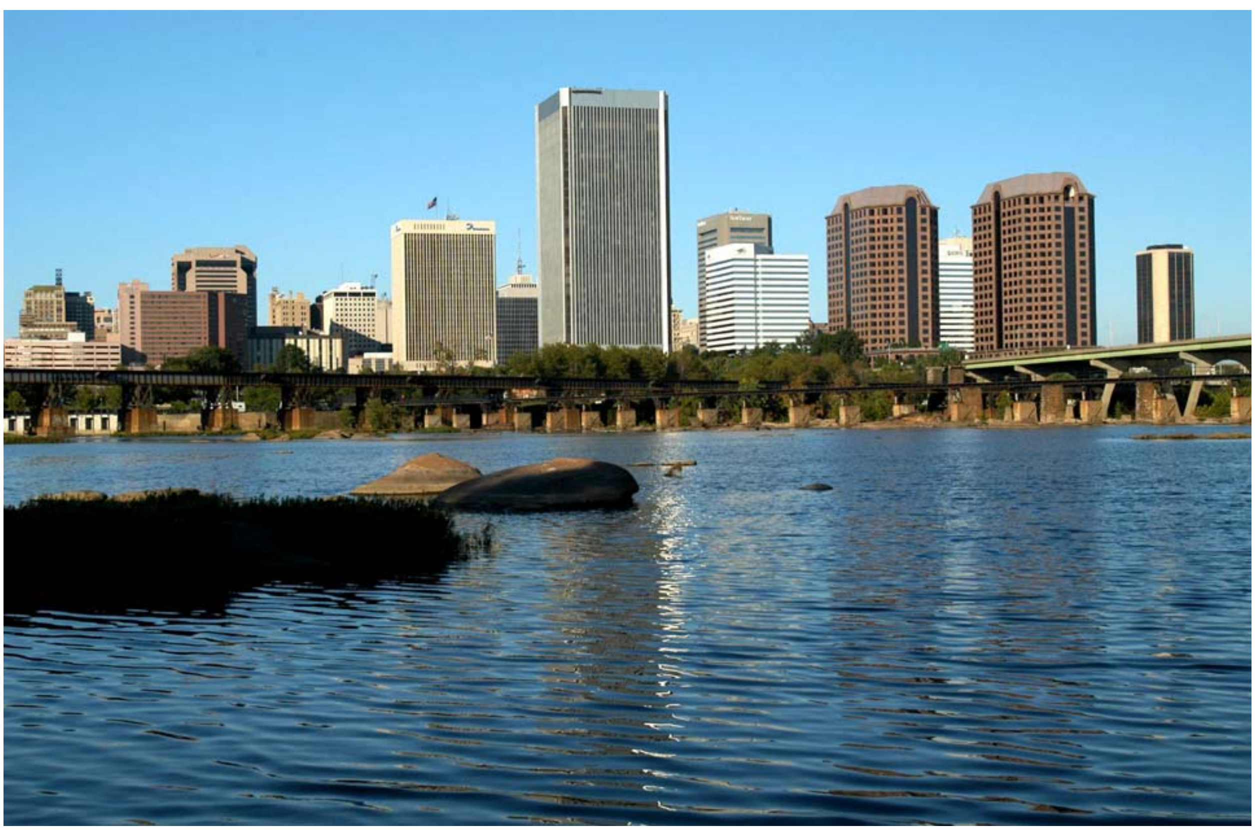
United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Virginia Polytechnic Institute and State University

Soil Survey of City of Richmond, Virginia



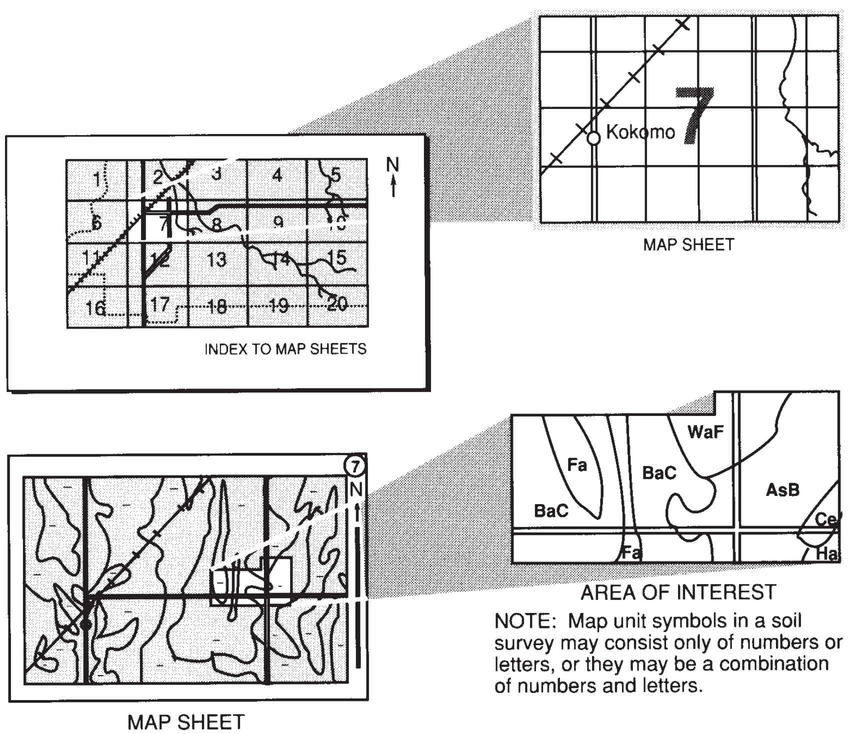
How To Use This Soil Survey

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.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

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 survey is part of the technical assistance furnished to the Henricopolis Soil and Water Conservation District.

Major fieldwork for this soil survey was completed in 1999. Soil names and descriptions were approved in 2003. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2003. The most current official data are available at http://websoilsurvey.nrcs.usda.gov.

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

Skyline of downtown Richmond, on Urban land, overlooking the James River.

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.

John A. Bricker
State Conservationist
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Soil Survey of
City of Richmond, Virginia

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Fieldwork by Michael Newhouse, Virginia Polytechnic Institute and State University

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

The CITY OF RICHMOND is in east-central Virginia (fig. 1). It is bounded on the north, east, and west by Henrico County and on the south by the James River and Chesterfield County. It has an area of 62 square miles, or 39,900 acres. The population of the city in 2000 was 198,000.

The city is divided by the Fall Line, with the eastern section on the Atlantic Coastal Plain and the western section on the Piedmont Plateau. The Fall Line is generally the head of navigation on the major streams and is where the water ceases to be affected by tidal action. Elevation ranges from 9 feet along the James River to 312 feet in the western part of the metropolitan area.

The land use pattern of predominantly urban uses is well established and has been in place for the past 50 years. The City of Richmond is almost completely developed, and residential uses occupy most of the land area. Industrial and commercial uses, along with public open spaces and parks, make up most of the remainder of the principal land uses.

General Nature of the Survey Area

This section provides general information about the survey area. It describes history, geology, industry, transportation, water resources, and climate.

History

The history of the City of Richmond stretches back four centuries to 1607, when King James I granted a royal charter to the Virginia Company of London to settle colonists in North America.

After the first permanent English settlement was established in 1607 at Jamestown, Captains Christopher Newport and John Smith traveled northwest up the James River to Powhatan Hill. An expedition of 120 men from Jamestown made the first attempt to settle at the Falls of the James. In 1611, Sir Thomas Dale, the Governor of Jamestown Colony, organized an expedition and established a settlement below the Falls called Henricus. The first hospital in North America was built here and was home to Pocahontas. During the Powhatan uprising in 1622, all English settlements, except

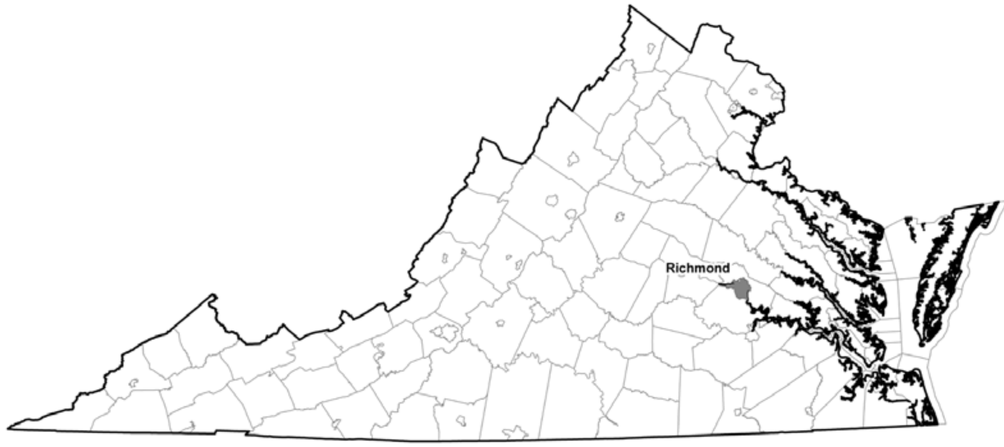

Figure 1.—Location of the City of Richmond in Virginia.

Jamestown, were wiped out. Two years later, King James revoked the Virginia Company of London's charter and declared Virginia a royal colony. By 1634, Henrico County, which includes the present-day City of Richmond, was created. In 1742, Richmond was chartered as a town. Patrick Henry delivered his famous “Give me liberty or give me death” speech in 1775 at the 2nd Virginia Convention, held in St. John's Church. In 1780, the Virginia State capital moved from Williamsburg to Richmond. One year later, in 1781, Richmond was burned by British troops. Richmond was incorporated as a city in 1782. The cornerstone of the State Capitol, designed by Thomas Jefferson, was laid in 1785.

During the Civil War years, from 1861 to 1865, Richmond was the Capitol of the Confederacy with Jefferson Davis serving as President of the Confederate States of America. In 1865, as the city was being evacuated, large parts of Richmond were destroyed in a fire set by retreating Confederate soldiers. In 1870, Virginia was readmitted to the Union and Federal troops were removed from Richmond.

In 1914, Richmond became the headquarters of the Fifth District of the Federal Reserve Bank, which is located in present-day downtown Richmond. Tobacco revitalized the economy of Richmond with the establishment of Phillip Morris. Cigarette production reached an all-time high in 1950. A floodwall, completed in 1995, protects downtown Richmond from flooding from the James River.

Geology

The City of Richmond is on the Fall Line, with the western section on the Piedmont Plateau and the eastern section on the Atlantic Coastal Plain. The oldest formation is the Precambrian Petersburg Granite of the Piedmont Plateau. Below the Fall Line the granite is overlain with Coastal Plain sediments. Directly on top of the granite is the Potomac Group, consisting of arkosic sands and clay of Early Cretaceous age. Directly above the Potomac Group is the Pamunkey Group of Eocene age consisting of glauconitic sands and marl. In the Miocene age, Richmond was covered by the Atlantic Ocean, which deposited clay, silt, sand, and marl of the Calvert Formation (Chesapeake Group). The youngest sediments are the Columbia Group of Pleistocene age, consisting of 20 feet of water-bearing sand and gravel overlain with 20 feet of clay.

The Piedmont Plateau has thin gravelly, sandy, and clayey sedimentary deposits on the highest ridges, which are thought to be remnants of the Brandywine terrace and old river terraces. The next youngest, the Sunderland terrace, is of fluvial origin and is at elevations ranging from about 100 to 200 feet. At lower elevations, Wicomo, Chowan, and Dismal Swamp terraces consist of fluvial deposits of the James River.

Industry

The City of Richmond began as a commercial center nearly 400 years ago when it was one of the United States' first colonies. In those four centuries, Richmond has evolved from a trading post to a capital city to an industrial center to a financial center and now to the United States' newest high-technology location *(3)*.

Richmond is a stronghold of financial power. The Fifth Federal Reserve District Bank, SunTrust, and Capital One as well as numerous securities and investment firms, including the headquarters for First Union Securities, have their major operations in the area. Richmond is also home to outstanding law, advertising, public relations, and accounting firms with nationwide recognition that can serve every business need.

Richmond is home to the Virginia Biotechnology Research Park, which will ultimately have 34 acres of state-of-the-art office and research space in the downtown area. The Biotechnology Park is a joint initiative with the city, the State, and the renowned Virginia Commonwealth University's Medical College of Virginia. Whitehall-Robins also has its worldwide research laboratories in Richmond.

The City of Richmond is located near one of the United States' newest semiconductor plants, the $1.5 billion White Oak Semiconductor facility. The City is also home to the new Virginia Commonwealth University School of Engineering.

Dating back to the 1700's, Richmond has a long and successful history as a leading industrial and manufacturing locale. The City continues that tradition with companies like Phillip Morris, which began in Richmond, and Westvaco Corporation, which is headquartered there.

Richmond's business advantages are numerous. Richmond is the seat of government power, with many Federal and State government agencies located downtown as well as the seat of the nation's second largest court, the U.S. Fourth Circuit Court of Appeals *(3)*.

Transportation

The City of Richmond is located halfway between Boston and Atlanta. Half of the country's population is located within a day's drive.

Land, sea, rail, and air transportation is available in the City of Richmond. The city is served by I-85, I-95, I-64, and I-295. Richmond International Airport provides daily non-stop flights to many major cities. The Port of Richmond, the westernmost shipping port with direct access to the Atlantic Ocean, handles ships up to 559 feet in length.

Water Resources

The City of Richmond has several freshwater streams. The lower part of the James River is tidal, and the water is brackish.

Ground water is generally of good quality. Shallow wells in the Piedmont Plateau yield adequate water for individual homes, except during periods of drought. Wells drilled deeply in the granite usually yield limited quantities of water. Water supply in the Coastal Plain is usually abundant, but it is limited in some places. The underlying sand and gravel strata provide ample water for individual homes at a depth of 25 to 40 feet.

The James River supplies water for much of the city.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at the Richmond International Airport, Virginia, in the period 1971 to 2000. Table 2 shows probable data of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 39.1 degrees F and the average daily minimum temperature is 29.0 degrees. The lowest temperature on record, which occurred on February 10, 1979, is –8 degrees. In summer, the average temperature is 76.4 degrees and the average daily maximum temperature is 86.9 degrees. The highest recorded temperature, which occurred on July 6, 1977, is 105 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 average annual precipitation is about 43.4 inches. Of this, 23.5 inches, or about 54 percent falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 13.3 inches. The heaviest 1-day rainfall during the period of record was 4.5 inches on September 16, 1999.

The average seasonal snowfall is 14 inches. The greatest snowfall at any one time during the period of record was 22 inches in 1983.

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.

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*. Except for differences in texture of the surface layer, 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, Appling sandy loam, 12 to 20 percent slopes, is a phase of the Appling 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. Faceville-Gritney-Urban land complex, 2 to 6 percent slopes, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Udorthents, loamy, borrow pits, 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—Abell sandy loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Gently sloping drainageways and small depressions

Map Unit Composition

Abell and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

Typical Profile

Surface layer:
0 to 10 inches—dark yellowish brown sandy loam

Subsurface layer:
10 to 15 inches—brown sandy loam

Subsoil:
15 to 20 inches—yellowish brown sandy clay loam
20 to 30 inches—yellowish brown sandy clay loam; strong brown masses of oxidized iron
30 to 40 inches—yellowish brown, strong brown, and light yellowish brown clay loam
40 to 60 inches—brownish yellow, yellowish brown, strong brown, yellowish red, and gray clay

Minor Components

- Colfax soils
- Worsham soils
- Appling soils

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: Moderately well drained
Depth to seasonal water saturation: About 24 to 42 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None

Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Colluvium over residuum weathered from granite and gneiss

Use and Management Considerations

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.
- Frost action may damage the root systems of plants.

Woodland

Suitability: Well suited to loblolly pine and northern red oak and 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.
- This soil is well suited to haul roads and log landings.
- This soil is well suited to equipment operations.

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 excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.

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

2B—Appling-Urban land complex, gravelly phase, 2 to 6 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Gently sloping, broad convex ridges

Map Unit Composition

Note: This Appling soil and Urban land occur as areas so closely intermingled that

they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Appling and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 20 to 85 percent

Typical Profile

Appling

Surface layer:
0 to 4 inches—light olive brown gravelly sandy loam

Subsurface layer:
4 to 10 inches—light yellowish brown sandy loam

Subsoil:
10 to 13 inches—yellowish brown clay loam
13 to 24 inches—strong brown clay loam
24 to 30 inches—strong brown clay
30 to 42 inches—strong brown, yellowish red, and red clay
42 to 60 inches—red clay loam

Substratum:
60 to 72 inches—yellowish red and strong brown sandy loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Varina soils
- Kempsville soils
- Bourne soils
- Colfax soils
- Abell soils

Properties and Qualities of the Appling Soil

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: Low
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- This Appling soil is well suited to pasture.

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

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.
- This soil is well suited to septic tank absorption fields.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Appling—2e; Urban land—none assigned
Virginia soil management group: Appling—V; Urban land—none assigned
Hydric soils: No

3B—Appling-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Gently sloping, broad convex ridges

Map Unit Composition

Note: This Appling soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Appling and similar soils: Typically 70 percent, ranging from about 65 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Appling

Surface layer:
0 to 4 inches—light olive brown sandy loam

Subsurface layer:
4 to 10 inches—light yellowish brown sandy loam

Subsoil:
10 to 13 inches—yellowish brown clay loam
13 to 24 inches—strong brown clay loam
24 to 30 inches—strong brown clay
30 to 42 inches—strong brown, yellowish red, and red clay
42 to 60 inches—red clay loam

Substratum:
60 to 72 inches—yellowish red and strong brown sandy loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Abell soils
- Bourne soils
- Colfax soils
- Kempsville soils
- Varina soils

Properties and Qualities of the Appling Soil

Available water capacity: Moderate (about 8.9 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: Low
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- This Appling soil is well suited to pasture.

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

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.
- This soil is well suited to septic tank absorption fields.

Local roads and streets

- The low strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Appling—2e; Urban land—none assigned
Virginia soil management group: Appling—V; Urban land—none assigned
Hydric soils: No

3C—Appling-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Strongly sloping, narrow, winding ridges and short to moderately long, complex side slopes

Map Unit Composition

Note: This Appling soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Appling and similar soils: Typically 70 percent, ranging from about 65 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Appling

Surface layer:
0 to 4 inches—light olive brown sandy loam

Subsurface layer:
4 to 10 inches—light yellowish brown sandy loam

Subsoil:
10 to 13 inches—yellowish brown clay loam
13 to 24 inches—strong brown clay loam
24 to 30 inches—strong brown clay
30 to 42 inches—strong brown, yellowish red, and red clay
42 to 60 inches—red clay loam

Substratum:
60 to 72 inches—yellowish red and strong brown sandy loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Abell soils
- Bourne soils
- Colfax soils
- Kempsville soils
- Varina soils

Properties and Qualities of the Appling Soil

Available water capacity: Moderate (about 8.9 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: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- This Appling soil is well suited to pasture.

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 excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to 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: Appling—3e; Urban land—none assigned
Virginia soil management group: Appling—V; Urban land—none assigned
Hydric soils: No

3D—Appling sandy loam, 12 to 20 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Moderately steep, short to moderately long, complex side slopes

Map Unit Composition

Appling and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

Typical Profile

Surface layer:
0 to 4 inches—light olive brown sandy loam

Subsurface layer:
4 to 10 inches—light yellowish brown sandy loam

Subsoil:
10 to 13 inches—yellowish brown clay loam
13 to 24 inches—strong brown clay loam
24 to 30 inches—strong brown clay
30 to 42 inches—strong brown, yellowish red, and red clay
42 to 60 inches—red clay loam

Substratum:
60 to 72 inches—yellowish red and strong brown sandy loam

Minor Components

- Wateree soils
- Grover soils
- Abell soils
- Colfax soils
- Kempsville soils

Soil Properties and Qualities

Available water capacity: Moderate (about 8.9 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: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

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 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.
- 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.
- 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 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 may cause structural damage to 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

4C—Appling-Wedowee-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Strongly sloping, narrow, winding ridges and short, complex side slopes

Map Unit Composition

Note: These Appling and Wedowee soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Appling and similar soils: Typically 45 percent, ranging from about 15 to 90 percent
Wedowee and similar soils: Typically 40 percent, ranging from about 15 to 90 percent
Urban land: Typically 10 percent, ranging from about 10 to 80 percent

Typical Profile

Appling

Surface layer:
0 to 4 inches—light olive brown sandy loam

Subsurface layer:
4 to 10 inches—light yellowish brown sandy loam

Subsoil:
10 to 13 inches—yellowish brown clay loam
13 to 24 inches—strong brown clay loam
24 to 30 inches—strong brown clay
30 to 42 inches—strong brown, yellowish red, and red clay
42 to 60 inches—red clay loam

Substratum:
60 to 72 inches—yellowish red and strong brown sandy loam

Wedowee

Surface layer:
0 to 2 inches—gray fine sandy loam
2 to 4 inches—reddish brown fine sandy loam

Subsurface layer:
4 to 10 inches—light reddish brown fine sandy loam

Subsoil:
10 to 17 inches—yellowish red clay loam
17 to 33 inches—yellowish red clay loam

Substratum:
33 to 60 inches—yellowish red loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Bourne soils
- Grover soils
- Abell soils

Properties and Qualities of the Appling and Wedowee Soils

Available water capacity: Moderate (about 8.9 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: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- These Appling and Wedowee soils are well suited to pasture.

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 excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength may cause structural damage to 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: Appling and Wedowee—3e; Urban land—none assigned
Virginia soil management group: Appling and Wedowee—V; Urban land—none assigned
Hydric soils: No

4D—Appling-Wedowee complex, 12 to 20 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Moderately steep, short, complex side slopes

Map Unit Composition

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

Appling and similar soils: Typically 45 percent, ranging from about 15 to 90 percent
Wedowee and similar soils: Typically 40 percent, ranging from about 20 to 90 percent

Typical Profile

Appling

Surface layer:
0 to 4 inches—light olive brown sandy loam

Subsurface layer:
4 to 10 inches—light yellowish brown sandy loam

Subsoil:
10 to 13 inches—yellowish brown clay loam
13 to 24 inches—strong brown clay loam
24 to 30 inches—strong brown clay
30 to 42 inches—strong brown, yellowish red, and red clay
42 to 60 inches—red clay loam

Substratum:
60 to 72 inches—yellowish red and strong brown sandy loam

Wedowee

Surface layer:
0 to 2 inches—gray fine sandy loam
2 to 4 inches—reddish brown fine sandy loam

Subsurface layer:
4 to 10 inches—light reddish brown fine sandy loam

Subsoil:
10 to 17 inches—yellowish red clay loam
17 to 33 inches—yellowish red clay loam

Substratum:
33 to 60 inches—yellowish red loam

Minor Components

- Grover soils
- Wateree soils

Soil Properties and Qualities

Available water capacity: Moderate (about 8.9 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: Medium
Surface fragments: None
Parent material: Residuum weathered from granite and gneiss

Use and Management Considerations

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 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.
- 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.
- 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 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 may cause structural damage to 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: Appling—4e; Wedowee—6e
Virginia soil management group: V
Hydric soils: No

5A—Atlee-Urban land complex, 0 to 4 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Nearly level or gently sloping, broad, slightly convex rises

Map Unit Composition

Note: This Atlee soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Atlee and similar soils: Typically 70 percent, ranging from about 60 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 90 percent

Typical Profile

Atlee

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

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

Subsoil:
11 to 14 inches—light yellowish brown loam
14 to 20 inches—yellowish brown clay loam
20 to 29 inches—light yellowish brown, strong brown, and yellowish brown clay loam
29 to 36 inches—yellowish brown, strong brown, olive, and light brownish gray clay loam
36 to 150 inches—yellowish red, light brownish gray, and pale brown clay loam

Substratum:
150 to 163 inches—yellowish red, light brownish gray, and pale brown sandy clay loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Faceville soils
- Gritney soils

Properties and Qualities of the Atlee Soil

Available water capacity: Very low (about 2.2 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: 20 to 30 inches to fragipan
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Low

Surface fragments: None
Parent material: Fluviomarine deposits

Use and Management Considerations

Pastureland

- This Atlee soil is well suited to pasture.

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 is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Atlee—2w; Urban land—none assigned
Virginia soil management group: Atlee—Q; Urban land—none assigned
Hydric soils: No

6A—Augusta fine sandy loam, high terrace, 0 to 4 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain high river terraces
Position on the landform: Nearly level or gently sloping treads

Map Unit Composition

Augusta and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

Typical Profile

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

Subsurface layer:
1 to 10 inches—brown fine sandy loam

Subsoil:
10 to 14 inches—yellowish brown sandy clay loam
14 to 26 inches—dark yellowish brown, strong brown, and gray clay loam
26 to 35 inches—gray clay loam; yellowish brown and strong brown masses of oxidized iron

35 to 49 inches—gray sandy clay loam; yellowish brown and strong brown masses of oxidized iron

Substratum:
49 to 72 inches—gray sandy clay loam; yellowish brown and strong brown masses of oxidized iron
72 to 90 inches—gray gravelly sandy loam

Minor Components

- Varina soils
- Turbeville soils
- Masada soils
- Dogue soils
- Bourne soils

Soil Properties and Qualities

Available water capacity: Moderate (about 8.8 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: Somewhat poorly drained
Depth to seasonal water saturation: About 12 to 24 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Loamy fluviomarine deposits

Use and Management Considerations

Pastureland

Suitability: Moderately suited
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Frost action may damage the root systems of plants.

Woodland

Suitability: Well suited to loblolly pine and 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 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.

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: Prime farmland if drained
Land capability class: 3w
Virginia soil management group: Z
Hydric soil: No

7B—Bourne-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Gently sloping, broad, slightly convex rises and narrow, concave toeslopes

Map Unit Composition

Note: This Bourne soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Bourne and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Bourne

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

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

Subsoil:
11 to 15 inches—yellowish brown sandy clay loam
15 to 22 inches—yellowish brown sandy clay loam; pale brown masses of oxidized iron
22 to 44 inches—yellowish brown fine sandy loam; light gray iron depletions and pale brown masses of oxidized iron

Substratum:
44 to 72 inches—brownish yellow, red, and gray clay

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Dunbar soils
- Augusta soils
- Kempsville soils
- Varina soils
- Abell soils

Properties and Qualities of the Bourne Soil

Available water capacity: Very low (about 3.0 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: 18 to 35 inches to fragipan
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: Low
Runoff class: Low
Surface fragments: None
Parent material: Loamy fluviomarine deposits

Use and Management Considerations

Pastureland

- This Bourne soil is moderately suited to pasture.

Building sites

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Bourne—2e; Urban land—none assigned
Virginia soil management group: Bourne—BB; Urban land—none assigned
Hydric soils: No

7C—Bourne-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Strongly sloping, moderately long to short, slightly convex and concave side slopes

Map Unit Composition

Note: This Bourne soil and Urban land occur as areas so closely intermingled that

they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Bourne and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Bourne

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

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

Subsoil:
11 to 15 inches—yellowish brown sandy clay loam
15 to 22 inches—yellowish brown sandy clay loam; pale brown masses of oxidized iron
22 to 44 inches—yellowish brown fine sandy loam; light gray iron depletions and pale brown masses of oxidized iron

Substratum:
44 to 72 inches—brownish yellow, red, and gray clay

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Orangeburg soils
- Faceville soils
- Colfax soils

Properties and Qualities of the Bourne Soil

Available water capacity: Very low (about 3.0 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: 18 to 35 inches to fragipan
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: Low
Runoff class: Medium
Surface fragments: None
Parent material: Loamy fluviomarine deposits

Use and Management Considerations

Pastureland

- This Bourne soil is moderately suited to pasture.

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Bourne—3e; Urban land—none assigned
Virginia soil management group: Bourne—BB; Urban land—none assigned
Hydric soils: No

8C—Cecil-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Strongly sloping, narrow, convex ridges and moderately long, complex side slopes

Map Unit Composition

Note: This Cecil soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Cecil and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Cecil

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

Subsurface layer:
1 to 9 inches—yellowish brown fine sandy loam

Subsoil:
9 to 14 inches—yellowish red sandy clay loam
14 to 26 inches—red clay; few yellowish brown mottles
26 to 39 inches—red clay; few dark yellowish brown mottles
39 to 63 inches—red clay; few yellowish brown and few yellowish red mottles

Substratum:
63 to 83 inches—red, strong brown, and white loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Appling soils
- Wedowee soils
- Abell soils
- Colfax soils

Properties and Qualities of the Cecil Soil

Available water capacity: Moderate (about 8.3 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: 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: Clayey residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- This Cecil soil is well suited to pasture.

