7-15	3.5-9.9	2.6-7.4	3.5-5.5
	15-30	12-22	9.2-16	3.5-5.5
	30-35	12-22	9.2-16	3.5-5.5
	35-39	---	---	---
	39-43	---	---	---

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
6C:				
Cid------------------	0-7	4.6-13	3.5-9.9	3.5-5.5
	7-15	3.5-9.9	2.6-7.4	3.5-5.5
	15-30	12-22	9.2-16	3.5-5.5
	30-35	12-22	9.2-16	3.5-5.5
	35-39	---	---	---
	39-43	---	---	---
7B:				
Colfax---------------	0-2	3.5-12	2.6-8.8	3.5-5.5
	2-8	2.4-11	1.8-8.0	3.5-5.5
	8-14	4.9-13	3.7-9.9	3.5-5.5
	14-34	6.1-13	4.6-9.9	3.5-5.5
	34-65	4.9-13	3.7-9.9	3.5-5.5
8B:				
Creedmoor------------	0-5	3.6-12	2.7-8.6	3.5-5.5
	5-14	7.0-17	5.2-13	3.5-5.5
	14-46	12-22	9.2-17	3.5-5.5
	46-56	10-20	7.9-15	3.5-5.5
	56-65	1.8-13	1.3-10	3.5-5.5
9A:				
Dogue----------------	0-8	4.6-9.2	3.5-6.9	3.5-5.5
	8-38	10-19	7.9-14	3.5-5.5
	38-54	10-17	7.9-13	3.5-5.5
	54-65	3.5-12	2.6-8.7	3.5-5.5
9B:				
Dogue----------------	0-8	4.6-9.2	3.5-6.9	3.5-5.5
	8-38	10-19	7.9-14	3.5-5.5
	38-54	10-17	7.9-13	3.5-5.5
	54-65	3.5-12	2.6-8.7	3.5-5.5
10B:				
Georgeville----------	0-5	1.0-3.8	0.8-2.9	4.5-6.0
	5-9	2.7-5.6	2.0-4.2	4.5-5.5
	9-52	3.5-7.6	2.6-5.7	4.5-5.5
	52-65	1.5-5.1	1.1-3.8	4.5-5.5
10C:				
Georgeville----------	0-5	1.0-3.8	0.8-2.9	4.5-6.0
	5-9	2.7-5.6	2.0-4.2	4.5-5.5
	9-52	3.5-7.6	2.6-5.7	4.5-5.5
	52-65	1.5-5.1	1.1-3.8	4.5-5.5
11B:				
Helena---------------	0-8	2.9-12	2.2-8.6	3.5-6.5
	8-15	9.4-19	7.1-14	3.5-5.5
	15-39	12-22	9.2-17	3.5-5.5
	39-53	5.2-15	3.9-11	3.5-5.5
	53-65	5.2-13	3.9-10	3.5-5.5
11C:				
Helena---------------	0-8	2.9-12	2.2-8.6	3.5-6.5
	8-15	9.4-19	7.1-14	3.5-5.5
	15-39	12-22	9.2-17	3.5-5.5
	39-53	5.2-15	3.9-11	3.5-5.5
	53-65	5.2-13	3.9-10	3.5-5.5