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 may cause structural damage to 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: Cecil—3e; Urban land—none assigned
Virginia soil management group: Cecil—X; Urban land—none assigned
Hydric soils: No

8D—Cecil fine sandy loam, 12 to 20 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands

Position on the landform: Moderately steep, short, convex side slopes along drainageways

Map Unit Composition

Cecil and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

Typical Profile

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

Subsurface layer:
1 to 9 inches—yellowish brown fine sandy loam

Subsoil:
9 to 14 inches—yellowish red sandy clay loam
14 to 26 inches—red clay; few yellowish brown mottles
26 to 39 inches—red clay; few dark yellowish brown mottles
39 to 63 inches—red clay; few yellowish brown and few yellowish red mottles

Substratum:
63 to 83 inches—red, strong brown, and white loam

Minor Components

- Wateree soils
- Grover soils
- Wedowee soils

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 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: 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: Clayey residuum weathered from granite and gneiss

Use and Management Considerations

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 northern red oak and 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.
- 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.
- 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.
- 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 may cause structural damage to 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

9A—Chastain loam, 0 to 3 percent slopes, frequently flooded

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain flood plains
Position on the landform: Nearly level, low-lying flood plains along larger streams

Map Unit Composition

Chastain and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown loam
2 to 13 inches—dark gray loam; reddish brown and brown masses of oxidized iron

Subsoil:
13 to 24 inches—dark gray clay loam; reddish brown masses of oxidized iron
24 to 36 inches—dark gray clay loam; reddish brown and strong brown masses of oxidized iron

Substratum:
36 to 80 inches—dark gray sand; strong brown masses of oxidized iron

Minor Components

- Nawney soils
- Johnston soils
- Chewacla soils

Soil Properties and Qualities

Available water capacity: Moderate (about 6.3 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: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Loamy and clayey alluvium

Use and Management Considerations

Pastureland

Suitability: Moderately suited
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Frost action may damage the root systems of plants.

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 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 is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland

Land capability class: 4w
Virginia soil management group: LL
Hydric soil: Yes

10A—Chewacla loam, 0 to 3 percent slopes, frequently flooded

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Fall Line flood plains
Position on the landform: Nearly level, low-lying flood plains

Map Unit Composition

Chewacla and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

Typical Profile

Surface layer:
0 to 5 inches—dark brown loam

Subsoil:
5 to 13 inches—brown clay loam
13 to 26 inches—brown, pale brown, and light brownish gray sandy clay loam
26 to 40 inches—brown, light brownish gray, and weak red clay loam

Substratum:
40 to 60 inches—yellowish brown, light brownish gray, and black silty clay loam

Minor Components

- Chastain soils
- Johnston soils
- Toccoa soils

Soil Properties and Qualities

Available water capacity: High (about 9.3 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: 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: Loamy alluvium

Use and Management Considerations

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.
- Frost action may damage the root systems of plants.

Woodland

Suitability: Well suited to loblolly pine and 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.

Interpretive Groups

Prime farmland: Prime farmland if protected from flooding or not frequently flooded during the growing season
Land capability class: 3w
Virginia soil management group: I
Hydric soil: No

11B—Colfax-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Gently sloping, slightly concave areas at the heads of drainageways, on concave toeslopes, and in saddles

Map Unit Composition

Note: This Colfax soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Colfax and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Colfax

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

Subsurface layer:
1 to 8 inches—pale brown fine sandy loam; brownish yellow masses of oxidized iron

Subsoil:
8 to 13 inches—brownish yellow and pale brown sandy clay loam
13 to 24 inches—light yellowish brown and pale brown sandy clay loam; light brownish gray iron depletions
24 to 40 inches—yellowish brown, light brownish gray, and pale brown sandy clay loam
40 to 60 inches—light gray clay; olive yellow, strong brown, and yellowish red masses of oxidized iron

Substratum:
60 to 86 inches—light gray clay; strong brown and yellowish red masses of oxidized iron
86 to 117 inches—white sandy loam; yellowish brown masses of oxidized iron

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Worsham soils
- Durham soils
- Abell soils
- Bourne soils

Properties and Qualities of the Colfax Soil

Available water capacity: Low (about 3.4 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: Low
Surface fragments: None
Parent material: Loamy colluvium over residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- This Colfax soil is well suited to pasture.

Building sites

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

- 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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Colfax—3w; Urban land—none assigned
Virginia soil management group: Colfax—BB; Urban land—none assigned
Hydric soils: No

12C—Colfax-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Strongly sloping, concave toeslopes and saddles

Map Unit Composition

Note: This Colfax soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Colfax and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Colfax

Surface layer:
0 to 10 inches—grayish brown sandy loam

Subsoil:
10 to 16 inches—light yellowish brown sandy clay loam; light olive brown masses of oxidized iron and light brownish gray iron depletions
16 to 21 inches—light yellowish brown sandy clay loam; yellowish brown and light olive brown masses of oxidized iron
21 to 52 inches—gray, yellow, and light olive brown sandy clay loam
52 to 73 inches—gray clay; yellowish brown and red masses of oxidized iron

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Worsham soils
- Abell soils

- Wedowee soils
- Bourne soils

Properties and Qualities of the Colfax Soil

Available water capacity: Very low (about 2.1 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: Medium
Surface fragments: None
Parent material: Loamy colluvium over residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- This Colfax soil is moderately suited to pasture.

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Colfax—3e; Urban land—none assigned
Virginia soil management group: Colfax—BB; Urban land—none assigned
Hydric soils: No

13A—Dogue loam, 0 to 4 percent slopes, rarely flooded

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain low river terraces
Position on the landform: Gently sloping, slightly concave depressions on terraces

Map Unit Composition

Dogue and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

Typical Profile

Surface layer:
0 to 9 inches—brown loam

Subsoil:
9 to 12 inches—yellowish brown clay loam
12 to 28 inches—yellowish brown clay
28 to 42 inches—yellowish brown clay; strong brown and pale brown masses of oxidized iron and gray iron depletions
42 to 62 inches—yellowish brown clay loam; olive gray iron depletions and pale brown masses of oxidized iron

Substratum:
62 to 110 inches—yellowish brown loam; pale brown masses of oxidized iron and olive gray iron depletions

Minor Components

- Augusta soils
- Tetotum soils
- Colfax soils

Soil Properties and Qualities

Available water capacity: Moderate (about 8.6 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: Clayey fluviomarine deposits

Use and Management Considerations

Pastureland

Suitability: Well suited
- Frost action may damage the root systems of plants.

Woodland

Suitability: Well suited to loblolly pine and 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 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.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of 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 the 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

14A—Dunbar fine sandy loam, 0 to 4 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Gently sloping, broad rises and slightly concave positions around wet areas

Map Unit Composition

Dunbar and similar soils: Typically 85 percent, ranging from about 65 to 95 percent

Typical Profile

Surface layer:
0 to 12 inches—dark grayish brown fine sandy loam

Subsoil:
12 to 15 inches—light olive brown sandy clay loam
15 to 20 inches—light olive brown sandy clay loam; yellowish brown masses of oxidized iron
20 to 31 inches—light olive brown clay; weak red iron depletions and strong brown and yellowish brown masses of oxidized iron
31 to 44 inches—gray clay; strong brown masses of oxidized iron
44 to 72 inches—gray sandy clay; yellowish brown masses of oxidized iron

Minor Components

- Pouncey soils
- Tetotum soils
- Colfax soils

Soil Properties and Qualities

Available water capacity: High (about 9.3 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: Somewhat poorly drained
Depth to seasonal water saturation: About 12 to 30 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Low
Surface fragments: None
Parent material: Clayey fluviomarine deposits

Use and Management Considerations

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: Well suited to loblolly pine and 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 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 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 the soil as base material for local roads and streets is restricted.
- The low strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: 2w
Virginia soil management group: Z
Hydric soil: No

15B—Durham-Bourne-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Gently sloping, broad, slightly convex ridges and saddle positions

Map Unit Composition

Note: These Durham and Bourne soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Durham and similar soils: Typically 43 percent, ranging from about 30 to 70 percent
Bourne and similar soils: Typically 42 percent, ranging from about 30 to 70 percent
Urban land: Typically 15 percent, ranging from about 15 to 80 percent

Typical Profile

Durham

Surface layer:
0 to 2 inches—light brownish gray fine sandy loam

Subsurface layer:
2 to 13 inches—light yellowish brown fine sandy loam
13 to 16 inches—light olive brown fine sandy loam

Subsoil:
16 to 20 inches—yellowish brown sandy clay loam
20 to 28 inches—yellowish brown sandy clay loam; light reddish brown and strong brown mottles
28 to 39 inches—yellowish brown, strong brown, yellowish red, and pale brown sandy clay loam
39 to 60 inches—yellowish brown, gray, and yellowish red sandy clay loam

Substratum:
60 to 84 inches—red, gray, and pale brown clay

Bourne

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

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

Subsoil:
11 to 15 inches—yellowish brown sandy clay loam
15 to 22 inches—yellowish brown sandy clay loam; pale brown masses of oxidized iron

22 to 44 inches—yellowish brown fine sandy loam; light gray iron depletions and pale brown masses of oxidized iron

Substratum:
44 to 72 inches—brownish yellow, red, and gray clay

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Abell soils
- Colfax soils
- Tetotum soils

Properties and Qualities of the Durham and Bourne Soils

Available water capacity: Durham—moderate (about 7.6 inches); Bourne—very low (about 3.0 inches)
Slowest saturated hydraulic conductivity: Durham—moderately high (about 0.20 in/hr); Bourne—moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: Durham—more than 60 inches; Bourne—18 to 35 inches to fragipan
Drainage class: Durham—well drained; Bourne—moderately well drained
Depth to seasonal water saturation: Durham—more than 6 feet; Bourne—about 12 to 30 inches
Water table kind: Durham—none; Bourne—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Durham—loamy residuum weathered from granite and gneiss; Bourne—loamy fluviomarine deposits

Use and Management Considerations

Pastureland

- These Durham and Bourne soils are moderately suited to pasture.

Building sites

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Durham and Bourne—2e; Urban land—none assigned
Virginia soil management group: Durham—CC; Bourne—BB; Urban land—none assigned
Hydric soils: No

16B—Edgehill-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)
Landform: Piedmont and Coastal Plain river terraces
Position on the landform: Gently sloping, narrow, winding, convex ridges

Map Unit Composition

Note: This Edgehill soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Edgehill and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Edgehill

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

Subsurface layer:
2 to 17 inches—pale brown very gravelly fine sandy loam

Subsoil:
17 to 20 inches—strong brown very gravelly clay loam
20 to 41 inches—red gravelly clay

Substratum:
41 to 80 inches—strong brown, yellowish red, and yellowish brown very gravelly sandy loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Turbeville soils
- Wateree soils
- Appling soils
- Masada soils
- Abell soils

Properties and Qualities of the Edgehill Soil

Available water capacity: Low (about 5.6 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: Low
Surface fragments: None
Parent material: Gravelly clayey fluviomarine deposits

Use and Management Considerations

Pastureland

- This Edgehill soil is well suited to pasture.

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

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.
- This soil is well suited to septic tank absorption fields.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Edgehill—3s; Urban land—none assigned
Virginia soil management group: Edgehill—CC; Urban land—none assigned
Hydric soils: No

16C—Edgehill-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)
Landform: Piedmont and Coastal Plain river terraces
Position on the landform: Strongly sloping, narrow, winding, convex ridges and short, complex side slopes

Map Unit Composition

Note: This Edgehill soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Edgehill and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Edgehill

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

Subsurface layer:
2 to 17 inches—pale brown very gravelly fine sandy loam

Subsoil:
17 to 20 inches—strong brown very gravelly clay loam
20 to 41 inches—red gravelly clay

Substratum:
41 to 80 inches—strong brown, yellowish red, and yellowish brown very gravelly sandy loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Wateree soils
- Appling soils
- Masada soils
- Turbeville soils
- Abell soils

Properties and Qualities of the Edgehill Soil

Available water capacity: Low (about 5.6 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: Gravelly clayey fluviomarine deposits

Use and Management Considerations

Pastureland

- This Edgehill soil is well suited to pasture.

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 excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Edgehill—4e; Urban land—none assigned
Virginia soil management group: Edgehill—CC; Urban land—none assigned
Hydric soils: No

16D—Edgehill very gravelly fine sandy loam, 12 to 20 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)
Landform: Piedmont and Coastal Plain river terraces
Position on the landform: Moderately steep, short, complex side slopes along drainageways

Map Unit Composition

Edgehill and similar soils: Typically 85 percent, ranging from about 65 to 90 percent

Typical Profile

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

Subsurface layer:
2 to 17 inches—pale brown very gravelly fine sandy loam

Subsoil:
17 to 20 inches—strong brown very gravelly clay loam
20 to 41 inches—red gravelly clay

Substratum:
41 to 80 inches—strong brown, yellowish red, and yellowish brown very gravelly sandy loam

Minor Components

- Wedowee soils
- Wateree soils
- Appling soils
- Abell soils

Soil Properties and Qualities

Available water capacity: Low (about 5.6 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: Gravelly clayey fluviomarine deposits

Use and Management Considerations

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 northern red oak and poorly 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.
- 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.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- 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

- 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 the soil as base material for local roads and streets is restricted.
- 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: CC
Hydric soil: No

16E—Edgehill very gravelly fine sandy loam, 20 to 40 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)
Landform: Piedmont and Coastal Plain river terraces
Position on the landform: Steep, short, complex side slopes along drainageways and small streams

Map Unit Composition

Edgehill and similar soils: Typically 85 percent, ranging from about 65 to 90 percent

Typical Profile

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

Subsurface layer:
2 to 17 inches—pale brown very gravelly fine sandy loam

Subsoil:
17 to 20 inches—strong brown very gravelly clay loam
20 to 41 inches—red gravelly clay

Substratum:
41 to 80 inches—strong brown, yellowish red, and yellowish brown very gravelly sandy loam

Minor Components

- Wedowee soils
- Wateree soils
- Appling soils
- Abell soils

Soil Properties and Qualities

Available water capacity: Low (about 5.6 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: High
Surface fragments: None
Parent material: Gravelly clayey fluviomarine deposits

Use and Management Considerations

Pastureland

- This soil is unsuited to pasture.

Woodland

Suitability: Moderately suited to northern red oak and poorly 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.
- Because of the slope, the use of mechanical planting equipment is impractical.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- 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.

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 the soil as base material for local roads and streets is restricted.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: CC
Hydric soil: No

17B—Faceville-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Gently sloping, broad, convex rises

Map Unit Composition

Note: This Faceville soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Faceville and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Faceville

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

Subsurface layer:
1 to 6 inches—yellowish brown fine sandy loam
6 to 12 inches—light yellowish brown fine sandy loam; yellowish brown and pale brown masses of oxidized iron

Subsoil:
12 to 18 inches—yellowish red sandy clay loam
18 to 38 inches—red clay; strong brown masses of oxidized iron
38 to 100 inches—red clay

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Gritney soils
- Bourne soils
- Kempsville soils
- Norfolk soils
- Orangeburg soils

Properties and Qualities of the Faceville Soil

Available water capacity: Moderate (about 8.1 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: Low
Surface fragments: None
Parent material: Clayey fluviomarine deposits

Use and Management Considerations

Pastureland

- This Faceville soil is well suited to pasture.

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 may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Faceville—2e; Urban land—none assigned
Virginia soil management group: Faceville—R; Urban land—none assigned
Hydric soils: No

17C—Faceville-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Strongly sloping, moderately long, slightly convex side slopes

Map Unit Composition

Note: This Faceville soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Faceville and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Faceville

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

Subsurface layer:
1 to 6 inches—yellowish brown fine sandy loam
6 to 12 inches—light yellowish brown fine sandy loam; yellowish brown and pale brown masses of oxidized iron

Subsoil:
12 to 18 inches—yellowish red sandy clay loam
18 to 38 inches—red clay; strong brown masses of oxidized iron
38 to 100 inches—red clay

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Norfolk soils
- Kempsville soils
- Bourne soils
- Gritney soils
- Orangeburg soils

Properties and Qualities of the Faceville Soil

Available water capacity: Moderate (about 8.1 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: Clayey fluviomarine deposits

Use and Management Considerations

Pastureland

- This Faceville soil is well suited to pasture.

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 may cause structural damage to 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: Faceville—3e; Urban land—none assigned
Virginia soil management group: Faceville—R; Urban land—none assigned
Hydric soils: No

17D—Faceville fine sandy loam, 12 to 20 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Moderately steep, narrow and long, slightly convex side slopes

Map Unit Composition

Faceville and similar soils: Typically 85 percent, ranging from about 50 to 90 percent

Typical Profile

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

Subsurface layer:
1 to 6 inches—yellowish brown fine sandy loam
6 to 12 inches—light yellowish brown fine sandy loam; yellowish brown and pale brown masses of oxidized iron

Subsoil:
12 to 18 inches—yellowish red sandy clay loam

18 to 38 inches—red clay; strong brown masses of oxidized iron
38 to 100 inches—red clay

Minor Components

- Gritney soils
- Bourne soils
- Edgehill soils

Soil Properties and Qualities

Available water capacity: Moderate (about 8.1 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: Clayey fluviomarine deposits

Use and Management Considerations

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
- 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.
- 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.
- 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 may cause structural damage to 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: R
Hydric soil: No

18B—Faceville-Gritney-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Gently sloping, narrow, convex rises

Map Unit Composition

Note: These Faceville and Gritney soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Faceville and similar soils: Typically 40 percent, ranging from about 30 to 90 percent
Gritney and similar soils: Typically 35 percent, ranging from about 20 to 80 percent
Urban land: Typically 15 percent, ranging from about 15 to 80 percent

Typical Profile

Faceville

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

Subsurface layer:
1 to 6 inches—yellowish brown fine sandy loam
6 to 12 inches—light yellowish brown fine sandy loam; yellowish brown and pale brown masses of oxidized iron

Subsoil:
12 to 18 inches—yellowish red sandy clay loam
18 to 38 inches—red clay; strong brown masses of oxidized iron
38 to 100 inches—red clay

Gritney

Surface layer:
0 to 9 inches—brown fine sandy loam

Subsoil:
9 to 23 inches—yellowish red clay; red masses of oxidized iron
23 to 32 inches—yellowish red clay; gray iron depletions and red masses of oxidized iron
32 to 39 inches—yellowish red, red, gray, and light brownish gray clay
39 to 52 inches—strong brown, yellowish red, red, and gray sandy clay loam

Substratum:
52 to 59 inches—yellowish red and gray loamy sand
59 to 70 inches—yellowish red and gray clay

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Norfolk soils
- Orangeburg soils
- Kempsville soils
- Abell soils

Properties and Qualities of the Faceville and Gritney Soils

Available water capacity: Faceville—moderate (about 8.1 inches); Gritney—moderate (about 7.6 inches)
Slowest saturated hydraulic conductivity: Faceville—moderately high (about 0.57 in/hr); Gritney—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: Faceville—well drained; Gritney—moderately well drained
Depth to seasonal water saturation: Faceville—more than 6 feet; Gritney—18 to 30 inches
Water table kind: Faceville—none; Gritney—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Faceville—low; Gritney—moderate
Runoff class: Faceville—low; Gritney—very high
Surface fragments: None
Parent material: Clayey fluviomarine deposits

Use and Management Considerations

Pastureland

- These Faceville and Gritney soils are well suited to pasture.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel in the soil, sloughing is increased and cutbanks are more susceptible to caving.
- 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.

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 the 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: Faceville and Gritney—2e; Urban land—none assigned
Virginia soil management group: Faceville—R; Gritney—T; Urban land—none assigned
Hydric soils: No

18C—Faceville-Gritney-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Strongly sloping, short, slightly convex side slopes

Map Unit Composition

Note: These Faceville and Gritney soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Faceville and similar soils: Typically 40 percent, ranging from about 30 to 90 percent
Gritney and similar soils: Typically 35 percent, ranging from about 20 to 60 percent
Urban land: Typically 15 percent, ranging from about 15 to 80 percent

Typical Profile

Faceville

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

Subsurface layer:
1 to 6 inches—yellowish brown fine sandy loam
6 to 12 inches—light yellowish brown fine sandy loam; yellowish brown and pale brown masses of oxidized iron

Subsoil:
12 to 18 inches—yellowish red sandy clay loam
18 to 38 inches—red clay; strong brown masses of oxidized iron
38 to 100 inches—red clay

Gritney

Surface layer:
0 to 9 inches—brown fine sandy loam

Subsoil:
9 to 23 inches—yellowish red clay; red masses of oxidized iron
23 to 32 inches—yellowish red clay; gray iron depletions and red masses of oxidized iron
32 to 39 inches—yellowish red, red, gray, and light brownish gray clay
39 to 52 inches—strong brown, yellowish red, red, and gray sandy clay loam

Substratum:
52 to 59 inches—yellowish red and gray loamy sand
59 to 70 inches—yellowish red and gray clay

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Kempsville soils
- Orangeburg soils
- Bourne soils
- Appling soils
- Abell soils

Properties and Qualities of the Faceville and Gritney Soils

Available water capacity: Faceville—moderate (about 8.1 inches); Gritney—moderate (about 7.6 inches)
Slowest saturated hydraulic conductivity: Faceville—moderately high (about 0.57 in/hr); Gritney—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: Faceville—well drained; Gritney—moderately well drained
Depth to seasonal water saturation: Faceville—more than 6 feet; Gritney—18 to 30 inches
Water table kind: Faceville—none; Gritney—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Faceville—low; Gritney—moderate
Runoff class: Faceville—medium; Gritney—very high
Surface fragments: None
Parent material: Clayey fluviomarine deposits

Use and Management Considerations

Pastureland

- These Faceville and Gritney soils are well suited to pasture.

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 high content of sand or gravel in the soil, sloughing is increased and cutbanks are more susceptible to caving.
- 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 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 the 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: Faceville and Gritney—2e; Urban land—none assigned
Virginia soil management group: Faceville—R; Gritney—T; Urban land—none assigned
Hydric soils: No

19C—Grover-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Strongly sloping, broad to narrow, convex ridges

Map Unit Composition

Note: This Grover soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Grover and similar soils: Typically 70 percent, ranging from about 60 to 95 percent
Urban land: Typically 15 percent, ranging from about 15 to 80 percent

Typical Profile

Grover

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

Subsurface layer:
3 to 12 inches—light yellowish brown fine sandy loam

Subsoil:
12 to 16 inches—strong brown sandy clay loam
16 to 36 inches—yellowish red clay loam

Substratum:
36 to 60 inches—yellowish red, red, and brownish yellow sandy clay loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Colfax soils
- Appling soils
- Wateree soils
- Wedowee soils
- Abell soils

Properties and Qualities of the Grover Soil

Available water capacity: Moderate (about 7.3 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: 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: Loamy residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- This Grover soil is well suited to pasture.

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

- The low strength may cause structural damage to 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: Grover—3e; Urban land—none assigned
Virginia soil management group: Grover—X; Urban land—none assigned
Hydric soils: No

19D—Grover fine sandy loam, 12 to 20 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Moderately steep, short, convex side slopes

Map Unit Composition

Grover and similar soils: Typically 85 percent, ranging from about 50 to 90 percent

Typical Profile

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

Subsurface layer:
3 to 12 inches—light yellowish brown fine sandy loam

Subsoil:
12 to 16 inches—strong brown sandy clay loam
16 to 36 inches—yellowish red clay loam

Substratum:
36 to 60 inches—yellowish red, red, and brownish yellow sandy clay loam

Minor Components

- Wedowee soils
- Wateree soils

- Appling soils
- Abell soils

Soil Properties and Qualities

Available water capacity: Moderate (about 7.3 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: 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: Loamy residuum weathered from granite and gneiss

Use and Management Considerations

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
- 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.
- 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

- The low strength may cause structural damage to 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

19E—Grover fine sandy loam, 20 to 35 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep, short, convex side slopes along drainageways

Map Unit Composition

Grover and similar soils: Typically 85 percent, ranging from about 50 to 90 percent

Typical Profile

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

Subsurface layer:
3 to 12 inches—light yellowish brown fine sandy loam

Subsoil:
12 to 16 inches—strong brown sandy clay loam
16 to 36 inches—yellowish red clay loam

Substratum:
36 to 60 inches—yellowish red, red, and brownish yellow sandy clay loam

Minor Components

- Wedowee soils
- Wateree soils
- Appling soils
- Abell soils

Soil Properties and Qualities

Available water capacity: Moderate (about 7.3 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: 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: Loamy residuum weathered from granite and gneiss

Use and Management Considerations

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
- 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.
- 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.
- 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

- The low strength may cause structural damage to 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

20C—Grover-Wateree-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Strongly sloping, short to moderately long, convex side slopes

Map Unit Composition

Note: These Grover and Wateree soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Grover and similar soils: Typically 40 percent, ranging from about 30 to 90 percent
Wateree and similar soils: Typically 35 percent, ranging from about 15 to 50 percent
Urban land: Typically 15 percent, ranging from about 15 to 80 percent

Typical Profile

Grover

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

Subsurface layer:
3 to 12 inches—light yellowish brown fine sandy loam

Subsoil:
12 to 16 inches—strong brown sandy clay loam
16 to 36 inches—yellowish red clay loam

Substratum:
36 to 60 inches—yellowish red, red, and brownish yellow sandy clay loam

Wateree

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

Subsurface layer:
2 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 22 inches—yellowish brown sandy loam; common yellowish brown and common yellowish red mottles

Soft bedrock:
22 to 80 inches—weathered bedrock

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Colfax soils
- Wedowee soils
- Cecil soils
- Appling soils

Properties and Qualities of the Grover and Wateree Soils

Available water capacity: Grover—moderate (about 7.3 inches); Wateree—very low (about 2.4 inches)
Slowest saturated hydraulic conductivity: Grover—moderately high (about 0.57 in/hr); Wateree—high (about 5.95 in/hr)
Depth class: Grover—very deep (more than 60 inches); Wateree—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Grover—more than 60 inches; Wateree—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: Grover—medium; Wateree—high
Surface fragments: None
Parent material: Loamy residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- These Grover and Wateree soils are well suited to pasture.

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: Grover—3e; Wateree—4e; Urban land—none assigned
Virginia soil management group: Grover—X; Wateree—FF; Urban land—none assigned
Hydric soils: No

21A—Johnston mucky loam, 0 to 3 percent slopes, frequently flooded

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain flood plains
Position on the landform: Nearly level, low-lying flood plains along streams

Map Unit Composition

Johnston and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

Typical Profile

Surface layer:
0 to 24 inches—black mucky loam

Substratum:
24 to 30 inches—dark gray sandy loam
30 to 64 inches—dark grayish brown loamy sand

Minor Components

- Chastain soils
- Tomotley soils
- Nawney soils

Soil Properties and Qualities

Available water capacity: Moderate (about 8.5 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: Very poorly drained
Depth to seasonal water saturation: About 0 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: Frequent

Depth of ponding: 0.0 to 1.0 foot
Shrink-swell potential: Low
Runoff class: Negligible
Surface fragments: None
Parent material: Loamy alluvium

Use and Management Considerations

Pastureland

- This soil is unsuited to pasture.

Woodland

Suitability: Well suited to loblolly pine and 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 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.

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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7w
Virginia soil management group: PP
Hydric soil: Yes

22B—Kempsville-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Gently sloping, broad, convex rises

Map Unit Composition

Note: This Kempsville soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Kempsville and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Kempsville

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

Subsurface layer:
3 to 19 inches—light reddish brown very fine sandy loam

Subsoil:
19 to 29 inches—yellowish brown sandy clay loam
29 to 37 inches—yellowish brown sandy clay loam; pale brown and strong brown mottles
37 to 65 inches—yellowish brown sandy clay; pale brown and strong brown mottles

Substratum:
65 to 150 inches—yellowish brown, gray, and red sandy clay loam; plinthite nodules
150 to 234 inches—red sand

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Norfolk soils
- Gritney soils
- Bourne soils
- Faceville soils
- Orangeburg soils

Properties and Qualities of the Kempsville Soil

Available water capacity: Moderate (about 8.2 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: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Surface fragments: None
Parent material: Loamy fluviomarine deposits

Use and Management Considerations

Pastureland

This Kempsville soil is well suited to pasture.

Building sites

- This soil is well suited to building sites.

Septic tank absorption fields

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

Local roads and streets

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Kempsville—2e; Urban land—none assigned
Virginia soil management group: Kempsville—S; Urban land—none assigned
Hydric soils: No

23B—Kempsville-Bourne-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Gently sloping, broad, convex rises

Map Unit Composition

Note: These Kempsville and Bourne soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Kempsville and similar soils: Typically 40 percent, ranging from about 30 to 90 percent
Bourne and similar soils: Typically 35 percent, ranging from about 25 to 85 percent
Urban land: Typically 15 percent, ranging from about 15 to 80 percent

Typical Profile

Kempsville

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

Subsurface layer:
3 to 19 inches—light reddish brown very fine sandy loam

Subsoil:
19 to 29 inches—yellowish brown sandy clay loam
29 to 37 inches—yellowish brown sandy clay loam; pale brown and strong brown mottles
37 to 65 inches—yellowish brown sandy clay; pale brown and strong brown mottles

Substratum:
65 to 150 inches—yellowish brown, gray, and red sandy clay loam; plinthite nodules
150 to 234 inches—red sand

Bourne

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

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

Subsoil:
11 to 15 inches—yellowish brown sandy clay loam
15 to 22 inches—yellowish brown sandy clay loam; pale brown masses of oxidized iron
22 to 44 inches—yellowish brown fine sandy loam; light gray iron depletions and pale brown masses of oxidized iron

Substratum:
44 to 72 inches—brownish yellow, red, and gray clay

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Norfolk soils
- Orangeburg soils
- Gritney soils
- Faceville soils
- Abell soils

Properties and Qualities of the Kempsville and Bourne Soils

Available water capacity: Kempsville—moderate (about 8.2 inches); Bourne—very low (about 3.0 inches)
Slowest saturated hydraulic conductivity: Kempsville—moderately high (about 0.20 in/hr); Bourne—moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: Kempsville—more than 60 inches; Bourne—18 to 35 inches to fragipan
Drainage class: Kempsville—well drained; Bourne—moderately well drained
Depth to seasonal water saturation: Kempsville—more than 6 feet; Bourne—about 12 to 30 inches
Water table kind: Kempsville—none; Bourne—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Loamy fluviomarine deposits

Use and Management Considerations

Pastureland

- These Kempsville and Bourne soils are well suited to pasture.

Building sites

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

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: Kempsville and Bourne—2e; Urban land—none assigned
Virginia soil management group: Kempsville—S; Bourne—BB; Urban land—none assigned
Hydric soils: No

24B—Masada-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont high river terraces
Position on the landform: Gently sloping, broad, convex rises

Map Unit Composition

Note: This Masada soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Masada and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Masada

Surface layer:
0 to 10 inches—dark grayish brown fine sandy loam

Subsoil:
10 to 18 inches—yellowish brown clay loam
18 to 23 inches—strong brown clay
23 to 55 inches—yellowish red clay; yellowish brown masses of oxidized iron
55 to 74 inches—yellowish red, red, strong brown, and yellowish brown clay

Substratum:
74 to 80 inches—light olive brown, yellowish brown, red, yellowish red, and strong brown gravelly clay loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Varina soils
- Turbeville soils

- Abell soils
- Cecil soils

Properties and Qualities of the Masada Soil

Available water capacity: Moderate (about 6.9 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: Low
Surface fragments: None
Parent material: Clayey alluvium

Use and Management Considerations

Pastureland

- This Masada soil is well suited to pasture.

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: Not prime farmland
Land capability class: Masada—2e; Urban land—none assigned
Virginia soil management group: Masada—L; Urban land—none assigned
Hydric soils: No

24C—Masada-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont high river terraces
Position on the landform: Strongly sloping, moderately long, slightly convex side slopes

Map Unit Composition

Note: This Masada soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Masada and similar soils: Typically 65 percent, ranging from about 50 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Masada

Surface layer:
0 to 10 inches—dark grayish brown fine sandy loam

Subsoil:
10 to 18 inches—yellowish brown clay loam
18 to 23 inches—strong brown clay
23 to 55 inches—yellowish red clay; yellowish brown masses of oxidized iron
55 to 74 inches—yellowish red, red, strong brown, and yellowish brown clay

Substratum:
74 to 80 inches—light olive brown, yellowish brown, red, yellowish red, and strong brown gravelly clay loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Turbeville soils
- Cecil soils
- Abell soils

Properties and Qualities of the Masada Soil

Available water capacity: Moderate (about 6.9 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: Medium
Surface fragments: None
Parent material: Clayey alluvium

Use and Management Considerations

Pastureland

- This Masada soil is well suited to pasture.

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: Masada—3e; Urban land—none assigned
Virginia soil management group: Masada—L; Urban land—none assigned
Hydric soils: No

25B—Masada-Urban land complex, gravelly phase, 2 to 6 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont high river terraces
Position on the landform: Gently sloping, broad, convex rises

Map Unit Composition

Note: This Masada soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Masada and similar soils: Typically 70 percent, ranging from about 60 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Masada

Surface layer:
0 to 10 inches—dark grayish brown gravelly fine sandy loam

Subsoil:
10 to 18 inches—yellowish brown clay loam
18 to 23 inches—strong brown clay
23 to 55 inches—yellowish red clay; yellowish brown masses of oxidized iron
55 to 74 inches—yellowish red, red, strong brown, and yellowish brown clay

Substratum:
74 to 80 inches—light olive brown, yellowish brown, red, yellowish red, and strong brown gravelly clay loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Varina soils
- Turbeville soils
- Edgehill soils
- Abell soils

Properties and Qualities of the Masada Soil

Available water capacity: Moderate (about 6.6 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: Low
Surface fragments: None
Parent material: Gravelly clayey alluvium

Use and Management Considerations

Pastureland

- This Masada soil is well suited to pasture.

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: Not prime farmland
Land capability class: Masada—2e; Urban land—none assigned
Virginia soil management group: Masada—L; Urban land—none assigned
Hydric soils: No

25C—Masada-Urban land complex, gravelly phase, 6 to 12 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont high river terraces
Position on the landform: Strongly sloping, moderately long, slightly convex side slopes

Map Unit Composition

Note: This Masada soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Masada and similar soils: Typically 70 percent, ranging from about 30 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Masada

Surface layer:
0 to 10 inches—dark grayish brown gravelly fine sandy loam

Subsoil:
10 to 18 inches—yellowish brown clay loam

18 to 23 inches—strong brown clay
23 to 55 inches—yellowish red clay; yellowish brown masses of oxidized iron
55 to 74 inches—yellowish red, red, strong brown, and yellowish brown clay

Substratum:
74 to 80 inches—light olive brown, yellowish brown, red, yellowish red, and strong brown gravelly clay loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Turbeville soils
- Edgehill soils
- Abell soils
- Cecil soils

Properties and Qualities of the Masada Soil

Available water capacity: Moderate (about 6.6 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: Gravelly clayey alluvium

Use and Management Considerations

Pastureland

- This Masada soil is well suited to pasture.

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: Masada—3e; Urban land—none assigned
Virginia soil management group: Masada—L; Urban land—none assigned
Hydric soils: No

26A—Nawney silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain flood plains
Position on the landform: Nearly level, low-lying flood plains along streams

Map Unit Composition

Nawney and similar soils: Typically 75 percent, ranging from about 65 to 90 percent

Typical Profile

Surface layer:
0 to 4 inches—dark gray silt loam

Substratum:
4 to 7 inches—dark grayish brown silt loam; dark yellowish brown masses of oxidized iron
7 to 17 inches—gray clay loam; strong brown masses of oxidized iron
17 to 36 inches—greenish gray silty clay loam; strong brown masses of oxidized iron
36 to 41 inches—greenish gray clay; dark yellowish brown masses of oxidized iron
41 to 65 inches—dark greenish gray stratified sand to silty clay loam

Minor Components

- Chastain soils
- Tomotley soils
- Johnston soils
- Abell soils
- Augusta soils

Soil Properties and Qualities

Available water capacity: High (about 9.3 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: Very poorly drained
Depth to seasonal water saturation: About 0 to 6 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Loamy alluvium

Use and Management Considerations

Pastureland

- This soil is unsuited to pasture.

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 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.
- Because of shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7w
Virginia soil management group: PP
Hydric soil: Yes

27B—Norfolk-Urban land complex, 0 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Nearly level or gently sloping, broad, slightly convex rises

Map Unit Composition

Note: This Norfolk soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Norfolk and similar soils: Typically 70 percent, ranging from about 65 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Norfolk

Surface layer:
0 to 1 inch—dark grayish brown fine sandy loam
1 to 8 inches—weak red fine sandy loam

Subsurface layer:
8 to 11 inches—brown fine sandy loam; yellowish brown and pale brown masses of oxidized iron

Subsoil:
11 to 31 inches—yellowish brown sandy clay loam; strong brown masses of oxidized iron
31 to 47 inches—yellowish brown clay; strong brown, yellowish red, and pale brown masses of oxidized iron
47 to 90 inches—red, strong brown, yellowish red, yellowish brown, and gray clay

Substratum:
90 to 107 inches—strong brown sandy loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Faceville soils
- Bourne soils
- Kempsville soils
- Tetotum soils
- Abell soils

Properties and Qualities of the Norfolk Soil

Available water capacity: Moderate (about 8.6 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: Well drained
Depth to seasonal water saturation: About 48 to 72 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Loamy fluviomarine deposits

Use and Management Considerations

Pastureland

- This Norfolk soil is well suited to pasture.

Building sites

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

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Norfolk—2e; Urban land—none assigned
Virginia soil management group: Norfolk—R; Urban land—none assigned
Hydric soils: No

28B—Orangeburg-Faceville-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Gently sloping, broad, convex rises

Map Unit Composition

Note: These Orangeburg and Faceville soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Orangeburg and similar soils: Typically 40 percent, ranging from about 30 to 70 percent
Faceville and similar soils: Typically 35 percent, ranging from about 20 to 50 percent
Urban land: Typically 15 percent, ranging from about 15 to 80 percent

Typical Profile

Orangeburg

Surface layer:
0 to 12 inches—grayish brown sandy loam

Subsurface layer:
12 to 16 inches—light olive brown sandy loam

Subsoil:
16 to 24 inches—yellowish brown clay loam
24 to 43 inches—strong brown sandy clay loam
43 to 67 inches—yellowish red sandy clay loam
67 to 100 inches—red, reddish brown, and yellowish brown sandy clay loam

Faceville

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

Subsurface layer:
1 to 6 inches—yellowish brown fine sandy loam
6 to 12 inches—light yellowish brown fine sandy loam; yellowish brown and pale brown masses of oxidized iron

Subsoil:
12 to 18 inches—yellowish red sandy clay loam

18 to 38 inches—red clay; strong brown masses of oxidized iron
38 to 100 inches—red clay

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Kempsville soils
- Norfolk soils
- Bourne soils
- Abell soils

Properties and Qualities of the Orangeburg and Faceville Soils

Available water capacity: Orangeburg—moderate (about 7.3 inches); Faceville—moderate (about 8.1 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: Low
Surface fragments: None
Parent material: Orangeburg—loamy fluviomarine deposits; Faceville—clayey fluviomarine deposits

Use and Management Considerations

Pastureland

- These Orangeburg and Faceville soils are well suited to pasture.

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

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.
- These soils are well suited to septic tank absorption fields.

Local roads and streets

- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Orangeburg and Faceville—2e; Urban land—none assigned
Virginia soil management group: Orangeburg and Faceville—R; Urban land—none assigned
Hydric soils: No

28C—Orangeburg-Faceville-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Strongly sloping, narrow, slightly convex side slopes

Map Unit Composition

Note: These Orangeburg and Faceville soils and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Orangeburg and similar soils: Typically 40 percent, ranging from about 30 to 70 percent
Faceville and similar soils: Typically 35 percent, ranging from about 20 to 50 percent
Urban land: Typically 15 percent, ranging from about 15 to 80 percent

Typical Profile

Orangeburg

Surface layer:
0 to 12 inches—grayish brown sandy loam

Subsurface layer:
12 to 16 inches—light olive brown sandy loam

Subsoil:
16 to 24 inches—yellowish brown clay loam
24 to 43 inches—strong brown sandy clay loam
43 to 67 inches—yellowish red sandy clay loam
67 to 100 inches—red, reddish brown, and yellowish brown sandy clay loam

Faceville

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

Subsurface layer:
1 to 6 inches—yellowish brown fine sandy loam
6 to 12 inches—light yellowish brown fine sandy loam; yellowish brown and pale brown masses of oxidized iron

Subsoil:
12 to 18 inches—yellowish red sandy clay loam
18 to 38 inches—red clay; strong brown masses of oxidized iron
38 to 100 inches—red clay

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Kempsville soils
- Norfolk soils
- Bourne soils
- Abell soils

Properties and Qualities of the Orangeburg and Faceville Soils

Available water capacity: Orangeburg—moderate (about 7.3 inches); Faceville—moderate (about 8.1 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: Low
Surface fragments: None
Parent material: Orangeburg—loamy fluviomarine deposits; Faceville—clayey fluviomarine deposits

Use and Management Considerations

Pastureland

- These Orangeburg and Faceville soils are well suited to pasture.

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 excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.
- 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: Orangeburg and Faceville—3e; Urban land—none assigned
Virginia soil management group: Orangeburg and Faceville—R; Urban land—none assigned
Hydric soils: No

29B—Pouncey-Urban land complex, 0 to 6 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Gently sloping, broad, slightly concave depressions

Map Unit Composition

Note: This Pouncey soil and Urban land occur as areas so closely intermingled that

they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Pouncey and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Pouncey

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

Subsurface layer:
6 to 18 inches—light gray fine sandy loam

Subsoil:
18 to 25 inches—dark grayish brown clay; dark gray iron depletions

Hard bedrock:
25 inches—sandstone

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Worsham soils
- Colfax soils
- Roanoke soils

Properties and Qualities of the Pouncey Soil

Available water capacity: Low (about 3.1 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Poorly drained
Depth to seasonal water saturation: About 4 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high
Surface fragments: None
Parent material: Clayey alluvium over sandstone bedrock

Use and Management Considerations

Pastureland

- This Pouncey soil is poorly suited to pasture.

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.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in 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 the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Pouncey—4w; Urban land—none assigned
Virginia soil management group: Pouncey—LL; Urban land—none assigned
Hydric soils: Yes

30A—Riverview silt loam, 0 to 3 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont flood plains
Position on the landform: Nearly level, broad terraces along the James River

Map Unit Composition

Riverview and similar soils: Typically 85 percent, ranging from about 75 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—dark brown silt loam
2 to 5 inches—brown silt loam

Subsoil:
5 to 27 inches—brown silt loam

Substratum:
27 to 56 inches—brown silt loam; light gray iron depletions and very pale brown and yellowish brown masses of oxidized iron
56 to 104 inches—very dark grayish brown silt loam; strong brown and brownish yellow masses of oxidized iron

Minor Components

- Chewacla soils
- Toccoa soils
- Roanoke soils

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: About 48 to 79 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Loamy alluvium

Use and Management Considerations

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.
- The low strength interferes with the construction of 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

- Flooding is a limitation affecting septic tank absorption fields.

Local roads and streets

- Flooding may damage local roads and streets.
- The low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland if protected from flooding or not frequently flooded during the growing season
Land capability class: 4w
Virginia soil management group: G
Hydric soil: No

31A—Roanoke silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)

Landform: Coastal Plain terraces and drainageways
Position on the landform: Nearly level, broad, slightly concave depressions

Map Unit Composition

Roanoke and similar soils: Typically 85 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 4 inches—very dark gray silt loam

Subsoil:
4 to 10 inches—dark gray clay; olive brown and light olive brown masses of oxidized iron
10 to 20 inches—dark gray clay loam; yellowish brown, strong brown, and yellowish red masses of oxidized iron
20 to 35 inches—gray clay loam; strong brown and yellowish red masses of oxidized iron
35 to 60 inches—gray clay; strong brown and yellowish red masses of oxidized iron

Substratum:
60 to 70 inches—gray gravelly clay; light olive brown masses of oxidized iron

Minor Components

- Varina soils
- Augusta soils
- Chewacla soils

Soil Properties and Qualities

Available water capacity: High (about 11.1 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: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Clayey alluvium

Use and Management Considerations

Pastureland

Suitability: Poorly suited
- 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.
- Frost action may damage the root systems of plants.

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 low strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

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

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 the 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

32A—Roanoke-Chewacla complex, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Fall Line flood plains
Position on the landform: Nearly level, narrow flood plains

Map Unit Composition

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

Roanoke and similar soils: Typically 40 percent, ranging from about 30 to 70 percent
Chewacla and similar soils: Typically 35 percent, ranging from about 20 to 60 percent

Typical Profile

Roanoke

Surface layer:
0 to 4 inches—very dark gray silt loam

Subsoil:
4 to 10 inches—dark gray clay; olive brown and light olive brown masses of oxidized iron
10 to 20 inches—dark gray clay loam; yellowish brown, strong brown, and yellowish red masses of oxidized iron

20 to 35 inches—gray clay loam; strong brown and yellowish red masses of oxidized iron
35 to 60 inches—gray clay; strong brown and yellowish red masses of oxidized iron

Substratum:
60 to 70 inches—gray gravelly clay; light olive brown masses of oxidized iron

Chewacla

Surface layer:
0 to 5 inches—dark brown loam

Subsoil:
5 to 13 inches—brown clay loam
13 to 26 inches—brown, pale brown, and light brownish gray sandy clay loam
26 to 40 inches—brown, light brownish gray, and weak red clay loam

Substratum:
40 to 60 inches—yellowish brown, light brownish gray, and black silty clay loam

Minor Components

- Augusta soils
- Varina soils
- Toccoa soils

Soil Properties and Qualities

Available water capacity: Roanoke—high (about 11.1 inches); Chewacla—high (about 9.3 inches)
Slowest saturated hydraulic conductivity: Roanoke—low (about 0.00 in/hr); Chewacla—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: Roanoke—poorly drained; Chewacla—somewhat poorly drained
Depth to seasonal water saturation: Roanoke—about 0 to 12 inches; Chewacla—about 18 to 30 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Roanoke—moderate; Chewacla—low
Runoff class: Very high
Surface fragments: None
Parent material: Clayey alluvium

Use and Management Considerations

Pastureland

Suitability: Poorly 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 soils are wet.
- Frost action may damage the root systems of plants.

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 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.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

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.
- Because of shrinking and swelling, the use of the 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: Roanoke—NN; Chewacla—I
Hydric soils: Roanoke—yes; Chewacla—no

33B—Slagle-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Gently sloping, broad, slightly convex rises

Map Unit Composition

Note: This Slagle soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Slagle and similar soils: Typically 70 percent, ranging from about 60 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Slagle

Surface layer:
0 to 10 inches—brown fine sandy loam
10 to 16 inches—light yellowish brown fine sandy loam

Subsoil:
16 to 21 inches—yellowish brown sandy clay loam; light yellowish brown masses of oxidized iron
21 to 28 inches—yellowish brown sandy clay loam; pale brown masses of oxidized iron and light brownish gray iron depletions
28 to 40 inches—yellowish brown sandy clay loam; yellowish red masses of oxidized iron and light brownish gray iron depletions
40 to 51 inches—light brownish gray, yellowish brown, pale brown, and strong brown sandy loam

Substratum:
51 to 65 inches—light brownish gray, yellowish brown, and strong brown fine sandy loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Norfolk soils
- Kempsville soils
- Roanoke soils
- Durham soils

Properties and Qualities of the Slagle Soil

Available water capacity: Moderate (about 8.1 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 36 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Low
Surface fragments: None
Parent material: Loamy fluviomarine deposits

Use and Management Considerations

Pastureland

- This Slagle soil is well suited to pasture.

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 excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of 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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Slagle—2e; Urban land—none assigned
Virginia soil management group: Slagle—K; Urban land—none assigned
Hydric soils: No

34B—Tetotum-Urban land complex, clayey substratum, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain terraces
Position on the landform: Gently sloping, small, slightly concave depressions and areas along small drainageways

Map Unit Composition

Note: This Tetotum soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Tetotum and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Tetotum

Surface layer:
0 to 4 inches—grayish brown loam

Subsurface layer:
4 to 11 inches—reddish brown loam; brownish yellow masses of oxidized iron

Subsoil:
11 to 14 inches—yellowish brown clay loam; brownish yellow masses of oxidized iron
14 to 22 inches—yellowish brown clay loam; brownish yellow and strong brown masses of oxidized iron
22 to 31 inches—yellowish brown, light gray, and strong brown clay loam
31 to 35 inches—yellowish brown, light brownish gray, and red sandy clay loam
35 to 54 inches—gray clay loam; red, brownish yellow, and strong brown masses of oxidized iron

Substratum:
54 to 70 inches—gray clay; red, brownish yellow, and strong brown masses of oxidized iron
70 to 80 inches—gray sandy clay loam; brownish yellow masses of oxidized iron

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Dunbar soils
- Augusta soils
- Dogue soils
- Roanoke soils

Properties and Qualities of the Tetotum Soil

Available water capacity: High (about 9.8 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: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Loamy fluviomarine deposits

Use and Management Considerations

Pastureland

- This Tetotum soil is moderately suited to pasture.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- 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 excessive permeability limits the proper treatment of the effluent from conventional septic systems and may lead to pollution of the water table.

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: Tetotum—2e; Urban land—none assigned
Virginia soil management group: Tetotum—K; Urban land—none assigned
Hydric soils: No

35A—Toccoa fine sandy loam, 0 to 4 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains
Position on the landform: Nearly level, slightly convex bottoms along larger streams

Map Unit Composition

Toccoa and similar soils: Typically 85 percent, ranging from about 50 to 90 percent

Typical Profile

Surface layer:
0 to 15 inches—reddish brown fine sandy loam

Substratum:
15 to 31 inches—brown fine sandy loam
31 to 60 inches—dark yellowish brown, brown, and pale brown fine sandy loam

Minor Components

- Varina soils
- Augusta soils
- Chewacla soils

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 40 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: Loamy alluvium

Use and Management Considerations

Pastureland

Suitability: Moderately 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: Prime farmland if protected from flooding or not frequently flooded during the growing season
Land capability class: 3w
Virginia soil management group: II
Hydric soil: No

36A—Tomotley-Urban land complex, 0 to 2 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain river terraces
Position on the landform: Nearly level, broad flats

Map Unit Composition

Note: This Tomotley soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Tomotley and similar soils: Typically 70 percent, ranging from about 65 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Tomotley

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

Subsoil
7 to 17 inches—dark grayish brown fine sandy loam
17 to 31 inches—dark gray sandy clay loam; yellowish brown and dark yellowish brown masses of oxidized iron
31 to 40 inches—dark gray sandy clay loam; gray iron depletions

Substratum:
40 to 65 inches—gray loamy sand; iron-manganese concretions

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Nawney soils
- Johnston soils
- Augusta soils
- Abell soils

Properties and Qualities of the Tomotley Soil

Available water capacity: Moderate (about 7.9 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: Poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Loamy alluvium

Use and Management Considerations

Pastureland

- This Tomotley soil is poorly suited to pasture.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel in the soil, sloughing is increased and cutbanks are more susceptible to caving.

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.
- The low strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Tomotley—4w; Urban land—none assigned
Virginia soil management group: Tomotley—OO; Urban land—none assigned
Hydric soils: Yes

37B—Turbeville-Urban land complex, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)

Landform: Coastal Plain and Piedmont high river terraces
Position on the landform: Gently sloping, broad, convex rises

Map Unit Composition

Note: This Turbeville soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Turbeville and similar soils: Typically 70 percent, ranging from about 65 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Turbeville

Surface layer:
0 to 11 inches—brown fine sandy loam

Subsoil:
11 to 17 inches—strong brown sandy clay loam
17 to 26 inches—red clay
26 to 62 inches—red clay

Substratum:
62 to 70 inches—red gravelly loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Varina soils
- Masada soils
- Edgehill soils
- Abell soils

Properties and Qualities of the Turbeville Soil

Available water capacity: Moderate (about 8.6 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: Low
Surface fragments: None
Parent material: Clayey alluvium

Use and Management Considerations

Pastureland

- This Turbeville soil is well suited to pasture.

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: Not prime farmland
Land capability class: Turbeville—2e; Urban land—none assigned
Virginia soil management group: Turbeville—O; Urban land—none assigned
Hydric soils: No

37C—Turbeville-Urban land complex, 6 to 12 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)
Landform: Coastal Plain and Piedmont high river terraces
Position on the landform: Moderately sloping, moderately long, slightly convex side slopes

Map Unit Composition

Note: This Turbeville soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Turbeville and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Turbeville

Surface layer:
0 to 11 inches—brown fine sandy loam

Subsoil:
11 to 17 inches—strong brown sandy clay loam
17 to 26 inches—red clay
26 to 62 inches—red clay

Substratum:
62 to 70 inches—red gravelly loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Varina soils
- Masada soils
- Edgehill soils
- Abell soils

Properties and Qualities of the Turbeville Soil

Available water capacity: Moderate (about 8.6 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: Clayey alluvium

Use and Management Considerations

Pastureland

- This Turbeville soil is well suited to pasture.

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: Turbeville—3e; Urban land—none assigned
Virginia soil management group: Turbeville—O; Urban land—none assigned
Hydric soils: No

38B—Turbeville-Urban land complex, gravelly phase, 2 to 6 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)
Landform: Coastal Plain and Piedmont high river terraces
Position on the landform: Gently sloping, broad, convex rises

Map Unit Composition

Note: This Turbeville soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Turbeville and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Turbeville

Surface layer:
0 to 11 inches—brown gravelly fine sandy loam

Subsoil:
11 to 17 inches—strong brown sandy clay loam
17 to 26 inches—red clay
26 to 62 inches—red clay

Substratum:
62 to 70 inches—red gravelly loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Varina soils
- Masada soils
- Edgehill soils
- Abell soils

Properties and Qualities of the Turbeville Soil

Available water capacity: Moderate (about 8.4 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: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Gravelly clayey alluvium

Use and Management Considerations

Pastureland

- This Turbeville soil is well suited to pasture.

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: Not prime farmland
Land capability class: Turbeville—2e; Urban land—none assigned
Virginia soil management group: Turbeville—O; Urban land—none assigned
Hydric soils: No

38C—Turbeville-Urban land complex, gravelly phase, 6 to 12 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)
Landform: Coastal Plain and Piedmont high river terraces
Position on the landform: Moderately sloping, short to moderately long, slightly convex side slopes

Map Unit Composition

Note: This Turbeville soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Turbeville and similar soils: Typically 70 percent, ranging from about 65 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Turbeville

Surface layer:
0 to 11 inches—brown gravelly fine sandy loam

Subsoil:
11 to 17 inches—strong brown sandy clay loam
17 to 26 inches—red clay
26 to 62 inches—red clay

Substratum:
62 to 70 inches—red gravelly loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Edgehill soils
- Abell soils
- Masada soils

Properties and Qualities of the Turbeville Soil

Available water capacity: Moderate (about 8.4 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: 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: Gravelly clayey alluvium

Use and Management Considerations

Pastureland

- This Turbeville soil is well suited to pasture.

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: Turbeville—3e; Urban land—none assigned
Virginia soil management group: Turbeville—O; Urban land—none assigned
Hydric soils: No

39—Udorthents, loamy, borrow pits

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)
Landform: Coastal Plain and Piedmont uplands and river terraces
Position on the landform: Rises and side slopes

Map Unit Composition

Udorthents and similar soils: Typically 100 percent, ranging from about 50 to 100 percent

Typical Profile

Udorthents are deep or very deep, well drained or somewhat excessively drained, nearly level to very steep, loamy and clayey soils. These soils are mainly on summits and side slopes in the uplands. They mostly consist of overburden and waste rock that have been stockpiled during quarrying or mining and soil material that has been cut and filled during road or building construction. These soils occur in or near quarries and mines, along highways, and near large buildings. Slope ranges from 0 to 45 percent. Because of the variability of these soils, a typical profile is not given.

Use and Management Considerations

Onsite investigation is needed to determine the suitability of any area for specific uses.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: None assigned
Virginia soil management group: None assigend
Hydric soils: No

40—Udorthents-Dumps complex, pits

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)
Landform: Coastal Plain and Piedmont uplands and river terraces
Position on the landform: Rises and side slopes

Map Unit Composition

Udorthents and similar soils: Typically 50 percent, ranging from about 5 to 95 percent
Dumps and similar soils: Typically 50 percent, ranging from about 5 to 95 percent

Typical Profile

Udorthents

Udorthents are deep or very deep, well drained or somewhat excessively drained, nearly level to very steep, loamy and clayey soils. These soils are mainly on summits and side slopes in the uplands. They mostly consist of overburden and waste rock that have been stockpiled during quarrying or mining and soil material that has been cut and filled during road or building construction. These soils occur in or near quarries and mines, along highways, and near large buildings. Slope ranges from 0 to 45 percent. Because of the variability of these soils, a typical profile is not given.

Dumps

This part of the map unit includes areas of exposed and buried human refuse. Because of the variability of the material, a typical profile is not given.