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
12B:				
Herndon	0-7	1.6-5.0	1.2-3.7	4.5-6.5
	7-11	1.5-4.3	1.1-3.2	4.5-6.5
	11-39	3.5-7.1	2.6-5.3	3.5-5.5
	39-50	1.0-4.1	0.8-3.1	3.5-5.5
	50-65	1.0-4.1	0.8-3.1	3.5-5.5
12C:				
Herndon	0-7	1.6-5.0	1.2-3.7	4.5-6.5
	7-11	1.5-4.3	1.1-3.2	4.5-6.5
	11-39	3.5-7.1	2.6-5.3	3.5-5.5
	39-50	1.0-4.1	0.8-3.1	3.5-5.5
	50-65	1.0-4.1	0.8-3.1	3.5-5.5
13B:				
Mayodan	0-8	2.9-12	2.2-8.6	4.5-6.0
	8-51	12-22	9.2-17	4.5-5.5
	51-65	5.2-15	3.9-11	4.5-5.5
13C:				
Mayodan	0-8	2.9-12	2.2-8.6	4.5-6.0
	8-51	12-22	9.2-17	4.5-5.5
	51-65	5.2-15	3.9-11	4.5-5.5
14D:				
Pacolet	0-3	1.9-6.5	1.4-4.9	4.5-6.5
	3-7	1.5-5.1	1.1-3.8	4.5-6.0
	7-25	3.5-7.1	2.6-5.7	4.5-6.0
	25-37	1.5-5.1	1.1-3.8	4.5-6.0
	37-65	1.0-4.6	0.8-3.5	4.5-6.0
14E:				
Pacolet	0-3	1.9-6.5	1.4-4.9	4.5-6.5
	3-7	1.5-5.1	1.1-3.8	4.5-6.0
	7-25	3.5-7.1	2.6-5.7	4.5-6.0
	25-37	1.5-5.1	1.1-3.8	4.5-6.0
	37-65	1.0-4.6	0.8-3.5	4.5-6.0
15C3:				
Pacolet	0-7	3.8-5.8	2.9-4.3	4.5-6.5
	7-25	3.5-7.1	2.6-5.7	4.5-6.0
	25-37	1.5-5.1	1.1-3.8	4.5-6.0
	37-65	1.0-4.6	0.8-3.5	4.5-6.0
15D3:				
Pacolet	0-7	3.8-5.8	2.9-4.3	4.5-6.5
	7-25	3.5-7.1	2.6-5.7	4.5-6.0
	25-37	1.5-5.1	1.1-3.8	4.5-6.0
	37-65	1.0-4.6	0.8-3.5	4.5-6.0
16A:				
Partlow	0-6	2.9-13	2.2-9.9	4.5-5.5
	6-40	6.3-13	4.7-10	4.5-5.5
	40-65	1.8-13	1.3-10	4.5-5.5
17A:				
Roanoke	0-6	5.8-13	4.3-9.8	3.5-5.5
	6-8	7.0-13	5.2-10	3.5-5.5
	8-50	12-22	9.2-17	3.5-5.5
	50-65	1.8-19	1.3-14	3.6-6.5

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
18B:				
State----------------	0-8	2.9-9.8	2.2-7.3	3.5-5.5
	8-48	6.3-13	4.7-9.8	3.5-5.5
	48-65	1.8-8.1	1.3-6.1	3.5-5.5
19A:				
Toccoa---------------	0-11	4.7-13	3.5-9.5	5.1-6.5
	11-26	0.7-8.9	0.5-6.7	5.1-6.5
	26-65	0.7-8.9	0.5-6.7	5.1-6.5
20C:				
Wedowee--------------	0-7	1.6-8.8	1.2-6.6	3.5-5.5
	7-10	1.4-4.1	1.0-3.1	3.5-5.5
	10-24	3.5-6.1	2.6-4.6	3.5-5.5
	24-35	2.0-5.4	1.5-3.8	3.5-5.5
	35-65	1.5-4.6	1.1-3.5	3.5-5.5
20D:				
Wedowee--------------	0-7	1.6-8.8	1.2-6.6	3.5-5.5
	7-10	1.4-4.1	1.0-3.1	3.5-5.5
	10-24	3.5-6.1	2.6-4.6	3.5-5.5
	24-35	2.0-5.4	1.5-3.8	3.5-5.5
	35-65	1.5-4.6	1.1-3.5	3.5-5.5
20E:				
Wedowee--------------	0-7	1.6-8.8	1.2-6.6	3.5-5.5
	7-10	1.4-4.1	1.0-3.1	3.5-5.5
	10-24	3.5-6.1	2.6-4.6	3.5-5.5
	24-35	2.0-5.4	1.5-3.8	3.5-5.5
	35-65	1.5-4.6	1.1-3.5	3.5-5.5
21B:				
Wedowee--------------	0-7	1.6-8.8	1.2-6.6	3.5-5.5
	7-10	1.4-4.1	1.0-3.1	3.5-5.5
	10-24	3.5-6.1	2.6-4.6	3.5-5.5
	24-35	2.0-5.4	1.5-3.8	3.5-5.5
	35-65	1.5-4.6	1.1-3.5	3.5-5.5
Poindexter-----------	0-6	2.9-11	2.2-8.1	5.1-7.3
	6-24	7.0-13	5.2-10	5.1-7.3
	24-39	3.5-13	2.6-10	5.1-7.3
	39-54	---	---	---
	54-58	---	---	---
21C:				
Wedowee--------------	0-7	1.6-8.8	1.2-6.6	3.5-5.5
	7-10	1.4-4.1	1.0-3.1	3.5-5.5
	10-24	3.5-6.1	2.6-4.6	3.5-5.5
	24-35	2.0-5.4	1.5-3.8	3.5-5.5
	35-65	1.5-4.6	1.1-3.5	3.5-5.5
Poindexter-----------	0-6	2.9-11	2.2-8.1	5.1-7.3
	6-24	7.0-13	5.2-10	5.1-7.3
	24-39	3.5-13	2.6-10	5.1-7.3
	39-54	---	---	---
	54-58	---	---	---