Use and Management Considerations

Onsite investigation is needed to determine the suitability of any area for specific uses.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: None assigned
Virginia soil management group: None assigend
Hydric soils: No

41—Urban land

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A) and Southern Piedmont (MLRA 136)

Landform: Coastal Plain and Piedmont uplands and river terraces
Position on the landform: Rises and side slopes

Map Unit Composition

Urban land and similar soils: Typically 100 percent, ranging from about 75 to 100 percent

Definition

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Use and Management Considerations

Onsite investigation is needed to determine the suitability of any area for specific uses.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: None assigned
Virginia soil management group: None assigend
Hydric soils: No

42A—Varina-Urban land complex, 0 to 4 percent slopes

Setting

Major land resource area: Southern Coastal Plain (MLRA 133A)
Landform: Coastal Plain uplands
Position on the landform: Nearly level or gently sloping, broad, convex rises

Map Unit Composition

Note: This Varina soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Varina and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Varina

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

Subsurface layer:
5 to 10 inches—reddish brown fine sandy loam

Subsoil:
10 to 15 inches—yellowish brown clay loam
15 to 35 inches—yellowish brown sandy clay; strong brown and light yellowish brown masses of oxidized iron
35 to 50 inches—weak red, yellowish red, and strong brown clay; plinthite nodules
50 to 70 inches—dark red, yellowish red, strong brown, and gray sandy clay; plinthite nodules

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Masada soils
- Bourne soils
- Augusta soils
- Abell soils

Properties and Qualities of the Varina Soil

Available water capacity: Moderate (about 7.5 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: Well drained
Depth to seasonal water saturation: About 36 to 60 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Clayey fluviomarine deposits

Use and Management Considerations

Pastureland

- This Varina soil is well suited to pasture.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- 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 low strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Varina—2e; Urban land—none assigned
Virginia soil management group: Varina—Q; Urban land—none assigned
Hydric soils: No

43C—Wateree-Urban land complex, 4 to 12 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Strongly sloping, narrow, winding, convex ridges and short, complex side slopes

Map Unit Composition

Note: This Wateree soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Wateree and similar soils: Typically 70 percent, ranging from about 65 to 90 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Wateree

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

Subsurface layer:
2 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 22 inches—yellowish brown sandy loam; common yellowish brown and yellowish red mottles

Soft bedrock:
22 to 80 inches—weathered bedrock

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Wedowee soils
- Grover soils
- Cecil soils
- Abell soils

Properties and Qualities of the Wateree Soil

Available water capacity: Very low (about 2.4 inches)
Slowest saturated hydraulic conductivity: High (about 5.95 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 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: High

Surface fragments: None
Parent material: Loamy residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- This Wateree soil is well suited to pasture.

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

- 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

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Wateree—4e; Urban land—none assigned
Virginia soil management group: Wateree—FF; Urban land—none assigned
Hydric soils: No

43D—Wateree sandy loam, 12 to 20 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Moderately steep, short, complex side slopes

Map Unit Composition

Wateree and similar soils: Typically 85 percent, ranging from about 70 to 90 percent

Typical Profile

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

Subsurface layer:
2 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 22 inches—yellowish brown sandy loam; common yellowish brown and yellowish red mottles

Soft bedrock:
22 to 80 inches—weathered bedrock

Minor Components

- Wedowee soils
- Grover soils
- Cecil soils
- Abell soils

Soil Properties and Qualities

Available water capacity: Very low (about 2.4 inches)
Slowest saturated hydraulic conductivity: High (about 5.95 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 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: High
Surface fragments: None
Parent material: Loamy residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- This soil is unsuited to pasture.

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.
- 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.

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

- 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

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e
Virginia soil management group: FF
Hydric soil: No

44E—Wateree-Wedowee complex, 20 to 45 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep, short, complex side slopes

Map Unit Composition

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

Wateree and similar soils: Typically 50 percent, ranging from about 30 to 90 percent
Wedowee and similar soils: Typically 45 percent, ranging from about 20 to 70 percent

Typical Profile

Wateree

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

Subsurface layer:
2 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 22 inches—yellowish brown sandy loam; common yellowish brown and common yellowish red mottles

Soft bedrock:
22 to 80 inches—weathered bedrock

Wedowee

Surface layer:
0 to 2 inches—gray gravelly fine sandy loam
2 to 4 inches—reddish brown gravelly fine sandy loam

Subsurface layer:
4 to 10 inches—light reddish brown gravelly fine sandy loam

Subsoil:
10 to 17 inches—olive gravelly clay loam
17 to 33 inches—yellowish red clay loam

Substratum:
33 to 60 inches—yellowish red loam

Minor Components

- Grover soils
- Appling soils
- Abell soils

Soil Properties and Qualities

Available water capacity: Wateree—very low (about 2.4 inches); Wedowee—moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Wateree—high (about 5.95 in/hr); Wedowee—moderately high (about 0.57 in/hr)
Depth class: Wateree—moderately deep (20 to 40 inches); Wedowee—very deep (more than 60 inches)
Depth to root-restrictive feature: Wateree—20 to 40 inches to bedrock (paralithic); Wedowee—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: Very high
Surface fragments: None
Parent material: Wateree—loamy residuum weathered from granite and gneiss; Wedowee—clayey residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- These soils are unsuited to pasture.

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.
- 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.
- 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.
- 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: 7e
Virginia soil management group: Wateree—FF; Wedowee—V
Hydric soils: No

45F—Wateree-Wedowee-Rock outcrop complex, 45 to 60 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Very steep, short, complex side slopes

Map Unit Composition

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

Wateree and similar soils: Typically 50 percent, ranging from about 30 to 90 percent
Wedowee and similar soils: Typically 30 percent, ranging from about 20 to 70 percent
Rock outcrop and similar soils: Typically 10 percent, ranging from about 10 to 20 percent

Typical Profile

Wateree

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

Subsurface layer:
2 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 22 inches—yellowish brown sandy loam; common yellowish brown and common yellowish red mottles

Soft bedrock:
22 to 80 inches—weathered bedrock

Wedowee

Surface layer:
0 to 2 inches—gray gravelly fine sandy loam
2 to 4 inches—reddish brown gravelly fine sandy loam

Subsurface layer:
4 to 10 inches—light reddish brown gravelly fine sandy loam

Subsoil:
10 to 17 inches—olive gravelly clay loam
17 to 33 inches—yellowish red clay loam

Substratum:
33 to 60 inches—yellowish red loam

Rock outcrop

Rock outcrop consists of areas where mafic, felsic, igneous, and metamorphic rock crops out at the surface.

Minor Components

- Grover soils
- Appling soils

Properties and Qualities of the Wateree and Wedowee Soils

Available water capacity: Wateree—very low (about 2.4 inches); Wedowee—moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Wateree—high (about 5.95 in/hr); Wedowee—moderately high (about 0.57 in/hr)
Depth class: Wateree—moderately deep (20 to 40 inches); Wedowee—very deep (more than 60 inches)
Depth to root-restrictive feature: Wateree—20 to 40 inches to bedrock (paralithic); Wedowee—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: Very high
Surface fragments: None
Parent material: Wateree—loamy residuum weathered from granite and gneiss; Wedowee—clayey residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- These Wateree and Wedowee soils are unsuited to pasture.

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 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 planting and seeding is impractical.
- 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.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.
- Because of rock outcrops, rock removal may be needed.

Septic tank absorption fields

- 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.
- Because of rock outcrops, special design of septic tank absorption fields is needed.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.
- Because of rock outcrops, special design of the grade of local roads and streets and special consideration of their location are needed to avoid rock removal.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Wateree and Wedowee—7e; Rock outcrop—none assigned
Virginia soil management group: Wateree—FF; Wedowee—V; Rock outcrop—none assigned
Hydric soils: No

46E—Wedowee gravelly fine sandy loam, 20 to 40 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep, short, complex side slopes

Map Unit Composition

Wedowee and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Typical Profile

Surface layer:
0 to 2 inches—gray gravelly fine sandy loam
2 to 4 inches—reddish brown gravelly fine sandy loam

Subsurface layer:
4 to 10 inches—light reddish brown gravelly fine sandy loam

Subsoil:
10 to 17 inches—olive gravelly clay loam
17 to 33 inches—yellowish red clay loam

Substratum:
33 to 60 inches—yellowish red loam

Minor Components

- Grover soils
- Appling soils
- Edgehill soils
- Masada soils

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: High
Surface fragments: None
Parent material: Clayey residuum weathered from granite and gneiss

Use and Management Considerations

Pastureland

- This soil is unsuited to pasture.

Woodland

Suitability: Moderately suited to loblolly pine 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.
- 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.
- 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 may cause structural damage to 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: 7e
Virginia soil management group: V
Hydric soil: No

47A—Worsham-Urban land complex, 0 to 4 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Gently sloping or nearly level flats and drainageways

Map Unit Composition

Note: This Worsham soil and Urban land occur as areas so closely intermingled that they could not be separated at the scale selected for mapping. Some areas may not contain Urban land.

Worsham and similar soils: Typically 70 percent, ranging from about 65 to 95 percent
Urban land: Typically 20 percent, ranging from about 15 to 80 percent

Typical Profile

Worsham

Surface layer:
0 to 5 inches—dark gray fine sandy loam

Subsurface layer:
5 to 14 inches—weak red fine sandy loam; yellowish brown masses of oxidized iron

Subsoil:
14 to 29 inches—gray clay; light olive brown and brownish yellow masses of oxidized iron
29 to 44 inches—gray clay; strong brown masses of oxidized iron and yellowish brown masses of oxidized iron
44 to 60 inches—gray sandy clay loam; yellowish brown masses of oxidized iron

Substratum:
60 to 70 inches—gray sandy loam

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

Minor Components

- Pouncey soils
- Colfax soils
- Abell soils

Properties and Qualities of the Worsham Soil

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: Poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate

Runoff class: Very high
Surface fragments: None
Parent material: Clayey alluvium

Use and Management Considerations

Pastureland

- This Worsham soil is poorly suited to pasture.

Building sites

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

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 the 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: Worsham—4w; Urban land—none assigned
Virginia soil management group: Worsham—HH; Urban land—none assigned
Hydric soils: Yes

W—Water

This map unit includes streams, rivers, and ponds or other areas covered with water most of the year. It is not assigned any interpretive groups.

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 forestland; and as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities. 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.

Pasture

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

Planners of management systems for individual fields 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 shows the average yields per acre of pasture in this survey area that can be expected 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 the Virginia soil management group of map units in the survey area also is shown in the table.

The yields are based VALUES—the Virginia Agronomic Land Use Evaluation System *(19)*. 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 pasture depends on the kind of soil. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements.

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.

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 table 5 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 two levels—capability class and subclass *(17)*.

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.

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 *(19)*. 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 the City of Richmond.

Group G. The soils of this group formed in locally transported, medium textured sediments of either colluvial or alluvial origin that overlay a wide range of residual materials. They are in landscape positions ranging from footslopes and toeslopes to the heads of drainageways, depressions, and narrow upland drainageways. They are deep and have silty to loamy upper subsoils underlain with clayey to stony materials. They have a moderately high water-supplying capacity and range from moderately well drained to somewhat poorly 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 the hazards of flooding. They are deep, have dominantly clay loam subsurface horizons, have a moderately high water-supplying 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 water-supplying capacity, and are somewhat poorly drained.

Group L. The soils of this group are common to the Piedmont and mountainous regions and formed from old transported deposits of alluvium or colluvium. They are common on stream terraces, footslopes, and older, elevated, upland landscapes that were once stream terraces. They are deep, have medium textured surface layers and more clayey subsurface layers, and commonly have gravel and rounded stones. They have a moderate to high water-supplying capacity and typically are well drained.

Group O. The soils of this group formed from transported materials from old alluvium on dissected uplands. They range from deep to shallow, have very dark red clayey subsurface horizons, have significant coarse fragments in some areas, have a moderate water-supplying capacity, and are well drained.

Group Q. The soils of this group are located on the upper coastal plains on the most stable parts of the nearly level upland landscape. They formed in very old coastal plain sediments. They are deep. They have sandy surface layers, clayey to sandy clay subsurface layers, and plinthite and/or a fragipan in the lower subsoil which may inhibit root growth. They have a moderate or moderately low water-supplying capacity when the plinthite or fragipan is near the surface. They are moderately well drained or somewhat poorly drained.

Group R. The soils of this group formed from marine sediments located on gently sloping uplands. They are deep. They have sandy loam surface layers and reddish yellow clayey to clay loam subsurface layers with some mottles in the lower part. They have a moderate water-supplying capacity and are well drained or moderately well drained.

Group S. The soils of this group are on gently sloping coastal plain uplands, are moderately deep, and formed from loamy coastal plain sediments. They have fine-loamy textures in the subsoil, have a moderate to high water-supplying capacity, and are well drained or moderately well drained.

Group T. The soils of this group are located on uplands and stream terraces on the coastal plains, are deep, and formed from loamy coastal plain sediments. They have fine-loamy subsurface layers, which are typically underlain by coarser sediments; have a moderate water-supplying capacity; and are well 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 occur on upland landscapes in the Piedmont. They are moderately deep, have clayey subsurface horizons, have a moderate water-supplying 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, and occur on upland landscapes in the Piedmont region. They are moderately deep. They have clayey subsurface horizons, which have coarse fragments or gravel in some areas. They have a moderate water-supplying capacity and are moderately well drained or well drained.

Group Z. The soils of this group formed in alluvium or colluvium and are in low-lying terrace positions. All the physiographic provinces in Virginia are represented by one or more soils of this group. The soils are deep, have clayey subsurface horizons, have a moderately high water-supplying capacity, and are somewhat poorly drained.

Group BB. The soils of this group represent upland, terrace, or footslope landscapes within the western mountains, Piedmont, and Coastal Plain. They formed from a variety of parent materials, including colluvium, alluvium, and limestone residuum. They have fragipans that underlie silty to loamy subsurface horizons that have coarse fragments in some areas. The fragipans limit the rooting zone; thus, the soils have a low or moderately low water-supplying capacity. The soils are generally somewhat poorly drained.

Group CC. The soils of this diverse group occur across the Piedmont and mountainous regions. They formed from a range of parent materials that include alluvium, colluvium, and loamy saprolites. They are represented by a variety of landscapes, including uplands, stream terraces, and colluvial positions to bottomlands. The common soil features are moderately deep sola; clayey-skeletal to coarse-loamy subsurface horizons, some of which have as much as 70 percent coarse fragments; and a moderately low water-supplying capacity. The soils are well drained.

Group FF. The soils of this group formed in residual parent materials ranging from sandstones, shales, and slates to loamy granitic saprolites. They are on steeply dissected uplands, are moderately shallow, and mostly have loamy-skeletal subsurface horizons, which may contain 80 percent or more coarse fragments. As a result, the water-supplying 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 in floodplain positions. They are moderately deep, have fine-loamy or clayey subsurface layers, have a moderate water-supplying capacity, and are somewhat poorly drained or moderately well drained.

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

Group LL. The soils of this group occur mostly in the Coastal Plain region. They formed from clayey sediments or from saprolites over basic rocks and are on low coastal plain landscapes or gently sloping piedmont uplands. They are deep and have clayey subsurface textures throughout. They have a moderate water-supplying capacity and are somewhat poorly drained or poorly drained.

Group MM. The soils of this group formed from loamy sediments on flood plains. They flood frequently, have a moderate to high water-supplying capacity, and are poorly drained.

Group NN. The soils of this group are the undrained soils that are listed in group H. They are predominantly in the mountainous and western Piedmont region and formed in alluvium along streams or on terraces. They are moderately deep, have silty to clay loam subsurface layers, have a moderately high water-supplying capacity, and are somewhat poorly drained or poorly drained.

Group OO. The soils of this group are the undrained soils that are listed in group C. They formed from alluvium or coastal plain sediments on terraces, levees, and broad, nearly level landscapes within the Coastal Plain. They have loamy to silty textures throughout, have a high water-supplying capacity, and are poorly drained.

Group PP. The soils of this group occur within the Coastal Plain and are represented by the marshes and tidal wetlands. They formed in depressions, in tidal basins, on tidal flats, and in other ponded areas. Some have organic horizons, clayey mineral horizons, or sulfidic materials. They have water tables at or near the soil surface and are saturated most of the time.

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.

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 table 6 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 *(7, 9)*.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology *(4, 9, 10, 11)*. 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 *(5)*. 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 *(6)*. 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” *(14)* and “Keys to Soil Taxonomy” *(16)* and in the “Soil Survey Manual” *(18)*.

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” *(7)*.

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 in table 7 contain at least one component that meets the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site *(7, 9)*.

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.

The following map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

1B	Abell sandy loam, 2 to 8 percent slopes
11B	Colfax-Urban land complex, 2 to 6 percent slopes
12C	Colfax-Urban land complex, 6 to 12 percent slopes
14A	Dunbar fine sandy loam, 0 to 4 percent slopes
30A	Riverview silt loam, 0 to 3 percent slopes, frequently flooded
33B	Slagle-Urban land complex, 2 to 6 percent slopes
34B	Tetotum-Urban land complex, clayey substratum, 2 to 6 percent slopes

Forestland Productivity and Management

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 8, 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," *(12)*, 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

Table 9, parts I through V, give interpretive ratings 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" *(12)*, 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 10, 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 11, 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 12, 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 13, 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 13, 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 13, 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 14 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 index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Soil Properties

Table 15 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 *(2)* and the system adopted by the American Association of State Highway and Transportation Officials *(1)*.

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 16 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” *(13)*, 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 17 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 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 18 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 19 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 *(14, 16)*. 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 20 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 Ultisols.

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 Udults (*Ud*, meaning humid, plus *ult*, from Ultisol).

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 Kanhapludults (*Kanhapl*, meaning low cation exchange, plus *udult*, the suborder of the Ultisols 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 Kanhapludults.

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, kaolinitic, thermic Typic Kanhapludults.

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” *(18)* and in the “Field Book for Describing and Sampling Soils” *(15)*. Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” *(14)* and in “Keys to Soil Taxonomy” *(16)*. 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.

Abell Series

Physiographic province: Southern Piedmont
Landform: Drainageways and small depressions
Parent material: Colluvium over residuum weathered from granite and gneiss
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 8 percent

Associated Soils

- Appling soils, which have more clay
- Cecil soils, which have more clay
- Colfax soils, which have a fragipan
- Durham soils, which are well drained
- Wateree soils, which have less clay
- Wedowee soils, which have more clay

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Abell sandy loam, 2 to 8 percent slopes; located in Crystal Lake subdivision, southwest of Highway VA-672, about 0.75 mile south of the junction of Highways VA-672 and VA-647; Chesterfield, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 29 minutes 6.00 seconds N. and long. 77 degrees 34 minutes 50.00 seconds W.

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) sandy loam; weak fine granular structure; very friable; many fine roots; few fine mica flakes; very strongly acid; clear smooth boundary.

E—10 to 15 inches; brown (7.5YR 4/4) sandy loam; weak fine granular structure; very friable; few fine roots; few fine mica flakes; very strongly acid; clear smooth boundary.

BE—15 to 20 inches; yellowish brown (10YR 5/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine mica flakes; very strongly acid; gradual smooth boundary.

Bt1—20 to 30 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few clay films; few fine faint strong brown (7.5YR 5/6) masses of oxidized iron; few fine mica flakes; 5 percent angular gravel; very strongly acid; gradual smooth boundary.

2Bt2—30 to 40 inches; yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and light yellowish brown (10YR 6/4) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few clay films; few fine mica flakes; 5 percent angular gravel; very strongly acid; gradual smooth boundary.

2Bt3—40 to 60 inches; brownish yellow (10YR 6/6), yellowish brown (10YR 5/8), strong brown (7.5YR 5/8), yellowish red (5YR 5/8), and gray (10YR 6/1) clay; weak medium angular blocky structure; friable, slightly sticky, slightly plastic; few clay films; few fine mica flakes; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 5 percent angular gravel in the A and B horizons
Redoximorphic features: In shades of red, brown, yellow, or gray in the Bt and 2Bt horizons

A horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 8
Texture—sandy loam

E horizon:
Hue—10YR or 7.5YR
Value—5 or 6
Chroma—3 to 6
Texture—sandy loam

BE horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 8
Texture—sandy loam or sandy clay loam

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—6 to 8
Texture—sandy loam, sandy clay loam, or clay loam

2Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—silty clay loam, clay loam, or clay

Appling Series

Physiographic province: Southern Piedmont
Landform: Hills on Piedmont uplands
Parent material: Residuum weathered from granite and granite gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 60 percent

Associated Soils

- Abell soils, which have less clay
- Cecil soils, which are more red
- Colfax soils, which have a fragipan
- Wateree soils, which have less clay

- Wedowee soils, which have a thinner solum
- Worsham soils, which are poorly drained

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Appling-Urban land complex, 2 to 6 percent slopes; located in a loblolly pine plantation, 500 feet south-southeast of the junction of Highways VA-602 and VA-676; Winterpock, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 19 minutes 30.00 seconds N. and long. 77 degrees 41 minutes 7.00 seconds W.

A—0 to 4 inches; light olive brown (2.5Y 5/4) sandy loam; weak fine granular structure; very friable; many very fine and fine roots; 5 percent subangular quartzite gravel; very strongly acid; clear smooth boundary.

E—4 to 10 inches; light yellowish brown (2.5Y 6/4) sandy loam; weak fine granular structure; very friable; many medium and coarse roots; 15 percent subangular quartzite gravel; very strongly acid; clear smooth boundary.

BEt—10 to 13 inches; yellowish brown (10YR 5/8) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; few patchy clay films; 5 percent subangular quartzite gravel; very strongly acid; gradual smooth boundary.

Bt1—13 to 24 inches; strong brown (7.5YR 5/6) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common continuous clay films; very strongly acid; gradual smooth boundary.

Bt2—24 to 30 inches; strong brown (7.5YR 5/6) clay; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; patchy clay films; very strongly acid; clear smooth boundary.

Bt3—30 to 42 inches; strong brown (7.5YR 5/6), yellowish red (5YR 5/6), and red (2.5YR 4/8) clay; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common continuous clay films; very strongly acid; gradual smooth boundary.

BCt—42 to 60 inches; red (2.5YR 4/8) clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few patchy clay films; very strongly acid; gradual smooth boundary.

C—60 to 72 inches; strong brown (7.5YR 5/6) and yellowish red (5YR 4/6) sandy loam; massive; very friable; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 30 percent angular quartz gravel in the A and upper B horizons

A horizon:
Hue—2.5Y or 10YR
Value—4 to 6
Chroma—4 to 6
Texture (fine-earth fraction)—sandy loam

E horizon:
Hue—2.5Y or 10YR
Value—4 to 6
Chroma—4 to 6
Texture (fine-earth fraction)—sandy loam

BEt horizon:
Hue—5YR to 10YR
Value—5 or 6
Chroma—3 to 8
Texture (fine-earth fraction)—sandy clay loam or clay loam

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—6 to 8
Texture (fine-earth fraction)—clay loam, sandy clay, or clay

BC horizon:
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—6 to 8
Texture—sandy clay loam, sandy clay, or clay loam

C horizon:
Hue—2.5YR to 2.5Y
Value—4 to 8
Chroma—1 to 8
Texture—sandy loam or sandy clay loam

Atlee Series

Physiographic province: Coastal Plain
Landform: Uplands on Coastal Plain
Parent material: Fluviomarine sediments
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 4 percent

Associated Soils

- Dunbar soils, which have more clay and are wetter
- Gritney soils, which have more clay
- Tetotum soils, which do not have a firm subsoil

Taxonomic Classification

Fine-loamy, siliceous, semiactive, thermic Fragiaquic Paleudults

Typical Pedon

Atlee-Urban land complex, 0 to 4 percent slopes; located northwest of the junction of Highways VA-697 and VA-746; Hopewell, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 20 minutes 39.00 seconds N. and long. 77 degrees 19 minutes 29.00 seconds W.

A—0 to 2 inches; dark grayish brown (10YR 4/2) very fine sandy loam; weak fine granular structure; friable; many fine and medium roots; strongly acid; clear smooth boundary.
E—2 to 11 inches; light yellowish brown (2.5Y 6/4) very fine sandy loam; weak fine granular structure; friable; many medium and coarse roots; strongly acid; clear smooth boundary.
BEt—11 to 14 inches; light yellowish brown (10YR 6/4) loam; weak fine subangular

blocky structure; friable, slightly sticky, slightly plastic; many medium roots; strongly acid; clear smooth boundary.

Bt1—14 to 20 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; many medium and coarse roots; many fine pores; distinct clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt2—20 to 29 inches; yellowish brown (10YR 5/8), light yellowish brown (10YR 6/4), and strong brown (7.5YR 5/8) clay loam; moderate fine and medium angular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; distinct patchy clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt3—29 to 36 inches; yellowish brown (10YR 5/4), light brownish gray (10YR 6/2), olive (5Y 5/6), and strong brown (7.5YR 5/6) clay loam; moderate fine and medium angular blocky structure; firm, slightly sticky, slightly plastic; distinct patchy clay films on faces of peds; very strongly acid; gradual smooth boundary.

BCt—36 to 150 inches; pale brown (10YR 6/3), light brownish gray (10YR 6/2), and yellowish red (5YR 5/6) clay loam; moderate fine angular blocky structure; firm, slightly sticky, slightly plastic; faint patchy clay films on faces of peds; very strongly acid; diffuse wavy boundary.

C—150 to 163 inches; pale brown (10YR 6/3), yellowish red (5YR 5/6), and light brownish gray (10YR 6/2) sandy clay loam; massive; very strongly acid.

Range in Characteristics

Solum thickness: 48 to 60 inches or more
Depth to bedrock: More than 5 feet
Depth to brittle layer: 20 to 40 inches
Redoximorphic features: In shades of red, brown, yellow, or gray in the Bt and BCt horizons

A horizon:
Hue—2.5Y or 10YR
Value—4 to 6
Chroma—2 to 4
Texture—very fine sandy loam or silt loam

E horizon:
Hue—2.5Y or 10YR
Value—4 to 7
Chroma—2 to 4
Texture—very fine sandy loam or silt loam

BEt horizon:
Hue—10YR or 7.5YR
Value—4 to 7
Chroma—3 to 6
Texture—loam, clay loam, or sandy loam

Bt horizon (upper part):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—loam, clay loam, or silty loam

Bt horizon (lower part):
Hue—2.5YR to 2.5Y
Value—4 to 8
Chroma—3 to 8

Brittle layer—firm and compact in less than 60 percent of the volume
Texture—loam, clay loam, or silty clay loam

BCt horizon:
Hue—2.5YR to 2.5Y
Value—4 to 8
Chroma—2 to 8
Texture—loam, sandy loam, clay loam, or silty clay loam

C horizon:
Hue—2.5YR to 2.5Y
Value—4 to 8
Chroma—1 to 8
Texture—sandy clay loam, clay loam, sandy clay, or clay

Augusta Series

Physiographic province: Coastal Plain
Landform: Coastal Plain high river terraces
Parent material: Loamy fluviomarine deposits
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 4 percent

Associated Soils

- Dogue soils, which have more clay
- Masada soils, which are well drained and have more clay
- Turbeville soils, which are well drained and have more clay

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Aeric Endoaquults

Typical Pedon

Augusta fine sandy loam, high terrace, 0 to 4 percent slopes; located southeast of the junction of U.S. Highway 60 and Highway VA-714, near TV transmission station; Winterpock, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 30 minutes 19.00 seconds N. and long. 77 degrees 39 minutes 42.00 seconds W.

A—0 to 1 inch; very dark gray (10YR 3/1) fine sandy loam; moderate fine granular structure; many fine roots; very strongly acid; clear smooth boundary.
E—1 to 10 inches; brown (10YR 5/3) fine sandy loam; moderate fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.
BEt—10 to 14 inches; yellowish brown (10YR 5/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and medium roots; few clay films; 1 percent rounded quartzite gravel; very strongly acid; clear smooth boundary.
Bt1—14 to 26 inches; strong brown (7.5YR 5/8), gray (10YR 5/1), and dark yellowish brown (10YR 4/4) clay loam; moderate fine and medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine roots; patchy clay films; 5 percent rounded quartzite gravel; very strongly acid; gradual smooth boundary.
Bt2—26 to 35 inches; gray (10YR 5/1) clay loam; moderate fine and medium subangular blocky structure; few fine roots; continuous clay films; many fine and

medium prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg—35 to 49 inches; gray (10YR 5/1) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few clay films; few fine and medium prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of oxidized iron; 5 percent rounded quartzite gravel; very strongly acid; gradual smooth boundary.

Cg1—49 to 72 inches; gray (10YR 5/1) sandy clay loam; massive; friable; few fine roots; few clay films; few fine and medium prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of oxidized iron; 5 percent rounded quartzite gravel; very strongly acid; gradual smooth boundary.

Cg2—72 to 90 inches; gray (10YR 5/1) gravelly sandy loam; massive; friable; 30 percent rounded quartzite gravel; very strongly acid.