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
21D:				
Wedowee--------------	0-7	1.6-8.8	1.2-6.6	3.5-5.5
	7-10	1.4-4.1	1.0-3.1	3.5-5.5
	10-24	3.5-6.1	2.6-4.6	3.5-5.5
	24-35	2.0-5.4	1.5-3.8	3.5-5.5
	35-65	1.5-4.6	1.1-3.5	3.5-5.5
Poindexter-----------	0-6	2.9-11	2.2-8.1	5.1-7.3
	6-24	7.0-13	5.2-10	5.1-7.3
	24-39	3.5-13	2.6-10	5.1-7.3
	39-54	---	---	---
	54-58	---	---	---
21E:				
Wedowee--------------	0-7	1.6-8.8	1.2-6.6	3.5-5.5
	7-10	1.4-4.1	1.0-3.1	3.5-5.5
	10-24	3.5-6.1	2.6-4.6	3.5-5.5
	24-35	2.0-5.4	1.5-3.8	3.5-5.5
	35-65	1.5-4.6	1.1-3.5	3.5-5.5
Poindexter-----------	0-6	2.9-11	2.2-8.1	5.1-7.3
	6-24	7.0-13	5.2-10	5.1-7.3
	24-39	3.5-13	2.6-10	5.1-7.3
	39-54	---	---	---
	54-58	---	---	---
22B:				
Winnsboro------------	0-9	4.6-12	3.5-8.6	5.1-6.5
	9-34	12-23	9.2-17	6.1-7.8
	34-45	5.2-13	3.9-10	6.1-7.8
	45-65	---	---	---
22C:				
Winnsboro------------	0-9	4.6-12	3.5-8.6	5.1-6.5
	9-34	12-23	9.2-17	6.1-7.8
	34-45	5.2-13	3.9-10	6.1-7.8
	45-65	---	---	---
W.				
Water				

Table 19.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1B:										
Appling------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
1C:										
Appling------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
2B:										
Buncombe	A	Very low								
			January	---	---	---	---	None	---	Rare
			February	---	---	---	---	None	---	Rare
			March	---	---	---	---	None	---	Rare
			April	---	---	---	---	None	---	Rare
			May	---	---	---	---	None	---	Rare
			June	---	---	---	---	None	---	Rare
			July	---	---	---	---	None	---	Rare
			August	---	---	---	---	None	---	Rare
			September	---	---	---	---	None	---	Rare
			October	---	---	---	---	None	---	Rare
			November	---	---	---	---	None	---	Rare
			December	---	---	---	---	None	---	Rare
3B:										
Cecil	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
3C:										
Cecil	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
4A:										
Chastain	D	Negligible								
			January	0.0-1.0	>6.0	0.2-0.5	Brief	Frequent	Brief	Frequent
			February	0.0-1.0	>6.0	0.2-0.5	Brief	Frequent	Brief	Frequent
			March	0.0-1.0	>6.0	0.2-0.5	Brief	Frequent	Brief	Frequent
			April	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			May	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	Brief	Frequent
			November	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			December	0.0-1.0	>6.0	---	---	None	Brief	Frequent
5A:										
Chewacla	C	Very high								
			January	0.5-1.5	>6.0	---	---	None	Brief	Frequent
			February	0.5-1.5	>6.0	---	---	None	Brief	Frequent
			March	0.5-1.5	>6.0	---	---	None	Brief	Frequent
			April	0.5-1.5	>6.0	---	---	None	Brief	Frequent
			November	0.5-1.5	>6.0	---	---	None	Brief	Frequent
			December	0.5-1.5	>6.0	---	---	None	Brief	Frequent
6B:										
Cid	C	Very high								
			January	1.0-2.5	1.7-3.3	---	---	None	---	None
			February	1.0-2.5	1.7-3.3	---	---	None	---	None
			March	1.0-2.5	1.7-3.3	---	---	None	---	None
			April	1.0-2.5	1.7-3.3	---	---	None	---	None
			May	1.0-2.5	1.7-3.3	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	1.0-2.5	1.7-3.3	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
6C:										
Cid	C	Very high								
			January	1.0-2.5	1.7-3.3	---	---	None	---	None
			February	1.0-2.5	1.7-3.3	---	---	None	---	None
			March	1.0-2.5	1.7-3.3	---	---	None	---	None
			April	1.0-2.5	1.7-3.3	---	---	None	---	None
			May	1.0-2.5	1.7-3.3	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	1.0-2.5	1.7-3.3	---	---	None	---	None
7B:										
Colfax	C	Very high								
			January	0.5-1.5	1.0-3.0	---	---	None	---	None
			February	0.5-1.5	1.0-3.0	---	---	None	---	None
			March	0.5-1.5	1.0-3.0	---	---	None	---	None
			April	0.5-1.5	1.0-3.0	---	---	None	---	None
			May	0.5-1.5	1.0-3.0	---	---	None	---	None
			June	0.5-1.5	1.0-3.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	0.5-1.5	1.0-3.0	---	---	None	---	None
			December	0.5-1.5	1.0-3.0	---	---	None	---	None
8B:										
Creedmoor	C	Very high								
			January	1.0-2.0	4.0-6.6	---	---	None	---	None
			February	1.0-2.0	4.0-6.6	---	---	None	---	None
			March	1.0-2.0	4.0-6.6	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
9A:										
Dogue	C	Low								
			January	1.5-3.0	>6.0	---	---	None	---	Rare
			February	1.5-3.0	>6.0	---	---	None	---	Rare
			March	1.5-3.0	>6.0	---	---	None	---	Rare
			April	---	---	---	---	None	---	Rare
			May	---	---	---	---	None	---	Rare
			October	---	---	---	---	None	---	Rare
			November	---	---	---	---	None	---	Rare
			December	---	---	---	---	None	---	Rare
9B:										
Dogue	C	Medium								
			January	1.5-3.0	>6.0	---	---	None	---	Rare
			February	1.5-3.0	>6.0	---	---	None	---	Rare
			March	1.5-3.0	>6.0	---	---	None	---	Rare
			April	---	---	---	---	None	---	Rare
			May	---	---	---	---	None	---	Rare
			October	---	---	---	---	None	---	Rare
			November	---	---	---	---	None	---	Rare
			December	---	---	---	---	None	---	Rare
10B:										
Georgeville	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
10C:										
Georgeville---------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
11B:										
Helena--------------------	C	Medium								
			January	1.5-2.5	4.0-5.0	---	---	None	---	None
			February	1.5-2.5	4.0-5.0	---	---	None	---	None
			March	1.5-2.5	4.0-5.0	---	---	None	---	None
			April	1.5-2.5	4.0-5.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
11C:										
Helena--------------------	C	Medium								
			January	1.5-2.5	4.0-5.0	---	---	None	---	None
			February	1.5-2.5	4.0-5.0	---	---	None	---	None
			March	1.5-2.5	4.0-5.0	---	---	None	---	None
			April	1.5-2.5	4.0-5.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
12B:										
Herndon-------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
12C:										
Herndon-------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
13B:										
Mayodan-------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
13C:										
Mayodan-------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
14D:										
Pacolet-------------------	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
14E:										
Pacolet-------------------	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
15C3:										
Pacolet-------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
15D3:										
Pacolet-------------------	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
16A:										
Partlow-------------------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	Rare
			February	0.0-1.0	>6.0	---	---	None	---	Rare
			March	0.0-1.0	>6.0	---	---	None	---	Rare
			April	0.0-1.0	>6.0	---	---	None	---	Rare
			May	0.0-1.0	>6.0	---	---	None	---	Rare
			June	---	---	---	---	None	---	Rare
			July	---	---	---	---	None	---	Rare
			August	---	---	---	---	None	---	Rare
			September	---	---	---	---	None	---	Rare
			October	---	---	---	---	None	---	Rare
			November	0.0-1.0	>6.0	---	---	None	---	Rare
			December	0.0-1.0	>6.0	---	---	None	---	Rare