Range in Characteristics

Solum thickness: 45 to 60 inches or more

Depth to bedrock: More than 5 feet

Rock fragments: 0 to 10 percent fine rounded quartz gravel in the A and B horizons; 0 to 20 percent in the C horizon

Redoximorphic features: In shades of red, brown, yellow, or gray in the Bt, Btg, and Cg horizons

A horizon:

Hue—2.5Y or 10YR
Value—3 to 5
Chroma—1 to 4
Texture—fine sandy loam

E horizon:

Hue—5Y to 10YR
Value—5 to 7
Chroma—2 to 4
Texture—fine sandy loam

BEt horizon:

Hue—5Y to 10YR
Value—4 to 7
Chroma—3 to 8
Texture—sandy loam, sandy clay loam, or clay loam

Bt horizon:

Hue—2.5Y to 7.5YR
Value—4 to 7
Chroma—3 to 8
Texture—clay loam or sandy clay loam

Btg horizon:

Hue—2.5Y to 7.5YR
Value—4 to 7
Chroma—1 or 2
Texture—clay loam or sandy clay loam

Cg horizon:

Hue—2.5Y or 10YR
Value—5 to 8
Chroma—1 or 2
Texture (fine-earth fraction)—sandy loam or sandy clay loam

Bourne Series

Physiographic province: Coastal Plain
Landform: Coastal Plain uplands
Parent material: Loamy fluviomarine deposits
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 2 to 12 percent

Associated Soils

- Faceville soils, which have more clay
- Kempsville soils, which do not have a fragipan
- Orangeburg soils, which do not have a fragipan
- Rumford soils, which do not have a fragipan

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Fragiudults

Typical Pedon

Bourne-Urban land complex, 2 to 6 percent slopes; located 0.75 mile west of the junction of Highways VA-10 and VA-611, south of power transmission line; Chesterfield, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 24 minutes 32.00 seconds N. and long. 77 degrees 30 minutes 39.00 seconds W.

A—0 to 2 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; friable; many fine roots; very strongly acid; clear smooth boundary.
E—2 to 11 inches; light reddish brown (2.5YR 6/4) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.
BEt—11 to 15 inches; yellowish brown (10YR 5/4) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; very strongly acid; clear smooth boundary.
Bt—15 to 22 inches; yellowish brown (10YR 5/8) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; patchy clay films; few fine prominent pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; clear smooth boundary.
Btx—22 to 44 inches; yellowish brown (10YR 5/8) fine sandy loam; weak coarse prismatic structure parting to thin platy; firm; brittle; many fine pores; common fine prominent light gray (10YR 7/2) iron depletions and many fine and medium prominent pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; clear smooth boundary.
2C—44 to 72 inches; gray (10YR 6/1), red (2.5YR 5/8), and brownish yellow (10YR 6/6) clay; massive; firm, moderately sticky, moderately plastic; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 70 inches
Depth to bedrock: More than 5 feet
Depth to fragipan: 18 to 34 inches
Rock fragments: 0 to 15 percent throughout the profile
Redoximorphic features: In shades of red, brown, yellow, or gray in the Bt, Btx, and 2C horizons

A horizon:
Hue—10YR

Value—4 or 5
Chroma—2 or 3
Texture—fine sandy loam

BEt horizon:
Hue—2.5Y to 7.5YR
Value—5 or 6
Chroma—3 to 5
Texture—sandy loam, clay loam, or sandy clay loam

E horizon:
Hue—2.5Y or 10YR
Value—5 or 6
Chroma—2 to 4
Texture—fine sandy loam

Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 7
Chroma—3 to 8
Texture—loam, clay loam, or sandy clay loam

Btx horizon:
Hue—10YR or 7.5YR
Value—5 to 7
Chroma—4 to 8
Brittleness—firm or very firm in more than 60 percent of the horizon
Texture—fine sandy loam, loam, or sandy clay loam

2C horizon:
Hue—10YR to 2.5YR
Value—4 to 8
Chroma—3 to 8
Texture—sandy clay loam, clay loam, or clay

Cecil Series

Physiographic province: Southern Piedmont
Landform: Piedmont uplands
Parent material: Clayey residuum weathered from granite and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 6 to 20 percent

Associated Soils

- Appling soils, which are less red
- Colfax soils, which have less clay and a fragipan
- Wateree soils, which have less clay

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Cecil-Urban land complex, 6 to 12 percent slopes; located west of Highway VA-665, about 1.25 miles west of the junction of Highways VA-665 and VA-603; Clayville, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 24 minutes 4.00 seconds N. and long. 77 degrees 49 minutes 42.00 seconds W.

A—0 to 1 inch; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; abrupt smooth boundary.

E—1 to 9 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; common fine and medium pores; 4 percent angular quartzite gravel; very strongly acid; clear smooth boundary.

BEt—9 to 14 inches; yellowish red (5YR 4/6) sandy clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and medium roots; few fine pores; 4 percent angular quartzite gravel; very strongly acid; clear smooth boundary.

Bt1—14 to 26 inches; red (2.5YR 4/6) clay; few fine distinct yellowish brown (10YR 5/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and medium roots; few fine and medium pores; few clay films; very strongly acid; gradual smooth boundary.

Bt2—26 to 39 inches; red (2.5YR 4/6) clay; few fine distinct dark yellowish brown (10YR 4/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few medium roots; few clay films; very strongly acid; gradual smooth boundary.

BCt—39 to 63 inches; red (2.5YR 5/6) clay; few fine distinct yellowish brown (10YR 5/6) and yellowish red (5YR 4/6) mottles; weak medium and coarse angular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; few fine pores; few clay films; few fine mica flakes; 10 percent angular quartzite gravel; very strongly acid; gradual smooth boundary.

C—63 to 83 inches; red (2.5YR 4/6), strong brown (7.5YR 5/8), and white (N 8/0) loam; massive; friable, slightly sticky, slightly plastic; clay films; mica flakes; 10 percent angular quartzite gravel; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 15 percent angular quartz gravel throughout the profile

A horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—2 to 6
Texture—fine sandy loam or sandy loam

E horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 8
Texture—fine sandy loam or sandy loam

BEt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—2 to 8
Texture—sandy loam, sandy clay loam, or clay loam

Bt horizon:
Hue—5YR or 2.5YR
Value—4 or 5

Chroma—6 to 8
Texture—clay loam or clay

C horizon:
Hue—10R to 5YR
Value—4 to 6
Chroma—4 to 8
Texture—loam, sandy loam, or clay loam

Chastain Series

Physiographic province: Coastal Plain
Landform: Flood plains
Parent material: Clayey and loamy alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 0 to 3 percent

Associated Soils

- Augusta soils, which are somewhat poorly drained
- Chewacla soils, which are somewhat poorly drained
- Dogue soils, which are moderately well drained

Taxonomic Classification

Fine, mixed, semiactive, acid, thermic Fluvaquentic Endoaquepts

Typical Pedon

Chastain loam, 0 to 3 percent slopes, frequently flooded; located 0.33 mile northwest of Powhite Parkway bridge, 400 yards south of the James River; Bon Air, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 32 minutes 22.00 seconds N. and long. 77 degrees 30 minutes 9.00 seconds W.

A1—0 to 2 inches; dark grayish brown (10YR 4/2) loam; moderate fine granular structure; very friable; many fine roots; strongly acid; clear smooth boundary.
A2—2 to 13 inches; dark gray (10YR 4/1) loam; moderate fine granular structure; friable, slightly sticky, slightly plastic; few fine and medium roots; many fine pores; common medium prominent reddish brown (5YR 5/4) and brown (7.5YR 5/4) masses of oxidized iron; strongly acid; clear wavy boundary.
Bg1—13 to 24 inches; dark gray (10YR 4/1) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine pores; few fine prominent reddish brown (2.5YR 4/4) masses of oxidized iron; very strongly acid; gradual smooth boundary.
Bg2—24 to 36 inches; dark gray (N 4/0) clay loam; weak coarse subangular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; many fine pores; few fine prominent reddish brown (2.5YR 4/4) masses of oxidized iron and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; gradual smooth boundary.
Cg—36 to 80 inches; dark gray (N 4/0) sand; massive; firm, nonsticky, nonplastic; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 36 to 60 inches or more
Depth to bedrock: More than 5 feet

Rock fragments: 0 to 10 percent rounded quartz gravel in the C horizon
Redoximorphic features: In shades of red, brown, yellow, or gray in the A, Bg, and Cg horizons

A horizon:
Hue—5Y to 7.5YR
Value—2 to 6
Chroma—1 to 6
Texture—loam

Bg horizon:
Hue—10YR or neutral
Value—4 or 5
Chroma—0 to 2
Texture—clay loam or clay

C horizon:
Hue—10YR to 5GY or neutral
Value—4 to 7
Chroma—0 to 2
Texture—sand to clay

Chewacla Series

Physiographic province: Southern Piedmont
Landform: Coastal Plain and Piedmont flood plains
Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 3 percent

Associated Soils

- Chastain soils, which are poorly drained
- Dogue soils, which are moderately well drained
- Toccoa soils, which are moderately well drained

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts

Typical Pedon

Chewacla loam, 0 to 3 percent slopes, frequently flooded; located 1 mile northwest of Powhite Parkway bridge, about 600 feet south of the James River; Bon Air, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 32 minutes 26.00 seconds N. and long. 77 degrees 30 minutes 15.00 seconds W.

A—0 to 5 inches; dark brown (7.5YR 3/2) loam; weak fine granular structure; very friable; many fine and medium roots; strongly acid; abrupt smooth boundary.
BA—5 to 13 inches; brown (10YR 5/3) clay loam; weak fine subangular blocky and weak fine granular structure; friable; few fine roots; common fine pores; few fine mica flakes; strongly acid; clear smooth boundary.
Bw—13 to 26 inches; light brownish gray (10YR 6/2), pale brown (10YR 6/3), and brown (10YR 4/3) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine pores; few mica flakes; strongly acid; clear smooth boundary.
Bg—26 to 40 inches; light brownish gray (10YR 6/2), brown (7.5YR 4/4), and weak red

(2.5YR 5/2) clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common fine pores; few mica flakes; strongly acid; gradual wavy boundary.

Cg—40 to 60 inches; light brownish gray (10YR 6/2), yellowish brown (10YR 5/6), and black (N 2/0) silty clay loam; massive; friable, slightly sticky, slightly plastic; few mica flakes; strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more
Depth to bedrock: More than 5 feet
Rock fragment content: Less than 5 percent, by volume, in the A and upper B horizons; in some pedons, gravel content ranges to 15 percent, by volume, in the lower B horizons
Redoximorphic features: In shades of red, brown, yellow, or gray in the Bw, Bg, and Cg horizons

A horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 to 6
Texture—loam or sandy loam

BA horizon:
Hue—10YR
Value—4 to 7
Chroma—2 to 6
Texture—loam, sandy loam, or sandy clay loam

Bw horizon:
Hue—5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture—loam, sandy clay loam, or clay loam

Bg horizon:
Hue—10YR or 2.5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—loam, sandy clay loam, or clay loam

Cg horizon:
Hue—10YR or 2.5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—sand to clay

Colfax Series

Physiographic province: Southern Piedmont
Landform: Piedmont uplands
Parent material: Loamy colluvium over residuum weathered from granite and granite gneiss
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 2 to 12 percent

Associated Soils

- Appling soils, which are well drained and have more clay
- Bourne soils, which are moderately well drained
- Durham soils, which do not have a fragipan
- Worsham soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, subactive, thermic Aquic Fragiudults

Typical Pedon

Colfax-Urban land complex, 6 to 12 percent slopes; located north of Highway VA-602, about 0.33 mile west of the junction of Highways VA-602 and VA-629; Sutherland, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 14 minutes 12.00 seconds N. and long. 77 degrees 31 minutes 49.00 seconds W.

A—0 to 1 inch; dark gray (10YR 4/1) fine sandy loam; weak fine granular structure; very friable; many fine roots; 1 percent angular quartzite gravel; very strongly acid; clear smooth boundary.

E—1 to 8 inches; pale brown (10YR 6/3) fine sandy loam; weak fine subangular blocky structure; very friable; many fine and medium roots; few fine distinct brownish yellow (10YR 6/6) masses of oxidized iron; 1 percent angular quartzite gravel; very strongly acid; clear smooth boundary.

BEt—8 to 13 inches; pale brown (10YR 6/3) and brownish yellow (10YR 6/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and medium roots; 1 percent angular quartzite gravel; very strongly acid; clear smooth boundary.

Bt—13 to 24 inches; pale brown (10YR 6/3) and light yellowish brown (10YR 6/4) sandy clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many fine pores; few clay films on faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions; 1 percent angular quartzite gravel; very strongly acid; abrupt smooth boundary.

Btx—24 to 40 inches; pale brown (10YR 6/3), light brownish gray (10YR 6/2), and yellowish brown (10YR 5/6) sandy clay loam; moderate medium platy structure; very firm; brittle; few fine roots; many fine vesicular pores; few clay films on faces of peds; few fine mica flakes; 5 percent angular quartzite gravel; very strongly acid; clear smooth boundary.

2BCtg—40 to 60 inches; light gray (10YR 7/1) clay; weak coarse prismatic structure; firm, moderately sticky, moderately plastic; common medium prominent olive yellow (2.5Y 6/6), strong brown (7.5YR 5/6), and yellowish red (5YR 4/6) masses of oxidized iron; 1 percent angular quartzite gravel; very strongly acid; gradual smooth boundary.

2Cg1—60 to 86 inches; light gray (10YR 7/1) clay; massive; firm, moderately sticky, moderately plastic; common medium prominent strong brown (7.5YR 5/6) and yellowish red (5YR 4/6) masses of oxidized iron; few fine mica flakes; 1 percent angular quartzite gravel; very strongly acid; clear smooth boundary.

2Cg2—86 to 117 inches; white (10YR 8/1) sandy loam; massive; friable; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: More than 5 feet
Depth to fragipan: 24 to 40 inches

Rock fragments: 0 to 10 percent quartz gravel throughout the profile
Redoximorphic features: In shades of red, brown, yellow, or gray in the Bt, Btx, 2BCtg, and Cg horizons

A horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 to 4
Texture—fine sandy loam

E horizon:
Hue—10YR to 5Y
Value—5 to 7
Chroma—2 to 4
Texture—fine sandy loam

BEt horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—2 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 to 6
Texture—loam or sandy clay loam

Btx horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 8
Texture—loam, sandy loam, or clay loam

2BCtg horizon:
Hue—5YR to 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—clay loam or clay

2Cg horizon:
Hue—5YR to 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—sand to clay

Dogue Series

Physiographic province: Coastal Plain
Landform: Coastal Plain low river terraces
Parent material: Clayey alluvium
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 4 percent

Associated Soils

- Augusta soils, which are somewhat poorly drained
- Chewacla soils, which are somewhat poorly drained

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquultic Hapludalfs

Typical Pedon

Dogue loam, 0 to 4 percent slopes, rarely flooded; located in a cultivated field at Bermuda Hundred, 0.25 mile west of Allied chemical plant; Hopewell, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 20 minutes 28.00 seconds N. and long. 77 degrees 17 minutes 15.00 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) loam; moderate fine granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

BAt—9 to 12 inches; yellowish brown (10YR 5/6) clay loam; moderate fine subangular blocky structure; friable; many fine roots; very few clay films; common fine mica flakes; 1 percent rounded quartzite gravel; moderately acid; clear smooth boundary.

Bt1—12 to 28 inches; yellowish brown (10YR 5/6) clay; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; few continuous clay films; many mica flakes; 1 percent rounded quartzite gravel; moderately acid; clear smooth boundary.

Bt2—28 to 42 inches; yellowish brown (10YR 5/6) clay; moderate fine and medium angular blocky structure; firm, moderately sticky, moderately plastic; common fine roots; continuous clay films; few fine distinct strong brown (7.5YR 5/6) and pale brown (10YR 6/3) masses of oxidized iron and prominent gray (5Y 6/1) iron depletions; common fine mica flakes; moderately acid; gradual smooth boundary.

Bt3—42 to 62 inches; yellowish brown (10YR 5/6) clay loam; weak coarse angular blocky structure; friable, moderately sticky, slightly plastic; common medium prominent olive gray (5Y 5/2) iron depletions and common medium distinct pale brown (10YR 6/3) masses of oxidized iron; 1 percent rounded quartzite gravel; moderately acid; gradual smooth boundary.

C—62 to 110 inches; yellowish brown (10YR 5/6) loam; massive; moderately sticky, slightly plastic; common medium distinct pale brown (10YR 6/3) masses of oxidized iron and common medium prominent olive gray (5Y 5/2) iron depletions; moderately acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 10 percent rounded quartz gravel in the A, B, and C horizons
Redoximorphic features: In shades of red, brown, yellow, or gray in the Bt and C horizons

A horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—loam

BA horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7

Chroma—4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—3 to 8
Texture—clay loam, silty clay loam, or clay

BC horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—1 to 8
Texture—clay loam or clay

C horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—1 to 8
Texture—sand to loam in the fine-earth fraction

The Dogue soils in this survey area are considered taxadjuncts to the series because they are slightly higher in bases. This difference, however, does not significantly affect the use and management of the soils.

Dunbar Series

Physiographic province: Coastal Plain
Landform: Coastal Plain uplands
Parent material: Clayey fluviomarine deposits
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 4 percent

Associated Soils

- Bourne soils, which have a fragipan
- Pouncey soils, which are poorly drained
- Tetotum soils, which are moderately well drained

Taxonomic Classification

Fine, kaolinitic, thermic Aeric Paleaquults

Typical Pedon

Dunbar fine sandy loam, 0 to 4 percent slopes; located on Virginia State University college farm at Ettrick; Petersburg, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 13 minutes 51.00 seconds N. and long. 77 degrees 26 minutes 43.00 seconds W.

Ap—0 to 12 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak fine granular structure; friable; few fine roots; strongly acid; abrupt smooth boundary.
BAt—12 to 15 inches; light olive brown (2.5Y 5/4) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many fine pores; few clay films; 1 percent rounded quartzite gravel; strongly acid; clear smooth boundary.
Bt1—15 to 20 inches; light olive brown (2.5Y 5/4) sandy clay loam; moderate medium

subangular blocky structure; friable, moderately sticky, moderately plastic; many fine pores; patchy clay films; common fine and medium faint yellowish brown (10YR 5/4) masses of oxidized iron; 1 percent rounded quartzite gravel; very strongly acid; clear smooth boundary.

Bt2—20 to 31 inches; light olive brown (2.5Y 5/4) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine pores; continuous clay films; few fine prominent weak red (2.5YR 5/2) iron depletions and many fine and medium distinct strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) masses of oxidized iron; 1 percent rounded quartzite gravel; very strongly acid; gradual wavy boundary.

Bt3—31 to 44 inches; gray (10YR 6/1) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine and medium pores; few clay films; common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; gradual smooth boundary.

BCtg—44 to 72 inches; gray (N 6/0) sandy clay; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine pores; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 5 percent rounded quartz gravel
Redoximorphic features: In shades of red, brown, yellow, or gray in the Bt and Btg horizons

A horizon:
Hue—10YR to 2.5Y
Value—4 to 6
Chroma—1 to 3
Texture—fine sandy loam

BA horizon:
Hue—10YR to 2.5Y
Value—4 to 6
Chroma—3 to 8
Texture—fine sandy loam, sandy clay loam, or clay loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture—clay loam, sandy clay, or clay

Btg horizon (if it occurs):
Hue—7.5YR to 2.5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—clay loam, sandy clay, or clay

BCg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—sandy clay loam or sandy clay

Durham Series

Physiographic province: Southern Piedmont
Landform: Piedmont uplands
Parent material: Loamy residuum weathered from granite and granite gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 6 percent

Associated Soils

- Appling soils, which have more clay
- Bourne soils, which have a fragipan
- Colfax soils, which have a fragipan

Taxonomic Classification

Fine-loamy, siliceous, semiactive, thermic Typic Hapludults

Typical Pedon

Durham-Bourne-Urban land complex, 2 to 6 percent slopes; located about 200 feet south of the junction of Highways VA-662 and VA-654; Hallsboro, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 23 minutes 1.00 seconds N. and long. 77 degrees 39 minutes 2.00 seconds W.

A—0 to 2 inches; light brownish gray (2.5Y 6/2) fine sandy loam; weak fine granular structure; very friable; many fine to coarse roots; very strongly acid; abrupt smooth boundary.

E—2 to 13 inches; light yellowish brown (2.5Y 6/4) fine sandy loam; weak fine granular structure; friable; few fine and medium roots; common fine pores; very strongly acid; clear smooth boundary.

EB—13 to 16 inches; light olive brown (2.5Y 5/4) fine sandy loam; weak fine subangular blocky and weak fine granular structure; friable; few medium roots; common fine pores; 5 percent angular quartzite gravel; very strongly acid; clear smooth boundary.

BEt—16 to 20 inches; yellowish brown (10YR 5/8) sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; 2 percent angular quartzite gravel; very strongly acid; clear smooth boundary.

Bt1—20 to 28 inches; yellowish brown (10YR 5/6) sandy clay loam; common prominent light reddish brown (2.5YR 7/4) and few fine distinct strong brown (7.5YR 5/8) mottles; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; distinct patchy clay films; very strongly acid; clear smooth boundary.

Bt2—28 to 39 inches; pale brown (10YR 6/3), yellowish red (5YR 4/6), strong brown (7.5YR 5/6), and yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; distinct continuous clay films; very strongly acid; gradual smooth boundary.

BCt—39 to 60 inches; yellowish brown (10YR 5/8), gray (10YR 6/1), and yellowish red (5YR 4/6) sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; faint patchy clay films; very strongly acid; clear wavy boundary.

C—60 to 84 inches; red (2.5YR 4/8), gray (10YR 6/1), and pale brown (10YR 6/3) clay; massive; firm, moderately sticky, moderately plastic; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 10 percent angular quartz gravel

A horizon:
Hue—10YR to 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—fine sandy loam

E horizon:
Hue—10YR to 2.5Y
Value—4 to 7
Chroma—1 to 4
Texture—fine sandy loam

EB or BE horizon:
Hue—10YR to 2.5Y
Value—6 to 8
Chroma—1 to 4
Texture—sandy loam, fine sandy loam, or sandy clay loam

Bt horizon:
Hue—5YR to 10YR
Value—5 or 6
Chroma—3 to 8
Texture—sandy clay loam or clay loam

BC horizon:
Hue—5YR to 10YR
Value—5 or 6
Chroma—3 to 8
Texture—sandy loam or sandy clay loam

C horizon:
Hue—10YR to 5Y or neutral
Value—4 to 7
Chroma—1 to 8
Texture—sandy loam to clay

Edgehill Series

Physiographic province: Southern Piedmont and Coastal Plain
Landform: Piedmont and Coastal Plain river terraces
Parent material: Gravelly clayey fluviomarine deposits
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 do not have rock fragments
- Cecil soils, which do not have rock fragments
- Masada soils, which do not have rock fragments

- Turbeville soils, which do not have rock fragments
- Wateree soils, which have less clay

Taxonomic Classification

Clayey-skeletal, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Edgehill-Urban land complex, 2 to 6 percent slopes; located 300 yards south of Highway VA-902 and 0.75 mile west of the junction of Highways VA-902 and VA-711; Midlothian, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 32 minutes 25.00 seconds N. and long. 77 degrees 39 minutes 6.00 seconds W.

A—0 to 2 inches; dark grayish brown (10YR 4/2) very gravelly fine sandy loam; weak very fine and fine granular structure; very friable; many fine roots; 5 percent rounded cobbles and 50 percent rounded gravel; very strongly acid; abrupt smooth boundary.

E—2 to 17 inches; pale brown (10YR 6/3) very gravelly fine sandy loam; weak very fine and fine granular structure; very friable; common fine and medium roots; 2 percent rounded cobbles and 50 percent rounded gravel; very strongly acid; clear smooth boundary.

BEt—17 to 20 inches; strong brown (7.5YR 5/6) very gravelly clay loam; weak fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; 2 percent rounded cobbles and 50 percent rounded gravel; very strongly acid; clear wavy boundary.

Bt—20 to 41 inches; red (2.5YR 4/6) gravelly clay; weak fine subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; patchy clay films on rock fragments and continuous clay films on faces of peds; 8 percent rounded cobbles and 40 percent rounded gravel; very strongly acid; gradual wavy boundary.

C—41 to 80 inches; yellowish red (5YR 5/6), strong brown (7.5YR 5/6), and yellowish brown (10YR 5/6) very gravelly sandy loam; massive; friable, slightly sticky, slightly plastic; few fine roots; 55 percent rounded gravel; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches or more
Depth to bedrock: More than 5 feet
Rock fragments: 35 to 70 percent rounded quartz, quartzite, and gneiss cobbles and gravel

A horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—1 to 6
Texture (fine-earth fraction)—fine sandy loam

E horizon:
Hue—10YR to 2.5Y
Value—5 or 6
Chroma—3 to 5
Texture (fine-earth fraction)—sandy loam or fine sandy loam

BE horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

Bt horizon:
Hue—10R to 10YR
Value—3 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—clay loam or clay

C horizon:
Hue—10R to 10YR
Value—3 to 7
Chroma—3 to 8
Texture (fine-earth fraction)—sandy loam to clay

Faceville Series

Physiographic province: Coastal Plain
Landform: Coastal Plain uplands
Parent material: Clayey fluviomarine sediments
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 20 percent

Associated Soils

- Gritney soils, which have a thinner solum
- Kempsville soils, which have less clay
- Norfolk soils, which have less clay
- Orangeburg soils, which have less clay
- Tetotum soils, which are moderately well drained

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kandiudults

Typical Pedon

Faceville-Urban land complex, 2 to 6 percent slopes; located 0.67 mile northeast of Lake Chesdin dam and 0.47 feet south of the junction of Highways VA-669 and VA-602, south of water main from Appomattox River authority; Sutherland, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 13 minutes 25.00 seconds N. and long. 77 degrees 39 minutes 6.00 seconds W.

A—0 to 1 inch; dark gray (10YR 4/1) fine sandy loam; weak fine granular structure; very friable, soft, nonsticky, nonplastic; very strongly acid; smooth boundary.

E—1 to 6 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; few fine roots; common fine pores; very strongly acid; clear smooth boundary.

EB—6 to 12 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; few fine roots; few fine pores; few fine faint yellowish brown (10YR 5/4) and pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; clear smooth boundary.

BEt—12 to 18 inches; yellowish red (5YR 5/6) sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; patchy clay films; very strongly acid; gradual smooth boundary.

Bt1—18 to 38 inches; red (2.5YR 4/6) clay; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine pores; continuous clay films; few fine and medium distinct strong brown (7.5YR 5/6) masses of oxidized iron; 10 percent gravel; very strongly acid; gradual smooth boundary.

Bt2—38 to 100 inches; red (10R 4/6) clay; moderate fine angular blocky structure; firm, slightly sticky, slightly plastic; few fine pores; continuous clay films; few plinthite nodules; 10 percent gravel; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 15 percent rounded quartz gravel

A horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 4
Texture (fine-earth fraction)—fine sandy loam or loamy sand

E horizon:
Hue—5YR to 10YR
Value—5 to 7
Chroma—3 or 4
Texture (fine-earth fraction)—sandy loam or fine sandy loam

EB or BE horizon:
Hue—2.5YR to 10YR
Value—4 or 5
Chroma—6 to 8
Texture (fine-earth fraction)—fine sandy loam, sandy clay loam, or clay loam

Bt horizon:
Hue—10R to 5YR
Value—3 to 5
Chroma—6 to 8
Texture (fine-earth fraction)—clay loam, sandy clay, or clay

BC horizon (if it occurs):
Hue—10R to 5YR
Value—3 to 7
Chroma—3 to 8
Texture (fine-earth fraction)—sandy clay loam or sandy clay

Gritney Series

Physiographic province: Coastal Plain
Landform: Coastal Plain uplands
Parent material: Clayey fluviomarine sediments
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Low
Depth class: Very deep
Slope range: 2 to 12 percent

Associated Soils

- Atlee soils, which have less clay
- Dunbar soils, which are somewhat poorly drained
- Faceville soils, which have a thicker solum
- Tetotum soils, which are moderately well drained

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Faceville-Gritney-Urban land complex, 2 to 6 percent slopes; located 0.12 mile west of Highway VA-145, about 0.25 mile south of Highway VA-1452, and 1 mile north of Centralia; Drewrys Bluff, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 23 minutes 40.00 seconds N. and long. 77 degrees 27 minutes 10.00 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; many fine roots; common fine pores; 2 percent rounded quartzite gravel; very strongly acid; abrupt smooth boundary.

Bt1—9 to 23 inches; yellowish red (5YR 4/6) clay; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; few fine pores; continuous clay films; few fine distinct red (2.5YR 4/6) masses of oxidized iron; 2 percent rounded quartzite gravel; very strongly acid; clear smooth boundary.

Bt2—23 to 32 inches; yellowish red (5YR 4/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine pores; continuous clay films; few fine prominent gray (10YR 6/1) iron depletions and common fine faint red (2.5YR 4/6) masses of oxidized iron; 2 percent rounded quartzite gravel; very strongly acid; clear smooth boundary.

Bt3—32 to 39 inches; yellowish red (5YR 4/6), red (2.5YR 4/6), light brownish gray (10YR 6/2), and gray (10YR 6/1) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; patchy clay films; very strongly acid; clear smooth boundary.