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
17A:										
Roanoke-------------------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	Rare
			February	0.0-1.0	>6.0	---	---	None	---	Rare
			March	0.0-1.0	>6.0	---	---	None	---	Rare
			April	0.0-1.0	>6.0	---	---	None	---	Rare
			May	0.0-1.0	>6.0	---	---	None	---	Rare
			June	---	---	---	---	None	---	Rare
			July	---	---	---	---	None	---	Rare
			August	---	---	---	---	None	---	Rare
			September	---	---	---	---	None	---	Rare
			October	---	---	---	---	None	---	Rare
			November	0.0-1.0	>6.0	---	---	None	---	Rare
			December	0.0-1.0	>6.0	---	---	None	---	Rare
18B:										
State---------------------	B	Low								
			January	4.0-6.6	>6.0	---	---	None	---	Rare
			February	4.0-6.6	>6.0	---	---	None	---	Rare
			March	4.0-6.6	>6.0	---	---	None	---	Rare
			April	4.0-6.6	>6.0	---	---	None	---	Rare
			May	4.0-6.6	>6.0	---	---	None	---	Rare
			June	4.0-6.6	>6.0	---	---	None	---	Rare
			July	---	---	---	---	None	---	Rare
			August	---	---	---	---	None	---	Rare
			September	---	---	---	---	None	---	Rare
			October	---	---	---	---	None	---	Rare
			November	---	---	---	---	None	---	Rare
			December	4.0-6.6	>6.0	---	---	None	---	Rare
19A:										
Toccoa--------------------	B	Very low								
			January	2.5-5.0	>6.0	---	---	None	Brief	Frequent
			February	2.5-5.0	>6.0	---	---	None	Brief	Frequent
			March	2.5-5.0	>6.0	---	---	None	Brief	Frequent
			April	2.5-5.0	>6.0	---	---	None	Brief	Frequent
			May	---	---	---	---	None	Brief	Frequent
			June	---	---	---	---	None	Brief	Frequent
			July	---	---	---	---	None	Brief	Frequent
			August	---	---	---	---	None	Brief	Frequent
			September	---	---	---	---	None	Brief	Frequent
			October	---	---	---	---	None	Brief	Frequent
			November	---	---	---	---	None	Brief	Frequent
			December	2.5-5.0	>6.0	---	---	None	Brief	Frequent

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
20C:										
Wedowee-------------------	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
20D:										
Wedowee-------------------	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
20E:										
Wedowee-------------------	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
21B:										
Wedowee	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Poindexter	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
21C:										
Wedowee	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
21C:										
Poindexter----------------	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
21D:										
Wedowee-------------------	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Poindexter----------------	B	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
21E:										
Wedowee	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Poindexter	B	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
22B:										
Winnsboro	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
22C:										
Winnsboro-----------------	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
W.										
Water										

Table 20.—Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
1B:						
Appling	---	---	---	None	Moderate	Moderate
1C:						
Appling	---	---	---	None	Moderate	Moderate
2B:						
Buncombe	---	---	---	None	Low	Moderate
3B:						
Cecil	---	---	---	None	High	High
3C:						
Cecil	---	---	---	None	High	High
4A:						
Chastain	---	---	---	None	High	High
5A:						
Chewacla	---	---	---	None	High	Moderate
6B:						
Cid	Paralithic bedrock	20-39	Moderately cemented	None	High	High
	Lithic bedrock	20-40	Indurated			
6C:						
Cid	Paralithic bedrock	20-39	Moderately cemented	None	High	High
	Lithic bedrock	20-40	Indurated			
7B:						
Colfax	Fragipan	16-36	Weakly cemented	None	High	High
8B:						
Creedmoor	---	---	---	None	High	High
9A:						
Dogue	---	---	---	None	High	High
9B:						
Dogue	---	---	---	None	High	High