BCt—39 to 52 inches; gray (10YR 6/1), strong brown (7.5YR 5/8), red (2.5YR 4/6), and yellowish red (5YR 4/6) sandy clay loam; moderate thick platy structure; friable, moderately sticky, slightly plastic; patchy clay films; very strongly acid; abrupt smooth boundary.

C1—52 to 59 inches; yellowish red (5YR 4/6) and gray (10YR 6/1) loamy sand; single grain; very friable, nonsticky, nonplastic; very strongly acid; abrupt smooth boundary.

C2—59 to 70 inches; yellowish red (5YR 4/6) and gray (10YR 6/1) clay; massive; firm, moderately sticky, moderately plastic; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 30 percent rounded quartz gravel
Redoximorphic features: In shades of red, brown, yellow, or gray in the Bt, BCt, and C horizons

A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy clay or clay

BC horizon:
Hue—2.5YR to 10YR
Value—4 to 6

Chroma—1 to 8
Texture (fine-earth fraction)—sandy clay loam to clay

C horizon:
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—3 to 8
Texture (fine-earth fraction)—sand to clay

Cg horizon (if it occurs):
Hue—2.5YR to 10YR or neutral
Value—4 to 6
Chroma—0 to 2
Texture (fine-earth fraction)—sand to clay

Grover Series

Physiographic province: Southern Piedmont
Landform: Piedmont uplands
Parent material: Loamy residuum weathered from granite and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 6 to 35 percent

Associated Soils

- Appling soils, which have more clay
- Cecil soils, which have more clay
- Colfax soils, which have a fragipan
- Wateree soils, which have less clay
- Wedowee soils, which have more clay

Taxonomic Classification

Fine-loamy, micaceous, thermic Typic Hapludults

Typical Pedon

Grover fine sandy loam, 12 to 20 percent slopes; located in Pocahontas State Park, along the south side of Swift Creek, 1.25 miles east of Highway VA-10, about 0.75 mile north of Highway VA-655; Chesterfield, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 22 minutes 49.00 seconds N. and long. 77 degrees 32 minutes 5.00 seconds W.

A—0 to 3 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; strongly acid; abrupt smooth boundary.

E—3 to 12 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak coarse subangular blocky structure parting to weak fine granular; very friable; common fine and medium roots; 1 percent angular quartzite gravel; strongly acid; clear smooth boundary.

BE—12 to 16 inches; strong brown (7.5YR 5/6) sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; 1 percent angular quartzite gravel; very strongly acid; clear smooth boundary.

Bt—16 to 28 inches; yellowish red (5YR 4/6) clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; patchy clay films; common fine mica flakes; very strongly acid; clear smooth boundary.

BCt—28 to 36 inches; yellowish red (5YR 4/6) clay loam; weak coarse angular blocky and weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; patchy clay films; common fine mica flakes; very strongly acid; gradual smooth boundary.

C—36 to 60 inches; brownish yellow (10YR 6/6), red (2.5YR 4/6), and yellowish red (5YR 4/6) sandy clay loam; massive; friable, slightly sticky, slightly plastic; many fine mica flakes; 1 percent gravel; very strongly acid.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 15 percent angular quartz gravel

A horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—fine sandy loam

E horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 8
Texture—fine sandy loam

BE horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—fine sandy loam or sandy clay loam

Bt horizon:
Hue—5YR or 7.5YR
Value—4 or 5
Chroma—6 to 8
Texture—loam, sandy clay loam, or clay loam

BC horizon:
Hue—5YR or 7.5YR
Value—4 or 5
Chroma—6 to 8
Texture—sandy loam, loam, or sandy clay loam

C horizon:
Hue—5YR or 7.5YR
Value—4 or 5
Chroma—6 to 8
Texture—sandy loam, sandy clay loam, or loam

Johnston Series

Physiographic province: Coastal Plain
Landform: Flood plains on Coastal Plain
Parent material: Loamy alluvium
Drainage class: Very poorly drained

Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 0 to 3 percent

Associated Soils

- Chastain soils, which have more clay
- Nawney soils, which have more clay
- Tomotley soils, which have more clay

Taxonomic Classification

Coarse-loamy, siliceous, active, acid, thermic Cumulic Humaquepts

Typical Pedon

Johnston mucky loam, 0 to 3 percent slopes, frequently flooded; located about 600 feet southeast of the junction of Highway VA-628 and Diascund Creek; Walkers, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 28 minutes 46.00 seconds N. and long. 76 degrees 58 minutes 20.00 seconds W.

A—0 to 24 inches; black (10YR 2/1) mucky loam; weak medium granular structure; very friable, slightly sticky, slightly plastic; many fine and medium roots throughout; very strongly acid; gradual wavy boundary.

Cg1—24 to 30 inches; dark gray (10YR 4/1) sandy loam; massive; very friable, slightly sticky, slightly plastic; few fine roots throughout; very strongly acid; clear smooth boundary.

Cg2—30 to 64 inches; dark grayish brown (10YR 4/2) loamy sand; massive; very friable, slightly sticky, nonplastic; few fine roots throughout; strongly acid.

Range in Characteristics

Depth to bedrock: More than 5 feet
Redoximorphic features: In shades of red, brown, yellow, or gray in the Cg horizon
Other features: Some pedons have a few inches of recent alluvial sediments deposited over the dark-colored A horizon

A horizon:
Hue—10YR to 2.5Y or neutral
Value—2 or 3
Chroma—0 to 3
Texture—mucky loam, loam, or sandy loam

Cg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—loamy sand, sandy loam, or loam

Kempsville Series

Physiographic province: Coastal Plain
Landform: Coastal Plain uplands
Parent material: Loamy fluviomarine deposits
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 6 percent

Associated Soils

- Bourne soils, which have a fragipan
- Faceville soils, which have more clay
- Gritney soils, which have more clay
- Norfolk soils, which have a thicker solum
- Orangeburg soils, which have a thicker solum

Taxonomic Classification

Fine-loamy, siliceous, subactive, thermic Typic Hapludults

Typical Pedon

Kempsville-Bourne-Urban land complex, 2 to 6 percent slopes; located at the end of Highway VA-646, about 2 miles north of the Appomattox River and 1 mile south of the junction of Highways VA-646 and VA-602; Mannboro, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 18 minutes 18.00 seconds N. and long. 77 degrees 45 minutes 28.00 seconds W.

A—0 to 3 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; abrupt smooth boundary.

E—3 to 19 inches; light reddish brown (2.5YR 6/4) sandy loam; weak fine granular structure; friable; many fine and medium roots; few vesicular pores; very strongly acid; gradual smooth boundary.

BEt—19 to 23 inches; yellowish brown (10YR 5/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many medium roots; very strongly acid; gradual smooth boundary.

Bt1—23 to 29 inches; yellowish brown (10YR 5/6) sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine to coarse roots; common clay bridges; very strongly acid; gradual smooth boundary.

Bt2—29 to 37 inches; yellowish brown (10YR 5/8) sandy clay loam; weak fine subangular blocky structure; many vesicular pores; common medium distinct strong brown (7.5YR 5/8) and pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; gradual smooth boundary.

BCt—37 to 65 inches; yellowish brown (10YR 5/8) sandy clay; weak coarse subangular blocky structure; firm, moderately sticky, slightly plastic; common medium distinct strong brown (7.5YR 5/6) and pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; gradual smooth boundary.

C1—65 to 150 inches; gray (10YR 6/1), red (2.5YR 5/6), and yellowish brown (10YR 5/6) sandy clay loam; massive; common plinthite nodules; very strongly acid; gradual smooth boundary.

C2—150 to 234 inches; red (2.5YR 5/6) sand; massive; very strongly acid.

Range in Characteristics

Solum thickness: 42 to 60 inches or more
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 15 percent rounded quartz gravel in the C horizon

A horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—sandy loam or fine sandy loam

E horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—3 to 6
Texture—sandy loam

BEt horizon:
Hue—10YR or 7.5YR
Value—4 to 7
Chroma—4 to 8
Texture—sandy loam, sandy clay loam, or clay loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6 to 8
Texture—sandy clay loam or clay loam

BC horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—sandy clay loam or sandy clay

C horizon:
Hue—5YR to 10YR
Value—4 to 7
Chroma—3 to 8
Texture (fine-earth fraction)—sand to sandy clay

Masada Series

Physiographic province: Southern Piedmont and Coastal Plain
Landform: Piedmont and Coastal Plain high river terraces
Parent material: Clayey alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 12 percent

Associated Soils

- Appling soils, which have kaolinitic mineralogy
- Augusta soils, which are somewhat poorly drained
- Cecil soils, which have kaolinitic mineralogy
- Faceville soils, which have a thicker solum
- Norfolk soils, which have less clay
- Tetotum soils, which are moderately well drained
- Turbeville soils, which have a thicker solum

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Masada-Urban land complex, 2 to 6 percent slopes; located south of U.S. Highway 60, about 0.75 mile east of the junction of U.S. Highway 60 and Highway VA-607, in Watkins nursery; Midlothian, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37

degrees 30 minutes 36.00 seconds N. and long. 77 degrees 42 minutes 28.00 seconds W.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; 1 percent rounded quartzite gravel; strongly acid; clear smooth boundary.
BAt—10 to 18 inches; yellowish brown (10YR 5/6) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; many wormcasts; 1 percent rounded quartzite gravel; strongly acid; gradual smooth boundary.
Bt1—18 to 23 inches; strong brown (7.5YR 5/6) clay; weak medium subangular blocky structure; firm, moderately sticky, slightly plastic; common fine and medium roots; few clay films; 1 percent rounded quartzite gravel; very strongly acid; gradual smooth boundary.
Bt2—23 to 55 inches; yellowish red (5YR 4/6) clay; moderate medium subangular blocky and angular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; many clay films; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron; 1 percent rounded quartzite gravel; very strongly acid; gradual smooth boundary.
Bt3—55 to 74 inches; red (2.5YR 4/8), yellowish brown (10YR 5/8), yellowish red (5YR 4/6), and strong brown (7.5YR 5/8) clay; weak fine subangular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; many clay films; 1 percent rounded quartzite gravel; very strongly acid; clear smooth boundary.
C—74 to 80 inches; red (2.5YR 5/6), light olive brown (2.5Y 5/4), yellowish brown (10YR 5/4), yellowish red (5YR 4/6), and strong brown (7.5YR 5/6) gravelly clay loam; massive; friable, moderately sticky, slightly plastic; 35 percent rounded quartzite gravel; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 80 inches or more
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 30 percent rounded quartz gravel in the A and B horizons; 0 to 35 percent in the C horizon

A horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam

BA horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—6 to 8
Texture (fine-earth fraction)—clay loam, sandy clay, or clay

BC horizon (if it occurs):
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay

C horizon:
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—clay loam

Nawney Series

Physiographic province: Coastal Plain
Landform: Coastal Plain and Piedmont flood plains
Parent material: Loamy alluvium
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Low
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Augusta soils, which are somewhat poorly drained
- Johnston soils, which have less clay

Taxonomic Classification

Fine-loamy, mixed, active, acid, thermic Typic Fluvaquents

Typical Pedon

Nawney silt loam, 0 to 2 percent slopes, frequently flooded; located about 0.4 mile south of the junction of U.S. Highway 60 and Highway VA-618, about 500 feet west of Highway VA-618, and 1,500 feet north of the Chickahominy River; Providence Forge, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 26 minutes 17.00 seconds N. and long. 77 degrees 3 minutes 43.00 seconds W.

A1—0 to 4 inches; dark gray (5Y 4/1) silt loam; moderate medium granular structure; very friable, moderately sticky, moderately plastic; many fine to coarse roots throughout; few fine platy mica flakes; very strongly acid; gradual smooth boundary.

A2—4 to 7 inches; dark grayish brown (2.5Y 4/2) silt loam; moderate medium granular structure; very friable, moderately sticky, moderately plastic; common fine and medium roots throughout; common fine tubular pores; common fine distinct dark yellowish brown (10YR 4/4) masses of oxidized iron; few fine platy mica flakes; very strongly acid; gradual smooth boundary.

Cg1—7 to 17 inches; gray (5Y 5/1) clay loam; massive; friable, moderately sticky, moderately plastic; common fine and medium roots throughout; common fine tubular pores; many medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; few fine platy mica flakes; very strongly acid; gradual smooth boundary.

Cg2—17 to 36 inches; greenish gray (5BG 5/1) silty clay loam; massive; friable, moderately sticky, moderately plastic; few fine to coarse roots throughout; few fine tubular pores; many medium prominent strong brown (7.5YR 5/6) masses of oxidized iron; few fine platy mica flakes; strongly acid; gradual smooth boundary.

Cg3—36 to 41 inches; greenish gray (5GY 5/1) clay; massive; friable, moderately sticky, moderately plastic; few fine to coarse roots throughout; few fine tubular pores; common fine prominent dark yellowish brown (10YR 4/4) masses of oxidized iron; few fine platy mica flakes; strongly acid; clear wavy boundary.

Cg4—41 to 65 inches; dark greenish gray (5BG 4/1) stratified sand to silty clay loam;

massive; friable, slightly sticky, slightly plastic; few fine roots throughout; few black stains; few fine platy mica flakes; slightly acid.

Range in Characteristics

Loamy horizon thickness: 40 to 60 inches
Rock fragments: 0 to 2 percent rounded quartz gravel in the A, B, and C horizons
Redoximorphic features: In shades of red, brown, yellow, or gray in the Cg horizon

A horizon:
Hue—7.5YR to 5Y or neutral
Value—2 to 5
Chroma—0 to 2
Texture—sandy loam, loam, or silt loam

C horizon (upper part):
Hue—10YR to 5BG or neutral
Value—4 to 7
Chroma—0 to 2
Texture—sandy loam, fine sandy loam, loam, clay loam, or silty clay loam

C horizon (lower part):
Hue—10YR to 5BG or neutral
Value—4 to 7
Chroma—0 to 2
Texture—sand to clay

Norfolk Series

Physiographic province: Coastal Plain
Landform: Coastal Plain uplands
Parent material: Loamy fluviomarine deposits
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 6 percent

Associated Soils

- Bourne soils, which have a fragipan
- Dunbar soils, which are somewhat poorly drained
- Faceville soils, which have more clay
- Gritney soils, which have less clay and a thinner solum
- Kempsville soils, which have a thinner solum
- Masada soils, which have more clay
- Tetotum soils, which are moderately well drained

Taxonomic Classification

Fine-loamy, kaolinitic, thermic Typic Kandiudults

Typical Pedon

Norfolk-Urban land complex, 0 to 6 percent slopes; located on the edge of Southside Nursery, 0.25 mile west of Highway VA-145, about 0.33 mile south of Highway VA-611; Drewrys Bluff, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 24 minutes 17.00 seconds N. and long. 77 degrees 26 minutes 41.00 seconds W.

Ap1—0 to 1 inch; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; abrupt smooth boundary.

Ap2—1 to 8 inches; weak red (2.5YR 5/2) fine sandy loam; weak fine granular structure; very friable; few fine and medium roots; very strongly acid; abrupt smooth boundary.

E—8 to 11 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; very friable; few fine and medium roots; few fine and medium pores; few fine faint yellowish brown (10YR 5/4) and pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; clear smooth boundary.

BEt—11 to 16 inches; yellowish brown (10YR 5/6) sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; common fine and medium pores; few fine faint strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; clear smooth boundary.

Bt1—16 to 31 inches; yellowish brown (10YR 5/8) sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium pores; patchy clay films; few fine faint strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; clear smooth boundary.

Bt2—31 to 47 inches; yellowish brown (10YR 5/6) clay; moderate fine and medium subangular blocky and angular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; few fine pores; continuous clay films; common medium faint strong brown (7.5YR 5/6) masses of oxidized iron and common medium distinct yellowish red (5YR 4/6) and pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; clear smooth boundary.

Bt3—47 to 70 inches; gray (10YR 6/1), strong brown (7.5YR 5/6), yellowish brown (10YR 5/8), yellowish red (5YR 5/6), and red (2.5YR 4/6) clay; weak thin platy and strong fine angular blocky structure; firm, slightly sticky, slightly plastic; continuous clay films; very strongly acid; gradual smooth boundary.

BCt—70 to 90 inches; yellowish brown (10YR 5/6), yellowish red (5YR 5/6), strong brown (7.5YR 5/6), gray (10YR 6/1), and red (2.5YR 4/6) clay; weak coarse subangular blocky structure; firm, moderately sticky, moderately plastic; patchy clay films; very strongly acid; gradual smooth boundary.

C—90 to 107 inches; strong brown (7.5YR 5/6) sandy loam; massive; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 15 percent rounded quartz gravel in the C horizon

A horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—fine sandy loam

E horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—2 to 6
Texture—fine sandy loam

BE horizon:
Hue—10YR or 2.5Y
Value—4 to 6

Chroma—3 to 8
Texture—sandy loam, fine sandy loam, or sandy clay loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6 to 8
Texture—sandy clay loam or clay loam

BC horizon:
Hue—5YR to 10YR
Value—4 to 7
Chroma—1 to 8
Texture—sandy clay loam, clay loam, or clay

C horizon:
Hue—2.5YR to 10YR
Value—4 to 8
Chroma—1 to 8
Texture—sandy loam to clay in the fine-earth fraction

Orangeburg Series

Physiographic province: Coastal Plain
Landform: Coastal Plain uplands
Parent material: Loamy fluviomarine deposits
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 12 percent

Associated Soils

- Faceville soils, which have more clay
- Kempsville soils, which have a thinner solum
- Norfolk soils, which have a yellower subsoil

Taxonomic Classification

Fine-loamy, kaolinitic, thermic Typic Kandiudults

Typical Pedon

Orangeburg-Faceville-Urban land complex, 2 to 6 percent slopes; located just east of Highway VA-669, about 0.75 mile north of the junction of Highways VA-669 and VA-602; Sutherland, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 14 minutes 50.00 seconds N. and long. 77 degrees 30 minutes 25.00 seconds W.

Ap—0 to 12 inches; grayish brown (10YR 5/2) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine roots; very strongly acid; abrupt smooth boundary.

E—12 to 16 inches; light olive brown (2.5Y 5/4) sandy loam; weak fine granular structure; friable, nonsticky, nonplastic; common fine roots; common fine pores; common medium distinct pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; clear smooth boundary.

BE—16 to 24 inches; yellowish brown (10YR 5/4) clay loam; weak fine subangular blocky structure; very friable, slightly sticky, slightly plastic; many fine roots; many fine pores; common fine faint pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; gradual smooth boundary.

Bt1—24 to 43 inches; strong brown (7.5YR 5/6) sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; many fine pores; few clay films; very strongly acid; diffuse smooth boundary.
Bt2—43 to 67 inches; yellowish red (5YR 5/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine pores; few clay films; 1 percent rounded quartzite gravel; very strongly acid; clear smooth boundary.
Bt3—67 to 100 inches; red (2.5YR 4/6), yellowish brown (10YR 5/6), and reddish brown (2.5YR 4/4) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few clay films; 1 percent rounded quartzite gravel; very strongly acid.

Range in Characteristics

Solum thickness: 60 to 100 inches or more
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 5 percent rounded quartz gravel

A horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—2 to 4
Texture—sandy loam

E horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—3 to 6
Texture—sandy loam

BE horizon:
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—sandy loam or sandy clay loam

Bt horizon:
Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture—sandy loam, sandy clay loam, or sandy clay

Pouncey Series

Physiographic province: Southern Piedmont
Landform: Piedmont uplands
Parent material: Clayey alluvium over sandstone bedrock
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Low
Depth class: Moderately deep
Slope range: 0 to 6 percent

Associated Soils

- Bourne soils, which are better drained and have a fragipan
- Colfax soils, which are better drained and have a fragipan
- Coxville soils, which have a thicker solum

- Dunbar soils, which are somewhat poorly drained
- Tetotum soils, which are moderately well drained

Taxonomic Classification

Fine, mixed, active, thermic Typic Albaquults

Typical Pedon

Pouncey-Urban land complex, 0 to 6 percent slopes; located 0.25 mile east of Highway VA-150, about 0.67 mile north of U.S. Highway 60; Bon Air, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 30 minutes 37.00 seconds N. and long. 77 degrees 31 minutes 2.00 seconds W.

A—0 to 6 inches; dark gray (10YR 4/1) fine sandy loam; weak fine and medium granular structure; very friable; common fine and medium roots; 1 percent rounded quartzite gravel; extremely acid; clear wavy boundary.
Eg—6 to 18 inches; light gray (10YR 7/1) fine sandy loam; weak medium granular structure; friable; few fine roots; many fine and medium pores; 1 percent rounded quartzite gravel; extremely acid; clear wavy boundary.
Btg—18 to 25 inches; dark grayish brown (2.5Y 4/2) clay; moderate medium and coarse angular blocky and subangular blocky structure; firm, moderately sticky, moderately plastic; common fine and medium roots; continuous clay films; many medium faint dark gray (10YR 4/1) iron depletions; extremely acid; abrupt smooth boundary.
2R—25 inches; bedrock.

Range in Characteristics

Solum thickness: 24 to 40 inches
Depth to bedrock: 2 to 3.5 feet
Rock fragments: 0 to 10 percent quartz gravel
Redoximorphic features: In shades of red, brown, yellow, or gray in the Eg and Btg horizons

A horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 or 2
Texture—fine sandy loam

Eg horizon:
Hue—10YR or 2.5Y
Value—6 or 7
Chroma—1 or 2
Texture—fine sandy loam

Btg horizon:
Hue—10YR to 5Y
Value—4 or 5
Chroma—1 or 2
Texture—clay loam, sandy clay, or clay

Riverview Series

Physiographic province: Southern Piedmont
Landform: Piedmont flood plains
Parent material: Loamy alluvium
Drainage class: Well drained

Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 3 percent

Associated Soils

- Chewacla soils, which are somewhat poorly drained
- Roanoke soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, active, thermic Oxyaquic Dystrudepts

Typical Pedon

Riverview silt loam, 0 to 3 percent slopes, frequently flooded; located 2.75 miles south of Richmond, 1 mile west of Osborne Turnpike, 100 feet east of the James River; Drewrys Bluff, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 27 minutes 37.00 seconds N. and long. 77 degrees 24 minutes 58.00 seconds W.

A1—0 to 2 inches; dark brown (10YR 3/3) silt loam; moderate medium granular structure; friable, nonsticky, nonplastic; many fine and many medium roots; common fine mica flakes; strongly acid; clear smooth boundary.
A2—2 to 5 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; friable, nonsticky, nonplastic; many fine and many medium roots; common fine mica flakes; strongly acid; clear smooth boundary.
Bw—5 to 27 inches; brown (7.5YR 4/4) silt loam; weak coarse prismatic structure parting to weak coarse angular blocky; friable, nonsticky, nonplastic; many fine and medium roots; common fine vesicular and common medium vesicular pores; common fine mica flakes; strongly acid; clear smooth boundary.
C1—27 to 56 inches; brown (7.5YR 4/4) silt loam; massive; firm, nonsticky, nonplastic; few fine roots; common medium distinct light gray (10YR 7/2) iron depletions and common medium distinct very pale brown (10YR 7/3) and yellowish brown (10YR 5/6) masses of oxidized iron; common fine mica flakes; strongly acid; gradual smooth boundary.
C2—56 to 104 inches; very dark grayish brown (2.5Y 3/2) silt loam; massive; friable, slightly sticky, nonplastic; common medium prominent strong brown (7.5YR 5/6) and brownish yellow (10YR 6/8) masses of oxidized iron; common fine mica flakes; very strongly acid.

Range in Characteristics

Solum thickness: 26 to 40 inches
Depth to bedrock: More than 5 feet
Redoximorphic features: In shades of red, brown, yellow, or gray in the lower C horizon

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 to 5
Texture—very fine sandy loam, loam, or silt loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—very fine sandy loam, loam, or silt loam

C horizon:
Hue—7.5YR to 2.5Y
Value—3 to 5
Chroma—2 to 4
Texture—loamy sand to silty clay loam

Roanoke Series

Physiographic province: Piedmont and Coastal Plain
Landform: Coastal Plain uplands
Parent material: Clayey alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Low
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Augusta soils, which are somewhat poorly drained
- Masada soils, which are well drained
- Varina soils, which are well drained

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Endoaquults

Typical Pedon

Roanoke silt loam, 0 to 2 percent slopes; located north of Highway VA-711, about 0.25 mile northwest of the junction of Highways VA-711 and VA-147; Bon Air, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 31 minutes 25.00 seconds N. and long. 77 degrees 36 minutes 51.00 seconds W.

Ap—0 to 4 inches; very dark gray (10YR 3/1) silt loam; weak fine granular structure; friable, nonsticky, nonplastic; common fine roots; 1 percent rounded quartzite gravel; very strongly acid; abrupt wavy boundary.

Btg1—4 to 10 inches; dark gray (10YR 4/1) clay; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine distinct olive brown (2.5Y 4/4) and light olive brown (2.5Y 5/4) masses of oxidized iron; very strongly acid; clear wavy boundary.

Btg2—10 to 20 inches; dark gray (10YR 4/1) clay loam; weak fine subangular blocky structure; firm, moderately sticky, moderately plastic; common fine prominent yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and yellowish red (5YR 5/6) masses of oxidized iron; 1 percent rounded quartzite gravel; very strongly acid; clear wavy boundary.

Btg3—20 to 35 inches; gray (10YR 5/1) clay loam; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; common medium prominent strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) masses of oxidized iron; 1 percent rounded quartzite gravel; very strongly acid; clear smooth boundary.

Btg4—35 to 60 inches; gray (10YR 5/1) clay; moderate medium and coarse subangular blocky structure; firm, moderately sticky, moderately plastic; common medium and coarse prominent strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) masses of oxidized iron; 1 percent rounded quartzite gravel; very strongly acid; clear wavy boundary.

Cg—60 to 70 inches; gray (10YR 5/1) gravelly clay; massive; firm, moderately sticky, moderately plastic; common fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron; 20 percent rounded quartzite gravel; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 5 percent rounded quartz gravel in the A and B horizons; 0 to 20 percent in the C horizon
Redoximorphic features: In shades of red, brown, yellow, or gray in the Btg and Cg horizons

A horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 or 2
Texture—fine sandy loam, loam, or silt loam

Btg horizon:
Hue—10YR or 2.5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—clay loam or clay

Cg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—sand to clay in the fine-earth fraction

Slagle Series

Physiographic province: Coastal Plain
Landform: Coastal Plain uplands
Parent material: Loamy fluviomarine deposits
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 2 to 6 percent

Associated Soils

- Kempsville soils, which are well drained
- Norfolk soils, which are well drained

Taxonomic Classification

Fine-loamy, siliceous, subactive, thermic Aquic Hapludults

Typical Pedon

Slagle-Urban land complex, 2 to 6 percent slopes; located about 0.6 mile southwest of the junction of Highways VA-615 and VA-609 and 800 feet south of Highway VA-609; Providence Forge, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 28 minutes 52.00 seconds N. and long. 77 degrees 7 minutes 21.00 seconds W.

Ap—0 to 10 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; very friable, slightly sticky, nonplastic; common fine roots throughout; common fine and medium tubular pores; 2 percent rounded quartzite gravel; strongly acid; abrupt smooth boundary.
E—10 to 16 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak fine and medium granular structure; very friable, slightly sticky, slightly plastic; few fine

roots throughout; common fine and medium tubular pores; 2 percent rounded quartzite gravel; strongly acid; gradual smooth boundary.

Bt1—16 to 21 inches; yellowish brown (10YR 5/4) sandy clay loam; weak medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots throughout; common fine and medium tubular pores; few distinct continuous clay films on faces of peds and few clay bridges on sand and gravel; common fine faint light yellowish brown (10YR 6/4) masses of oxidized iron; 2 percent rounded quartzite gravel; strongly acid; gradual smooth boundary.

Bt2—21 to 28 inches; yellowish brown (10YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots throughout; common fine and medium tubular pores; many distinct continuous clay films on faces of peds and many clay bridges on sand and gravel; common fine prominent pale brown (10YR 6/3) masses of oxidized iron and common fine prominent light brownish gray (10YR 6/2) iron depletions; 2 percent rounded quartzite gravel; strongly acid; clear smooth boundary.

Bt3—28 to 40 inches; yellowish brown (10YR 5/8) sandy clay loam; weak fine angular blocky, weak coarse subangular blocky, weak coarse angular blocky, and weak fine subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots throughout; few fine and medium tubular pores; common distinct continuous clay films on faces of peds; few fine distinct yellowish red (5YR 5/8) masses of oxidized iron and common coarse prominent light brownish gray (10YR 6/2) iron depletions; 2 percent rounded quartzite gravel; strongly acid; gradual smooth boundary.