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
10B:						
Georgeville	---	---	---	None	High	High
10C:						
Georgeville	---	---	---	None	High	High
11B:						
Helena	---	---	---	None	High	High
11C:						
Helena	---	---	---	None	High	High
12B:						
Herndon	---	---	---	None	High	High
12C:						
Herndon	---	---	---	None	High	High
13B:						
Mayodan	---	---	---	None	High	Moderate
13C:						
Mayodan	---	---	---	None	High	Moderate
14D:						
Pacolet	---	---	---	None	High	High
14E:						
Pacolet	---	---	---	None	High	High
15C3:						
Pacolet	---	---	---	None	High	High
15D3:						
Pacolet	---	---	---	None	High	High
16A:						
Partlow	---	---	---	None	High	High
17A:						
Roanoke	---	---	---	None	High	High
18B:						
State	---	---	---	None	Moderate	High
19A:						
Toccoa	---	---	---	None	Low	Moderate

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
20C:						
Wedowee----------------	---	---	---	None	Moderate	High
20D:						
Wedowee----------------	---	---	---	None	Moderate	High
20E:						
Wedowee----------------	---	---	---	None	Moderate	High
21B:						
Wedowee----------------	---	---	---	None	Moderate	High
Poindexter-------------	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	Moderate
	Lithic bedrock	40-60	Indurated			
21C:						
Wedowee----------------	---	---	---	None	Moderate	High
Poindexter-------------	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	Moderate
	Lithic bedrock	40-60	Indurated			
21D:						
Wedowee----------------	---	---	---	None	Moderate	High
Poindexter-------------	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	Moderate
	Lithic bedrock	40-60	Indurated			
21E:						
Wedowee----------------	---	---	---	None	Moderate	High
Poindexter-------------	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	Moderate
	Lithic bedrock	40-60	Indurated			
22B:						
Winnsboro--------------	Paralithic bedrock	40-60	Strongly cemented	None	High	Low
22C:						
Winnsboro--------------	Paralithic bedrock	40-60	Strongly cemented	None	High	Low
W.						
Water						

Table 21.—Taxonomic Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
*Appling	Fine, kaolinitic, thermic Typic Hapludults
Buncombe	Mixed, thermic Typic Udipsamments
*Cecil	Fine, kaolinitic, thermic Typic Hapludults
Chastain	Fine, mixed, semiactive, acid, thermic Fluvaquentic Endoaquepts
Chewacla	Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts
Cid	Fine, mixed, semiactive, thermic Aquic Hapludults
Colfax	Fine-loamy, mixed, subactive, thermic Aquic Fragiudults
Creedmoor	Fine, mixed, semiactive, thermic Aquic Hapludults
Dogue	Fine, mixed, semiactive, thermic Aquic Hapludults
Georgeville	Fine, kaolinitic, thermic Typic Kanhapludults
Helena	Fine, mixed, semiactive, thermic Aquic Hapludults
Herndon	Fine, kaolinitic, thermic Typic Kanhapludults
Mayodan	Fine, mixed, semiactive, thermic Typic Hapludults
*Pacolet	Fine, kaolinitic, thermic Typic Hapludults
Partlow	Fine-loamy, mixed, semiactive, thermic Typic Endoaquults
Poindexter	Fine-loamy, mixed, active, thermic Typic Hapludalfs
Roanoke	Fine, mixed, semiactive, thermic Typic Endoaquults
State	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Toccoa	Coarse-loamy, mixed, active, nonacid, thermic Typic Udifluvents
*Wedowee	Fine, kaolinitic, thermic Typic Hapludults
Winnsboro	Fine, mixed, active, thermic Typic Hapludalfs

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