BC—40 to 51 inches; strong brown (7.5YR 5/6), pale brown (10YR 6/3), light brownish gray (10YR 6/2), and yellowish brown (10YR 5/6) sandy loam; weak coarse angular blocky structure; friable, slightly sticky, nonplastic; few fine tubular and few fine vesicular pores; 2 percent rounded quartzite gravel; very strongly acid; gradual smooth boundary.

C—51 to 65 inches; strong brown (7.5YR 5/6), yellowish brown (10YR 5/6), and light brownish gray (10YR 6/2) fine sandy loam; massive; friable, slightly sticky, nonplastic; few fine tubular and few fine vesicular pores; 2 percent rounded quartzite gravel; extremely acid.

Range in Characteristics

Solum thickness: More than 40 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 5 percent rounded quartz gravel
Redoximorphic features: In shades of red, brown, yellow, or gray in the Bt, BC, and C horizons

A horizon:
Hue—10YR or 2.5Y
Value—2 to 6
Chroma—1 to 4
Texture—sandy loam, fine sandy loam, or loam

E horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—sandy loam, fine sandy loam, or loam

Bt horizon (upper part):
Hue—5YR to 10YR
Value—5 to 7

Chroma—3 to 8
Texture—sandy loam, fine sandy loam, sandy clay loam, or clay loam

Bt horizon (lower part):
Hue—7.5YR to 5Y
Value—4 to 7
Chroma—1 to 8
Texture—sandy loam, sandy clay loam, clay loam, or clay

BC horizon:
Hue—7.5YR to 5Y
Value—4 to 7
Chroma—1 to 8
Texture—sandy loam, sandy clay loam, clay loam, or clay

C horizon:
Hue—2.5YR to 5Y
Value—3 to 8
Chroma—1 to 8
Texture—loamy sand to clay

Tetotum Series

Physiographic province: Coastal Plain
Landform: Coastal Plain terraces
Parent material: Loamy fluviomarine sediments
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 6 percent

Associated Soils

- Coxville soils, which are poorly drained
- Dunbar soils, which are somewhat poorly drained
- Norfolk soils, which are well drained
- Orangeburg soils, which are well drained

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Tetotum-Urban land complex, clayey substratum, 2 to 6 percent slopes; located west of Highway VA-722, about 100 yards south of the junction of Highways VA-722 and VA-628; Chester, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 15 minutes 9.00 seconds N. and long. 77 degrees 28 minutes 44.00 seconds W.

A—0 to 4 inches; grayish brown (2.5Y 5/2) loam; weak fine granular structure; friable; many fine to coarse roots; very strongly acid; clear smooth boundary.
E—4 to 11 inches; reddish brown (2.5YR 5/4) loam; weak fine and medium granular structure; friable; few fine and medium roots; few fine pores; few fine distinct brownish yellow (10YR 6/6) masses of oxidized iron; very strongly acid; clear smooth boundary.
BEt—11 to 14 inches; yellowish brown (10YR 5/6) clay loam; weak fine and medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; patchy clay films; few fine faint brownish yellow (10YR 6/6) masses of oxidized iron; very strongly acid; clear smooth boundary.

Bt1—14 to 22 inches; yellowish brown (10YR 5/6) clay loam; weak medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; discontinuous clay films; few medium faint brownish yellow (10YR 6/6) and strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; gradual smooth boundary.
Bt2—22 to 31 inches; yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and light gray (10YR 7/2) clay loam; weak fine and medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; continuous clay films; very strongly acid; gradual smooth boundary.
Bt3—31 to 35 inches; red (2.5YR 4/8), yellowish brown (10YR 5/8), and light brownish gray (2.5Y 6/2) sandy clay loam; weak fine and medium subangular blocky structure; friable, moderately sticky, slightly plastic; discontinuous clay films; very strongly acid; gradual smooth boundary.
BCtg—35 to 54 inches; gray (10YR 6/1) clay loam; moderate fine and medium subangular blocky structure; friable, moderately sticky, moderately plastic; discontinuous clay films on horizontal faces of peds; many medium prominent red (2.5YR 4/8), brownish yellow (10YR 6/6), and strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; gradual smooth boundary.
Cg1—54 to 70 inches; gray (10YR 6/1) clay; massive; firm, moderately sticky, moderately plastic; many coarse prominent red (2.5YR 4/8), brownish yellow (10YR 6/6), and strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; clear smooth boundary.
Cg2—70 to 80 inches; gray (10YR 6/1) sandy clay loam; massive; firm, moderately sticky, slightly plastic; many coarse prominent brownish yellow (10YR 6/6) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: More than 5 feet
Redoximorphic features: In shades of red, brown, yellow, or gray in the Bt, BCtg, and Cg horizons

A horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—loam

E horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—2 to 4
Texture—loam

BE horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture—sandy loam, loam, or sandy clay loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—6 to 8
Texture—sandy clay loam, silty clay loam, or clay loam

BCg horizon:
Hue—7.5YR to 5Y
Value—5 to 7
Chroma—1 or 2
Texture—sandy loam, loam, or sandy clay loam

Cg horizon:
Hue—7.5YR to 5Y
Value—5 to 7
Chroma—1 or 2
Texture—sandy loam to clay

Toccoa Series

Physiographic province: Southern Piedmont and Coastal Plain
Landform: Flood plains
Parent material: Loamy alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 0 to 4 percent

Associated Soils

- 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 4 percent slopes, frequently flooded; located in an idle field between River Road and the James River, 300 feet south of the James River and 0.5 mile east of Bosher Dam; Bon Air, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 33 minutes 20.00 seconds N. and long. 77 degrees 33 minutes 55.00 seconds W.

Ap—0 to 15 inches; reddish brown (5YR 4/4) fine sandy loam; weak fine granular structure; very friable; common fine pores; 1 percent rounded quartzite gravel and 1 percent cobbles; moderately acid; clear smooth boundary.

C1—15 to 31 inches; brown (7.5YR 4/4) fine sandy loam; massive; very friable; few fine roots; many fine and medium pores; 1 percent rounded quartzite gravel and 1 percent cobbles; moderately acid; gradual smooth boundary.

C2—31 to 60 inches; dark yellowish brown (10YR 4/4), brown (7.5YR 4/4), and pale brown (10YR 6/3) fine sandy loam; massive; very friable; few fine roots; common fine pores; moderately acid.

Range in Characteristics

Depth to bedrock: More than 5 feet
Rock fragments: 0 to 10 percent rounded quartz gravel

A horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—2 to 4
Texture—fine sandy loam

C horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—sandy loam, fine sandy loam, or loam

Tomotley Series

Physiographic province: Coastal Plain
Landform: Coastal Plain river terraces
Parent material: Loamy alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Augusta soils, which are somewhat poorly drained
- Tetotum soils, which are moderately well drained
- Toccoa soils, which are moderately well drained and well drained

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Endoaquults

Typical Pedon

Tomotley-Urban land complex, 0 to 2 percent slopes; located about 0.2 mile north of a road in Virginia Division of Forestry pine seedling nursery and 0.37 feet south of U.S. Highway 60; Providence Forge, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 27 minutes 17.00 seconds N. and long. 77 degrees 4 minutes 21.00 seconds W.

A—0 to 7 inches; very dark grayish brown (10YR 3/2) loam; moderate medium granular structure; very friable, slightly sticky, slightly plastic; many fine and medium and common coarse roots throughout; common fine and medium tubular pores; few fine platy mica flakes; very strongly acid; clear smooth boundary.

E—7 to 17 inches; dark grayish brown (10YR 4/2) fine sandy loam; moderate fine and medium granular structure; very friable, slightly sticky, nonplastic; common fine and medium and few coarse roots throughout; common fine and medium tubular and few coarse tubular pores; very strongly acid; gradual smooth boundary.

Btg1—17 to 31 inches; dark gray (10YR 4/1) sandy clay loam; weak coarse subangular blocky structure; friable, moderately sticky, moderately plastic; common fine and medium roots throughout; common fine and medium tubular pores; common distinct continuous clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/4) masses of oxidized iron; few fine platy mica flakes; strongly acid; clear smooth boundary.

Btg2—31 to 40 inches; dark gray (10YR 4/1) sandy clay loam; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine and medium roots throughout; common fine and medium tubular pores; common distinct continuous clay films on faces of peds; common medium distinct gray (10YR 6/1) iron depletions; few fine platy mica flakes; moderately acid; gradual wavy boundary.

2Cg—40 to 65 inches; gray (10YR 5/1) loamy sand; single grain; loose; few fine iron-manganese concretions; few fine platy mica flakes; 5 percent rounded gravel; moderately acid.

Range in Characteristics

Solum thickness: 30 to 60 inches or more
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 5 percent rounded quartz gravel
Redoximorphic features: In shades of red, brown, yellow, or gray in the E, Btg, and 2Cg horizons

A horizon:
Hue—10YR to 5Y or neutral
Value—2 to 4
Chroma—0 to 2
Texture—loamy sand, fine sandy loam, or loam

E horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—loamy sand, fine sandy loam, or loam

Btg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—loam, fine sandy loam, sandy clay loam, or clay loam

2Cg horizon:
Hue—10YR to 5Y, 5BG, or 5GY or neutral
Value—5 to 7
Chroma—0 to 2
Texture—sand to clay and commonly stratified

Turbeville Series

Physiographic province: Southern Piedmont and Coastal Plain
Landform: Coastal Plain and Piedmont high river terraces
Parent material: Clayey ancient alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 12 percent

Associated Soils

- Augusta soils, which are somewhat poorly drained
- Masada soils, which have a thinner solum
- Varina soils, which have plinthite

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kandiudults

Typical Pedon

Turbeville-Urban land complex, 2 to 6 percent slopes; located 200 yards north of U.S. Highway 60, about 0.75 mile east of the junction of U.S. Highway 60 and Highway

VA-607; Midlothian, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 30 minutes 42.00 seconds N. and long. 77 degrees 42 minutes 31.00 seconds W.

Ap—0 to 11 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; many fine pores; strongly acid; abrupt smooth boundary.
BEt—11 to 17 inches; strong brown (7.5YR 5/6) sandy clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine to coarse roots; strongly acid; clear smooth boundary.
Bt1—17 to 26 inches; red (2.5YR 4/6) clay; moderate fine subangular blocky structure; friable, moderately sticky, moderately plastic; patchy clay films; 1 percent rounded quartz gravel; strongly acid; gradual smooth boundary.
Bt2—26 to 62 inches; red (10R 4/6) clay; moderate fine subangular blocky structure; firm, moderately sticky, moderately plastic; very strongly acid; clear smooth boundary.
2C—62 to 70 inches; red (10R 4/6) gravelly loam; massive; friable; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 30 percent rounded quartz gravel in the A, B, and C horizons

A horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 4
Texture (fine-earth fraction)—fine sandy loam

BEt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

BA horizon (if it occurs):
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon:
Hue—10R or 2.5YR
Value—3 or 4
Chroma—4 to 8
Texture (fine-earth fraction)—clay loam or clay

C or 2C horizon:
Hue—2.5YR to 10R
Value—4 to 6
Chroma—4 to 8
Texture (fine-earth fraction)—sand to clay

Udorthents

Physiographic province: Southern Piedmont and Coastal Plain
Landform: Terraces on Coastal Plain; upland slopes on Piedmont
Parent material: Gravelly, sandy, loamy, and clayey fluvial and marine sediments

Drainage class: Unspecified
Slowest saturated hydraulic conductivity: Unspecified
Depth class: Very deep
Slope range: 0 to 20 percent

Associated Soils

Udorthents are associated with many soils. Included are any soils that are adjacent to the areas excavated or filled.

Typical Pedon

Because of the variability of Udorthents, a typical pedon is not given. Udorthents formed when soils were disturbed by land-leveling, excavation, or filling. They consist of loamy and clayey soil material and varying amounts of rock fragments. Depth to hard bedrock varies from a few inches to more than 5 feet. Areas range from slightly compacted to severely compacted. Unvegetated areas are susceptible to severe erosion. Generally, they are along highways, rail yards and tracks, and other areas that have been excavated or filled.

Varina Series

Physiographic province: Coastal Plain
Landform: Coastal Plain uplands
Parent material: Clayey fluviomarine deposits
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 0 to 4 percent

Associated Soils

- Augusta soils, which are somewhat poorly drained
- Bourne soils, which have a fragipan
- Masada soils, which do not have plinthite
- Turbeville soils, which do not have plinthite

Taxonomic Classification

Fine, kaolinitic, thermic Plinthic Paleudults

Typical Pedon

Varina-Urban land complex, 0 to 4 percent slopes; located in an idle field north of Highway VA-147 near Robious, 1,000 feet northeast of the junction of Highway VA-147 and South Railroad; Bon Air, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 31 minutes 21.00 seconds N. and long. 77 degrees 36 minutes 37.00 seconds W.

Ap—0 to 5 inches; reddish brown (2.5YR 4/4) fine sandy loam; weak fine granular structure; friable, slightly sticky, slightly plastic; strongly acid; abrupt smooth boundary.

E—5 to 10 inches; reddish brown (2.5YR 5/4) fine sandy loam; moderate fine granular structure; friable, slightly sticky, slightly plastic; common fine roots; many fine pores; strongly acid; clear smooth boundary.

BEt—10 to 15 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many fine pores; discontinuous clay films; 1 percent rounded quartzite gravel; strongly acid; clear smooth boundary.

Bt—15 to 35 inches; yellowish brown (10YR 5/4) sandy clay; weak medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; common fine pores; common fine distinct strong brown (7.5YR 5/6) and light yellowish brown (10YR 6/4) masses of oxidized iron; 1 percent rounded quartzite gravel; very strongly acid; clear wavy boundary.

Btv1—35 to 50 inches; strong brown (7.5YR 5/6), yellowish red (5YR 4/6), and weak red (2.5YR 5/2) clay; massive; friable, slightly sticky, slightly plastic; few fine roots; few fine pores; few clay films; common plinthite nodules; 1 percent rounded quartzite gravel; very strongly acid; gradual smooth boundary.

Btv2—50 to 70 inches; gray (10YR 6/1), strong brown (7.5YR 5/6), yellowish red (5YR 5/6), and dark red (2.5YR 3/6) sandy clay; weak thick platy structure; nonsticky, nonplastic; brittle; few clay films on faces of peds; common plinthite nodules; 10 percent rounded quartzite gravel; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 7 percent rounded quartz gravel in the A and upper B horizons

A horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—fine sandy loam

E horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—3 to 8
Texture—fine sandy loam

BE horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—4 to 8
Texture—sandy loam, fine sandy loam, or sandy clay loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—3 to 8
Texture—clay loam, sandy clay, or clay

Btv horizon:
Hue—10R to 2.5Y
Value—4 to 8
Chroma—1 to 8
Texture—clay loam, sandy clay, or clay

Wateree Series

Physiographic province: Southern Piedmont
Landform: Piedmont uplands
Parent material: Loamy residuum weathered from granite and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High

Depth class: Moderately deep
Slope range: 4 to 60 percent

Associated Soils

- Appling soils, which have more clay
- Cecil soils, which have more clay
- Grover soils, which have more clay
- Wedowee soils, which have more clay

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Typic Dystrudepts

Typical Pedon

Wateree sandy loam, 12 to 20 percent slopes; located in Pocahontas State Forest, 1 mile east of Highway VA-653 and 1 mile south of Highway VA-651; Chesterfield, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 23 minutes 40.00 seconds N. and long. 77 degrees 34 minutes 30.00 seconds W.

A—0 to 2 inches; grayish brown (2.5Y 5/2) sandy loam; weak fine granular structure; very friable; many fine and medium roots; common fine mica flakes; very strongly acid; abrupt smooth boundary.

E—2 to 9 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine granular structure; very friable; many fine and medium roots; common fine mica flakes; very strongly acid; clear smooth boundary.

Bw—9 to 22 inches; yellowish brown (10YR 5/4) sandy loam; common distinct yellowish brown (10YR 5/6) and yellowish red (5YR 5/6) mottles; weak fine granular and weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; common fine mica flakes; 5 percent angular quartzite gravel; very strongly acid; gradual smooth boundary.

Cr—22 to 80 inches; weathered bedrock.

Range in Characteristics

Solum thickness: 20 to 30 inches
Depth to bedrock: 2 to 5 feet or more
Rock fragments: 0 to 25 percent angular quartz and granite gravel

A horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture (in the fine-earth fraction)—fine sandy loam or sandy loam

E horizon:
Hue—10YR
Value—4 to 7
Chroma—3 or 4
Texture (in the fine-earth fraction)—fine sandy loam or sandy loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture (in the fine-earth fraction)—sandy loam

C or Cr horizon:
Hue—5YR to 2.5Y
Value—5 or 6

Chroma—6 to 8
Texture—weathered rock material that crushes to sandy loam

Wedowee Series

Physiographic province: Southern Piedmont
Landform: Piedmont uplands
Parent material: Clayey residuum weathered from granite and gneiss
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 6 to 40 percent

Associated Soils

- Appling soils, which have a thicker solum
- Cecil soils, which are more red
- Durham soils, which have less clay
- Grover soils, which have less clay
- Wateree soils, which have less clay
- Worsham soils, which are poorly drained

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Wedowee gravelly fine sandy loam, 20 to 40 percent slopes; located 0.5 mile north of the junction of Highways VA-711 and VA-673, about 500 yards east of Highway VA-673; Bon Air, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 32 minutes 32.00 seconds N. and long. 77 degrees 35 minutes 52.00 seconds W.

A1—0 to 2 inches; gray (5YR 5/1) gravelly fine sandy loam; weak fine granular structure; very friable; many fine to coarse roots; 30 percent angular gravel; very strongly acid; abrupt smooth boundary.
A2—2 to 4 inches; reddish brown (2.5YR 4/4) gravelly fine sandy loam; weak fine granular and subangular blocky structure; very friable; many fine to coarse roots; 30 percent angular gravel; very strongly acid; abrupt smooth boundary.
E—4 to 10 inches; light reddish brown (2.5YR 6/4) gravelly fine sandy loam; moderate fine subangular blocky structure; friable; common fine and medium roots; 25 percent angular gravel; very strongly acid; gradual smooth boundary.
Bt1—10 to 17 inches; yellowish red (5YR 5/6) gravelly clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; 25 percent angular gravel; very strongly acid; gradual smooth boundary.
Bt2—17 to 25 inches; yellowish red (5YR 5/6) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; patchy clay films; 10 percent angular gravel; very strongly acid; gradual smooth boundary.
BCt—25 to 33 inches; yellowish red (5YR 5/8) clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; few clay films; 1 percent angular gravel; very strongly acid; gradual smooth boundary.
C—33 to 60 inches; yellowish red (5YR 4/6) loam; friable, slightly sticky, slightly plastic; very strongly acid.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: More than 5 feet

Rock fragments: 0 to 22 percent angular and rounded quartz pebbles in the A, E, and B horizons

A horizon:
Hue—10YR to 5Y
Value—4 to 6
Chroma—2 to 4
Texture (in the fine-earth fraction)—fine sandy loam

E horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture (in the fine-earth fraction)—fine sandy loam

Bt horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—6 to 8
Texture (in the fine-earth fraction)—sandy clay loam, clay loam, or clay

BC horizon:
Hue—2.5YR to 10YR
Value—5 to 7
Chroma—4 to 8
Texture (in the fine-earth fraction)—fine sandy loam, loam, sandy clay loam, or clay loam

C horizon:
Hue—5YR to 10YR
Value—4 to 8
Chroma—1 to 8
Texture—sandy loam, loam, sandy clay loam, or clay loam

Worsham Series

Physiographic province: Southern Piedmont
Landform: Piedmont uplands
Parent material: Clayey alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Low
Depth class: Very deep
Slope range: 0 to 4 percent

Associated Soils

- Appling soils, which are well drained
- Cecil soils, which are well drained
- Colfax soils, which have a fragipan
- Pouncey soils, which have a thinner solum

Taxonomic Classification

Fine, mixed, active, thermic Typic Endoaquults

Typical Pedon

Worsham-Urban land complex, 0 to 4 percent slopes; located 400 yards north of Highway VA-654, about 0.75 mile northeast of the junction of Highways VA-654 and

VA-655; Beach, Virginia USGS 7.5 Minute Quadrangle, NAD27; lat. 37 degrees 21 minutes 56.00 seconds N. and long. 77 degrees 35 minutes 40.00 seconds W.

A—0 to 5 inches; dark gray (10YR 4/1) fine sandy loam; weak fine granular structure; very friable; many fine to coarse roots; very strongly acid; clear smooth boundary.
Eg—5 to 14 inches; weak red (2.5YR 5/2) fine sandy loam; weak fine granular structure; very friable, slightly sticky, nonplastic; few fine and medium roots; few fine pores; common fine and medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; gradual smooth boundary.
Btg1—14 to 29 inches; gray (5Y 6/1) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; continuous clay films; common medium prominent light olive brown (2.5Y 5/4) and brownish yellow (10YR 6/6) masses of oxidized iron; very strongly acid; gradual wavy boundary.
Btg2—29 to 44 inches; gray (N 6/0) clay; moderate medium angular blocky structure; firm, moderately sticky, moderately plastic; continuous clay films; few fine prominent strong brown (7.5YR 5/8) and common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; gradual wavy boundary.
BCtg—44 to 60 inches; gray (5Y 6/1) sandy clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; patchy gray clay films on all faces of peds; few medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; abrupt irregular boundary.
Cg—60 to 70 inches; gray (5Y 6/1) sandy loam; massive; friable, slightly sticky, slightly plastic; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: More than 5 feet
Rock fragments: 0 to 15 percent throughout the profile
Redoximorphic features: In shades of red, brown, yellow, or gray in the Eg, Btg, BCtg, and Cg horizons

A horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, or loam

Eg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 6
Chroma—0 to 2
Texture—sandy loam, fine sandy loam, or loam

Btg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 6
Chroma—0 to 2
Texture—sandy clay loam, clay loam, sandy clay, or clay

BCg horizon:
Hue—10YR or 2.5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—fine sandy loam, loam, sandy clay loam, or clay loam

Cg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 8
Chroma—0 to 2
Texture—sandy loam, sandy clay loam, or clay loam

Formation of the Soils

This section describes the factors of soil formation and relates them to the soils in the survey area. It also explains the major processes of soil horizon development.

Factors of Soil Formation

Soils are intimate mixtures of broken and partly or completely weathered rock, minerals, organic matter, living plants and animals, water, and air. They occur as part of the natural landscape and differ from place to place. They differ in occurrence, in degree of development of various horizons, in mineral content, in depth over bedrock, and in texture, color, and slope. The characteristics of the soils in any given area depend upon the interaction of the five factors of soil formation: parent material, climate, living organisms, topography, and time. Topography over time modifies the effect of climate and living organisms on parent material *(8)*.

Parent Material

Parent material is the unconsolidated material in which a soil forms. It is largely responsible for the chemical and mineral composition of soils. The three broad classes of parent material in the City of Richmond are residual, fluviomarine, and alluvial materials.

Residual material has weathered in place from the underlying bedrock and forms the basis for the soils of the Piedmont. Fluviomarine material is transported material that has been reworked by stream and marine action and forms the basis for the soils of the Coastal Plain. Alluvial material is transported by water and left as unconsolidated deposits of sand, silt, clay, and large fragments of rock. It forms the basis for soils on terraces and bottom lands of both the Piedmont Plateau and Coastal Plain.

Residual material is generally west of the Fall Line in the City of Richmond. This material formed primarily from granite, gneiss, sandstone, and shale. These rocks weather into parent material that is commonly low in bases and strongly acid. Properties of the residual parent material are directly related to the characteristics of the underlying bedrock. Appling, Cecil, Wateree, and Wedowee soils formed in residuum.

Fluviomarine material is along and east of the Fall Line in the City of Richmond. It consists of tranported and reworked sands, silts, and clays that are gravelly to extremely gravelly in places. The material is layered, and texture changes abruptly in many places in vertical or horizontal directions. Soil formed from fluviomarine material is commonly strongly acid or very strongly acid and low in bases. The texture of the soil reflects the textures of the layers from which it was formed. Kempsville, Norfolk, Orangeburg, Slagle, and Tetotum soils formed in fluviomarine material.

Alluvial material is of local origin along the smaller streams and drainageways and is of both local and general origin along the James River. The material is on flood plains and terraces. Alluvium has a mixed lithology because of the wide variety of igneous and metamorphic rocks and fluviomarine deposits found in the uplands. Total thickness of the alluvium ranges from several feet along the drainageways and small streams to several tens of feet along the James River. Alluvium along the drainageways and small streams is commonly medium to coarse textured. Along the James River, texture varies widely, ranging from fine textured slackwater deposits to coarse textured sand and gravel deposits. Soils that formed in alluvium are moderate in bases and moderately acid or strongly acid. Chastain, Johnston, and Nawney soils formed in recent alluvium on flood plains. Masada and Turbeville soils formed in ancient alluvium on terraces.

Topography

Topography, or relief, affects the formation of soils by influencing the rate of infiltration, the rate of surface runoff, soil drainage, geologic erosion, and soil temperature. It can alter the effects of other soil-forming factors to the extent that several different kinds of soil can form from the same parent material. Differences in topography can cause the same parent material to weather at different rates, thus affecting the impact of plants and animals on soil formation.

The City of Richmond is in an area of rolling topography that is moderately incised by the major drainage patterns. A wide area of river terrace is present along the lower part of the James River. Elevations in the area range from sea level along the James River to a height of about 340 feet in the western part of the city. Generally, the land surface slopes gently to the southeast at an average rate of 20 feet per mile.

The City of Richmond is drained by a number of short streams that empty into the James River. The drainage pattern is, in general, dendritic, but it is irregularly branched. The general fluvial cycle is in a stage of late youth or early maturity.

The city generally consists of gently sloping to steep, intermediate to broad ridges and rises with slopes ranging from 0 to 15 percent. The gently sloping areas have a medium rate of runoff and a good rate of water infiltration. Soils in these areas include Appling, Cecil, and Faceville. The steep areas, where slopes range from 15 to 50 percent, commonly have rapid rates of runoff and a poor rate of water infiltration. The steeper soils, such as Wedowee, have thinner subsoils than the less sloping soils.

Soils on terraces range from well drained to poorly drained and commonly are on slopes ranging from 0 to 6 percent. Drainage is commonly related to both the texture and position of the alluvium on the landscape. Thus, soils that developed from fine textured slackwater deposits in low positions are commonly poorly drained. Roanoke and Tomotley soils are examples. Deposits of fine materials on the gently sloping high river terraces are typically moderately well drained or well drained. Dogue and Turbeville soils are examples. Layers of contrasting materials in the alluvium cause fluctuating water tables and often result in moderately well drained or somewhat poorly drained soils. Slagle and Augusta soils are examples.

Climate

Climate affects the physical, chemical, and biological relationships in soils, primarily through the influence of precipitation and temperature. Water dissolves minerals, supports biological activity, and transports mineral and organic residue through the solum. Temperature determines the type of physical, chemical, and biological activity that takes place and the rate at which it occurs.

The City of Richmond has the rather humid, temperate climate typical of most coastal or near-coastal areas of the Middle Atlantic States. The average annual rainfall is about 43 inches, and the average air temperature is between 50 and 60 degrees F. Rainfall is well distributed throughout the year, but normally July and August are the months of highest rainfall.

The climate is fairly uniform throughout the city. There are no significant differences in elevation and thus no obstructions to the movement of winds, clouds, and rainstorms. Masses of air generally move through the county from the northwest, but they are warmed by air that moves in periodically from the south and southwest.

Because precipitation exceeds evapotranspiration, this humid, rather uniform climate has caused the soils to be strongly leached. Most of the soluble material that either was originally present or was released through weathering has been removed. Therefore, most of the soils are strongly acid and generally are low in plant nutrients.

Precipitation is mainly responsible for the subsoil that characterizes most soils in the county. In addition to leaching soluble material, water that percolates through the soil moves clay from the surface layer to a subsoil layer. Except for soils that formed in recent alluvium or sand, soils in the survey area have a subsoil that contains more clay than the surface layer.

Also influenced by climate is the formation of blocky structure in the subsoil of well developed soils. The development of peds (aggregates) in the subsoil is caused by changes in volume of the soil mass. These changes are primarily the result of alternating wet and dry periods and of alternating freezing and thawing periods.

Weathering of minerals is at a rate proportional to temperature and amount of moisture. Soil weathers more rapidly in tropical regions than in temperate regions and humid regions. In the City of Richmond, the soils are relatively low in weatherable minerals. They contain no free carbonates, and most of the bases have been leached out. However, because many of the soils that formed in transported parent materials had previously undergone one or more cycles of erosion, these materials may have been highly weathered and leached at the time they were deposited.

Living Organisms

Plants and animals are the main source of organic matter in soils. Organic matter decomposes and is incorporated into the soil by the action of microorganisms and earthworms and, to a lesser degree, by windthrown trees and burrowing animals.

Before human settlement of the survey area, the native vegetation was most important in the complex of living organisms that affect soil development. The settlers found a dense forest that consisted mainly of hardwoods. Oaks were dominant in most parts of the area. Yellow-poplar, sweetgum, blackgum, holly, hickory, maple, dogwood, loblolly pine, and Virginia pine were also important, but there were probably few pure stands of pine before the area was settled. The fairly pure stands of pine that exist today are generally in areas that were once cleared and cultivated.

Most hardwoods use large amounts of calcium as well as other bases if they are available. Soils that are normally high in bases remain so under a cover of deciduous trees because, in large part, these bases are returned to the soil each year. When the leaves fall and decompose, the bases reenter the soil and are again used by plants.

The soils in the City of Richmond, however, have never been very high in bases; consequently, they are acid even under a cover of hardwoods. Soils that are strongly acid and low in fertility are better suited to pines than to most hardwoods. Pines do not require large amounts of calcium and other bases. Their needles do little to restore fertility to the soil.

As agriculture and urban growth developed in the area, humans became an important factor in the development of the soils. The clearing of forests, cultivation in some areas, introduction of new kinds of crops and other plants, and improvements in drainage affected the development of the soils and will continue to affect their development in the future.

The most important changes brought about by humans include mixing of the upper horizons of the soil to form a plow layer; tilling sloping soils, which resulted in accelerated erosion; and liming and fertilizing to change the content of plant nutrients, especially in the upper horizons.

Time

Time is needed for changes to take place in the parent material. Because of other soil-forming factors, however, soils that formed in the same type of parent material and for the same amount of time may not be equally developed. Runoff and erosion, which hinder the development of well expressed soil horizons, are greater on the steeper slopes. Thus, soils on the steeper slopes generally are less developed than soils on the less steep slopes even if they formed in the same parent material. For example, the moderately deep Wateree soils on moderately steep and steep side slopes are less developed than the very deep Cecil soils on gently sloping summits and shoulders.

Soils that formed in weather-resistant parent material do not develop as rapidly as soils that formed in parent material that was less resistant to weathering. Soils on flood plains, such as Chewacla and Riverview soils, commonly have weakly defined layers because they are subject to the constant deposition of sediment.

Processes of Soil Horizon Differentiation

Several processes are involved in the formation of soil horizons. Among these 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 translocation of clay minerals. These processes occur continually and 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, it normally takes a long time to replace. The content of organic matter in the surface layer of the soils in the City of Richmond averages about 1.5 percent.

Soils that have distinct subsoil horizons were leached of some of the lime and soluble salts before the clay minerals moved downward. Some of the factors that affect this leaching are the kinds of salts originally present, the depth to which the soil solution percolates, and the texture of the soil profile.

In the City of Richmond, well drained and moderately well drained soils have a red to yellowish brown subsoil. These colors are caused mainly by thin coatings of iron oxide on sand and silt grains, but in some soils the colors are inherited from the materials in which the soils formed. The structure in these soils is weak to strong subangular blocky, and the subsoil contains more clay than the surface layer.

The reduction and transfer of iron, called gleying, is associated mainly with wet, poorly drained soils. Moderately well drained and somewhat poorly drained soils have red, yellowish red, and yellowish brown iron and manganese accumulations and gray iron and manganese depletions. This indicates the segregation of iron or manganese, or both, due to a fluctuating water table. In poorly drained soils, such as Roanoke soils, the subsoil and underlying material are gray. This indicates the reduction and transfer of iron or manganese, or both, in solution.

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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.

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.

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.

Badland. A landscape that is intricately dissected and characterized by a very fine drainage network with high drainage densities and short, steep slopes and narrow interfluves. Badlands develop on surfaces that have little or no vegetative cover overlying unconsolidated or poorly cemented materials (clays, silts, or sandstones) with, in some cases, soluble minerals, such as gypsum or halite.

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).

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

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.

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.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

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.

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, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. 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.

Concretions. See Redoximorphic features.

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. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

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.

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.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Crusts, soil. Relatively thin, somewhat continuous layers of the soil surface that often restrict water movement, air entry, and seedling emergence from the soil. They generally are less than 2 inches thick and are massive.

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.

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.

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.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

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 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.

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.

Flooding frequency class. Flooding frequency class is the number of times flooding occurs over a period of time. The classes are defined as follows:

None.—There is no reasonable possibility of flooding. There is a near 0 percent chance of flooding in any year or flooding occurs less than 1 time in 500 years.

Very rare.—Flooding is very unlikely but possible under extremely unusual weather conditions. There is a less than 1 percent chance of flooding in any year or flooding occurs less than 1 time in 100 years but at least 1 time in 500 years.

Rare.—Flooding is unlikely but possible under unusual weather conditions. There is a 1 to 5 percent chance of flooding in any year or flooding occurs nearly 1 to 5 times in 100 years.

Occasional.—Flooding is expected infrequently under usual weather conditions.

There is a 5 to 50 percent chance of flooding in any year or flooding occurs more than 5 times to 50 times in 100 years.

Frequent.—Flooding is likely to occur often under usual weather conditions. There is a more than a 50 percent chance of flooding in any year or flooding occurs more than 50 times in 100 years, but there is a less than a 50 percent chance of flooding in all months in any year.

Very frequent.—Flooding is likely to occur very often under usual weather conditions. There is a more than a 50 percent chance of flooding in all months of any year.

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 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.

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.

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.

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.

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 are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. 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.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

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.

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.

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).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

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

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.

Permafrost. Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches

Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

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.

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

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.

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.

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.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturated hydraulic conductivity (K_{sat}). The amount of water that would move vertically through a unit area of saturated soil in unit time under unit hydraulic gradient. Terms describing saturated hydraulic conductivity, measured in inches per hour (micrometers per second), are as follows:

Very low	0.0 to 0.001417 (0.0 to 0.01)
Low	0.001417 to 0.01417 (0.01 to 0.1)
Moderately low	0.01417 to 0.1417 (0.1 to 1.0)
Moderately high	0.1417 to 1.417 (1.0 to 10)
High	1.417 to 14.7 (10 to 100)
Very high	more than 14.7 (more than 100)

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.

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.

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.

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.

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 permeability in the soil.

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.

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.

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.

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.

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.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

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.

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 Richmond International Airport, 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--	47.1	27.5	37.3	67	14	91	3.24	1.2	5.3	10	4.9
February-	50.4	29.5	39.9	68	17	110	3.06	1.4	4.4	9	4.4
March----	58.8	36.2	47.5	74	24	266	3.78	1.8	5.0	11	2.4
April----	70.1	45.2	57.6	87	33	530	2.99	1.7	5.2	9	0.1
May------	77.7	54.4	66.1	89	44	808	3.64	1.4	7.3	11	0.0
June-----	85.1	62.9	74.0	94	54	1,021	3.57	1.2	8.2	9	0.0
July-----	88.7	68.0	78.3	96	61	1,189	4.96	2.2	10.2	11	0.0
August---	86.9	66.5	76.7	95	57	1,137	4.75	1.8	9.2	9	0.0
September	80.7	59.3	70.0	92	48	900	3.62	0.8	7.5	8	0.0
October--	70.6	47.2	58.9	84	38	586	3.38	0.9	5.3	7	0.0
November-	60.5	37.7	49.1	84	27	294	3.17	0.8	5.3	8	0.4
December-	50.1	30.2	40.1	67	17	123	3.21	1.3	4.7	9	2.2
Yearly:											
Average	68.9	47.0	58.0	---	---	---	---	---	---	---	---
Extreme	---	---	---	105	-8	---	---	---	---	---	---
Total--	---	---	---	---	---	7,055	43.37	31.5	53.5	113	14.4

* 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 Richmond International Airport, 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--	Mar. 27	Apr. 12	Apr. 24
2 years in 10 later than--	Mar. 23	Apr. 10	Apr. 16
5 years in 10 later than--	Mar. 12	Mar. 27	Apr. 10
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 6	Oct. 20	Oct. 18
2 years in 10 earlier than--	Nov. 12	Oct. 29	Oct. 19
5 years in 10 earlier than-	Nov. 23	Nov. 8	Oct. 30

Table 3.—Growing Season

(Recorded in the period 1971-2000 at Richmond International Airport, 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	233	203	182
8 years in 10	238	208	190
5 years in 10	255	222	200
2 years in 10	268	241	218
1 year in 10	289	250	221

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1B	Abell sandy loam, 2 to 8 percent slopes	7	*
2B	Appling-Urban land complex, gravelly phase, 2 to 6 percent slopes	26	*
3B	Appling-Urban land complex, 2 to 6 percent slopes	52	0.1
3C	Appling-Urban land complex, 6 to 12 percent slopes	870	2.2
3D	Appling sandy loam, 12 to 20 percent slopes	149	0.4
4C	Appling-Wedowee-Urban land complex, 6 to 12 percent slopes	450	1.1
4D	Appling-Wedowee complex, 12 to 20 percent slopes	685	1.7
5A	Atlee-Urban land complex, 0 to 4 percent slopes	2,668	6.7
6A	Augusta fine sandy loam, high terrace, 0 to 4 percent slopes	60	0.2
7B	Bourne-Urban land complex, 2 to 6 percent slopes	465	1.2
7C	Bourne-Urban land complex, 6 to 12 percent slopes	22	*
8C	Cecil-Urban land complex, 6 to 12 percent slopes	56	0.1
8D	Cecil fine sandy loam, 12 to 20 percent slopes	12	*
9A	Chastain loam, 0 to 3 percent slopes, frequently flooded	52	0.1
10A	Chewacla loam, 0 to 3 percent slopes, frequently flooded	390	1.0
11B	Colfax-Urban land complex, 2 to 6 percent slopes	128	0.3
12C	Colfax-Urban land complex, 6 to 12 percent slopes	194	0.5
13A	Dogue loam, 0 to 4 percent slopes, rarely flooded	7	*
14A	Dunbar fine sandy loam, 0 to 4 percent slopes	610	1.5
15B	Durham-Bourne-Urban land complex, 2 to 6 percent slopes	9	*
16B	Edgehill-Urban land complex, 2 to 6 percent slopes	1,531	3.8
16C	Edgehill-Urban land complex, 6 to 12 percent slopes	290	0.7
16D	Edgehill very gravelly fine sandy loam, 12 to 20 percent slopes	191	0.5
16E	Edgehill very gravelly fine sandy loam, 20 to 40 percent slopes	122	0.3
17B	Faceville-Urban land complex, 2 to 6 percent slopes	8	*
17C	Faceville-Urban land complex, 6 to 12 percent slopes	4	*
17D	Faceville fine sandy loam, 12 to 20 percent slopes	17	*
18B	Faceville-Gritney-Urban land complex, 2 to 6 percent slopes	1,728	4.3
18C	Faceville-Gritney-Urban land complex, 6 to 12 percent slopes	411	1.0
19C	Grover-Urban land complex, 6 to 12 percent slopes	56	0.1
19D	Grover fine sandy loam, 12 to 20 percent slopes	54	0.1
19E	Grover fine sandy loam, 20 to 35 percent slopes	204	0.5
20C	Grover-Wateree-Urban land complex, 6 to 12 percent slopes	2	*
21A	Johnston mucky loam, 0 to 3 percent slopes, frequently flooded	288	0.7
22B	Kempsville-Urban land complex, 2 to 6 percent slopes	33	*
23B	Kempsville-Bourne-Urban land complex, 2 to 6 percent slopes	10	*
24B	Masada-Urban land complex, 2 to 6 percent slopes	137	0.3
24C	Masada-Urban land complex, 6 to 12 percent slopes	37	*
25B	Masada-Urban land complex gravelly phase, 2 to 6 percent slopes	42	0.1
25C	Masada-Urban land complex gravelly phase, 6 to 12 percent slopes	97	0.2
26A	Nawney silt loam, 0 to 2 percent slopes, frequently flooded	10	*
27B	Norfolk-Urban land complex, 0 to 6 percent slopes	391	1.0
28B	Orangeburg-Faceville-Urban land complex, 2 to 6 percent slopes	209	0.5
28C	Orangeburg-Faceville-Urban land complex, 6 to 12 percent slopes	29	*
29B	Pouncey-Urban land complex, 0 to 6 percent slopes	41	0.1
30A	Riverview silt loam, 0 to 3 percent slopes, frequently flooded	72	0.2
31A	Roanoke silt loam, 0 to 2 percent slopes	1,808	4.5
32A	Roanoke-Chewacla complex, 0 to 2 percent slopes, frequently flooded	568	1.4
33B	Slagle-Urban land complex, 2 to 6 percent slopes	155	0.4
34B	Tetotum-Urban land complex, clayey substratum, 2 to 6 percent slopes	1,117	2.8
35A	Toccoa fine sandy loam, 0 to 4 percent slopes, frequently flooded	214	0.5
36A	Tomotley-Urban land complex, 0 to 2 percent slopes	274	0.7
37B	Turbeville-Urban land complex, 2 to 6 percent slopes	7,385	18.5
37C	Turbeville-Urban land complex, 6 to 12 percent slopes	30	*
38B	Turbeville-Urban land complex, gravelly phase, 2 to 6 percent slopes	22	*
38C	Turbeville-Urban land complex, gravelly phase, 6 to 12 percent slopes	62	0.2
39	Udorthents, loamy, borrow pits	140	0.4
40	Udorthents-Dumps complex, pits	4,304	10.8
41	Urban land	5,829	14.6
42A	Varina-Urban land complex, 0 to 4 percent slopes	40	0.1
43C	Wateree-Urban land complex, 4 to 12 percent slopes	247	0.6

See footnote at end of table.

Table 4.—Acreage and Proportionate Extent of the Soils—Continued

Map symbol	Soil name	Acres	Percent
43D	Wateree sandy loam, 12 to 20 percent slopes	1,023	2.6
44E	Wateree-Wedowee complex, 20 to 45 percent slopes	1,337	3.4
45F	Wateree-Wedowee-Rock outcrop complex, 45 to 60 percent slopes	621	1.6
46E	Wedowee gravelly fine sandy loam, 20 to 40 percent slopes	101	0.3
47A	Worsham-Urban land complex, 0 to 4 percent slopes	26	*
W	Water	1,671	4.2
	Total	39,900	100.0

* Less than 0.1 percent.

Table 5.—Land Capability Class, Virginia Soil Management Group, and Non-Irrigated Yields

(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	Pasture
			AUM
1B:			
Abell	2e	G	8.0
2B:			
Appling	2e	V	8.0
Urban land.			
3B:			
Appling	2e	V	8.0
Urban land.			
3C:			
Appling	3e	V	7.5
Urban land.			
3D:			
Appling	4e	V	7.0
4C:			
Appling	3e	V	7.5
Wedowee	3e	V	6.0
Urban land.			
4D:			
Appling	4e	V	7.0
Wedowee	6e	V	4.0
5A:			
Atlee	2w	Q	7.5
Urban land.			
6A:			
Augusta	3w	Z	4.0
7B:			
Bourne	2e	BB	5.3
Urban land.			
7C:			
Bourne	3e	BB	5.0
Urban land.			

Table 5.—Land Capability Class, Virginia Soil Management Group, and Non-Irrigated Yields—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture
			AUM
8C:			
Cecil-------------	3e	X	7.5
Urban land.			
8D:			
Cecil-------------	4e	X	5.0
9A:			
Chastain----------	4w	LL	4.0
10A:			
Chewacla----------	3w	I	8.0
11B:			
Colfax------------	3w	BB	6.0
Urban land.			
12C:			
Colfax------------	3e	BB	5.0
Urban land.			
13A:			
Dogue-------------	2e	K	6.0
14A:			
Dunbar------------	2w	Z	4.0
15B:			
Durham------------	2e	CC	5.6
Bourne------------	2e	BB	5.6
Urban land.			
16B:			
Edgehill----------	3s	CC	7.6
Urban land.			
16C:			
Edgehill----------	4e	CC	7.0
Urban land.			
16D:			
Edgehill----------	6e	CC	5.0
16E:			
Edgehill----------	7e	CC	---
17B:			
Faceville---------	2e	R	7.0
Urban land.			

Table 5.—Land Capability Class, Virginia Soil Management Group, and Non-Irrigated Yields—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture
			AUM
17C:			
Faceville---------	3e	R	6.0
Urban land.			
17D:			
Faceville---------	3e	R	5.0
18B:			
Faceville---------	2e	R	7.0
Gritney-----------	2e	T	8.0
Urban land.			
18C:			
Faceville---------	2e	R	6.0
Gritney-----------	2e	T	7.0
Urban land.			
19C:			
Grover------------	3e	X	6.5
Urban land.			
19D:			
Grover------------	4e	X	5.0
19E:			
Grover------------	6e	X	3.0
20C:			
Grover------------	3e	X	6.0
Wateree-----------	4e	FF	6.0
Urban land.			
21A:			
Johnston----------	7w	PP	---
22B:			
Kempsville--------	2e	S	6.0
Urban land.			
23B:			
Kempsville--------	2e	S	6.0
Bourne------------	2e	BB	5.3
Urban land.			
24B:			
Masada------------	2e	L	10.0
Urban land.			

Table 5.—Land Capability Class, Virginia Soil Management Group, and Non-Irrigated Yields—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture
			AUM
24C:			
Masada	3e	L	9.0
Urban land.			
25B:			
Masada	2e	L	10.0
Urban land.			
25C:			
Masada	3e	L	9.0
Urban land.			
26A:			
Nawney	7w	PP	---
27B:			
Norfolk	2e	R	10.0
Urban land.			
28B:			
Orangeburg	2e	R	9.0
Faceville	2e	R	8.0
Urban land.			
28C:			
Orangeburg	3e	R	7.0
Faceville	3e	R	6.0
Urban land.			
29B:			
Pouncey	4w	LL	3.0
Urban land.			
30A:			
Riverview	4w	G	12.0
31A:			
Roanoke	4w	NN	3.0
32A:			
Roanoke	4w	NN	3.0
Chewacla	4w	I	8.0
33B:			
Slagle	2e	K	10.0
Urban land.			

Table 5.—Land Capability Class, Virginia Soil Management Group, and Non-Irrigated Yields—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture
			AUM
34B:			
Tetotum-----------	2e	K	5.0
Urban land.			
35A:			
Toccoa------------	3w	II	5.0
36A:			
Tomotley----------	4w	OO	3.0
Urban land.			
37B:			
Turbeville--------	2e	O	9.0
Urban land.			
37C:			
Turbeville--------	3e	O	8.0
Urban land.			
38B:			
Turbeville--------	2e	O	9.0
Urban land.			
38C:			
Turbeville--------	3e	O	8.0
Urban land.			
39.			
Udorthents			
40.			
Udorthents-Dumps			
41.			
Urban land			
42A:			
Varina------------	2e	Q	7.0
Urban land.			
43C:			
Wateree-----------	4e	FF	6.0
Urban land.			
43D:			
Wateree-----------	7e	FF	3.0
44E:			
Wateree-----------	7e	FF	---
Wedowee-----------	7e	V	---

Table 5.—Land Capability Class, Virginia Soil Management Group, and Non-Irrigated Yields—Continued

Map symbol and soil name	Land capability	Virginia soil management group	Pasture
			AUM
45F:			
Wateree-----------	7e	FF	---
Wedowee-----------	7e	V	---
Rock outcrop.			
46E:			
Wedowee-----------	7e	V	---
47A:			
Worsham-----------	4w	HH	2.0
Urban land.			
W.			
Water			

Table 6.—Prime Farmland

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Map unit name
1B	Abell sandy loam, 2 to 8 percent slopes
6A	Augusta fine sandy loam, high terrace, 0 to 4 percent slopes (if drained)
10A	Chewacla loam, 0 to 3 percent slopes, frequently flooded (if protected from flooding or not frequently flooded during the growing season)
13A	Dogue loam, 0 to 4 percent slopes, rarely flooded
14A	Dunbar fine sandy loam, 0 to 4 percent slopes (if drained)
30A	Riverview silt loam, 0 to 3 percent slopes, frequently flooded (if protected from flooding or not frequently flooded during the growing season)
35A	Toccoa fine sandy loam, 0 to 4 percent slopes, frequently flooded (if protected from flooding or not frequently flooded during the growing season)
38B	Turbeville-Urban land complex, gravelly phase, 2 to 6 percent slopes

Table 7.—Hydric Soils

Map symbol	Soil name
9A	Chastain loam, 0 to 3 percent slopes, frequently flooded
21A	Johnston mucky loam, 0 to 3 percent slopes, frequently flooded
26A	Nawney silt loam, 0 to 2 percent slopes, frequently flooded
29B	Pouncey-Urban land complex, 0 to 6 percent slopes
31A	Roanoke silt loam, 0 to 2 percent slopes
32A	Roanoke-Chewacla complex, 0 to 2 percent slopes, frequently flooded
36A	Tomotley-Urban land complex, 0 to 2 percent slopes
47A	Worsham-Urban land complex, 0 to 4 percent slopes

Table 8.—Forestland Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
1B:				
Abell	loblolly pine	90	129	black walnut, loblolly pine, yellow-poplar
	northern red oak	80	57	
	shortleaf pine	80	129	
	Virginia pine	80	114	
	yellow-poplar	90	86	
2B:				
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	
Urban land.				
3B:				
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	
Urban land.				
3C:				
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	
Urban land.				
3D:				
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	
4C:				
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	
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	Virginia pine	70	114	
	white oak	65	43	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
4C:				
Urban land.				
4D:				
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	
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	Virginia pine	70	114	
	white oak	65	43	
5A:				
Atlee	loblolly pine	76	100	loblolly pine
	Virginia pine	70	114	
Urban land.				
6A:				
Augusta	American sycamore	90	100	American sycamore, cherrybark oak, loblolly pine, sweetgum, yellow-poplar
	loblolly pine	90	129	
	sweetgum	90	100	
	white oak	80	57	
7B:				
Bourne	loblolly pine	70	86	eastern white pine, loblolly pine, Virginia pine
	northern red oak	65	43	
	Virginia pine	70	114	
Urban land.				
7C:				
Bourne	loblolly pine	70	86	eastern white pine, loblolly pine, Virginia pine
	northern red oak	65	43	
	Virginia pine	70	114	
Urban land.				
8C:				
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	
	sweetgum	76	72	
	Virginia pine	71	114	
	white oak	79	57	
	yellow-poplar	92	86	
Urban land.				

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
8D:				
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	
	sweetgum	76	72	
	Virginia pine	71	114	
	white oak	79	57	
	yellow-poplar	92	86	
9A:				
Chastain	sweetgum	95	114	sweetgum
10A:				
Chewacla	loblolly pine	95	143	American sycamore, loblolly pine, sweetgum, yellow-poplar
	sweetgum	97	129	
	water oak	80	72	
	yellow-poplar	95	100	
11B:				
Colfax	loblolly pine	80	114	loblolly pine, Virginia pine
	red maple	65	43	
	shortleaf pine	70	114	
	sweetgum	80	86	
	yellow-poplar	80	72	
Urban land.				
12C:				
Colfax	loblolly pine	80	114	loblolly pine, Virginia pine
	red maple	65	43	
	shortleaf pine	70	114	
	sweetgum	80	86	
	yellow-poplar	80	72	
Urban land.				
13A:				
Dogue	loblolly pine	90	129	loblolly pine
	sweetgum	90	100	
	white oak	80	57	
	yellow-poplar	93	100	
14A:				
Dunbar	loblolly pine	90	129	loblolly pine, sweetgum, yellow-poplar
	longleaf pine	70	86	
	sweetgum	90	100	
15B:				
Durham	loblolly pine	80	114	loblolly pine, yellow-poplar
	post oak	70	57	
	shortleaf pine	72	114	
	sweetgum	80	86	
	white oak	70	57	
	yellow-poplar	80	72	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
15B:				
Bourne	loblolly pine	70	86	eastern white pine, loblolly pine, Virginia pine
	northern red oak	65	43	
	Virginia pine	70	114	
Urban land.				
16B:				
Edgehill	loblolly pine	70	86	eastern white pine, loblolly pine, yellow-poplar
	northern red oak	60	43	
	shortleaf pine	60	86	
	Virginia pine	60	86	
	yellow-poplar	75	57	
Urban land.				
16C:				
Edgehill	loblolly pine	70	86	eastern white pine, loblolly pine, yellow-poplar
	northern red oak	60	43	
	shortleaf pine	60	86	
	Virginia pine	60	86	
	yellow-poplar	75	57	
Urban land.				
16D:				
Edgehill	loblolly pine	70	86	eastern white pine, loblolly pine, yellow-poplar
	northern red oak	60	43	
	shortleaf pine	60	86	
	Virginia pine	60	86	
	yellow-poplar	75	57	
16E:				
Edgehill	loblolly pine	70	86	eastern white pine, loblolly pine, yellow-poplar
	northern red oak	60	43	
	shortleaf pine	60	86	
	Virginia pine	60	86	
	yellow-poplar	75	57	
17B:				
Faceville	loblolly pine	82	114	loblolly pine
	longleaf pine	65	72	
Urban land.				
17C:				
Faceville	loblolly pine	82	114	loblolly pine
	longleaf pine	65	72	
Urban land.				
17D:				
Faceville	loblolly pine	82	114	loblolly pine
	longleaf pine	65	72	

Table 8.—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:				
Faceville	loblolly pine	82	114	loblolly pine
	longleaf pine	65	72	
Gritney	loblolly pine	82	114	loblolly pine, yellow-poplar
	longleaf pine	65	72	
Urban land.				
18C:				
Faceville	loblolly pine	82	114	loblolly pine
	longleaf pine	65	72	
Gritney	loblolly pine	82	114	loblolly pine, yellow-poplar
	longleaf pine	65	72	
Urban land.				
19C:				
Grover	loblolly pine	80	114	loblolly pine, Virginia pine, yellow-poplar
Urban land.				
19D:				
Grover	loblolly pine	80	114	loblolly pine, Virginia pine, yellow-poplar
19E:				
Grover	loblolly pine	80	114	loblolly pine, Virginia pine, yellow-poplar
20C:				
Grover	loblolly pine	80	114	loblolly pine, Virginia pine, yellow-poplar
Wateree	loblolly pine	77	100	loblolly pine, Virginia pine, yellow-poplar
	shortleaf pine	69	114	
	southern red oak	72	57	
	Virginia pine	71	114	
	white oak	68	57	
	yellow-poplar	84	86	
Urban land.				
21A:				
Johnston	loblolly pine	106	172	baldcypress, green ash, loblolly pine, sweetgum
	sweetgum	94	114	
	water oak	103	100	
	yellow-poplar	94	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
22B:				
Kempsville	loblolly pine	82	114	loblolly pine
	sweetgum	80	86	
	Virginia pine	74	114	
	yellow-poplar	82	72	
Urban land.				
23B:				
Kempsville	loblolly pine	82	114	loblolly pine
	sweetgum	80	86	
	Virginia pine	74	114	
	yellow-poplar	82	72	
Bourne	loblolly pine	70	86	eastern white pine, loblolly pine, Virginia pine
	northern red oak	65	43	
	Virginia pine	70	114	
Urban land.				
24B:				
Masada	eastern white pine	82	143	eastern white pine, loblolly pine, yellow-poplar
	loblolly pine	80	114	
	shortleaf pine	85	143	
	Virginia pine	70	114	
	yellow-poplar	80	72	
Urban land.				
24C:				
Masada	eastern white pine	82	143	eastern white pine, loblolly pine, yellow-poplar
	loblolly pine	80	114	
	shortleaf pine	85	143	
	Virginia pine	70	114	
	yellow-poplar	80	72	
Urban land.				
25B:				
Masada	eastern white pine	80	143	eastern white pine, loblolly pine, yellow-poplar
	loblolly pine	82	114	
	shortleaf pine	70	114	
	Virginia pine	70	114	
	yellow-poplar	85	86	
Urban land.				
25C:				
Masada	eastern white pine	80	143	eastern white pine, loblolly pine, yellow-poplar
	loblolly pine	82	114	
	shortleaf pine	70	114	
	Virginia pine	70	114	
	yellow-poplar	85	86	
Urban land.				

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
26A:				
Nawney	sweetgum	94	114	water tupelo
27B:				
Norfolk	loblolly pine	84	114	loblolly pine
	longleaf pine	77	100	
Urban land.				
28B:				
Orangeburg	loblolly pine	80	114	loblolly pine
	longleaf pine	77	100	
Faceville	loblolly pine	82	114	loblolly pine
	longleaf pine	65	72	
Urban land.				
28C:				
Orangeburg	loblolly pine	80	114	loblolly pine
	longleaf pine	77	100	
Faceville	loblolly pine	82	114	loblolly pine
	longleaf pine	65	72	
Urban land.				
29B:				
Pouncey	loblolly pine	90	129	eastern white pine, loblolly pine
	northern red oak	80	57	
	shortleaf pine	65	100	
Urban land.				
30A:				
Riverview	loblolly pine	100	157	American sycamore, eastern cottonwood, loblolly pine, sweetgum, yellow-poplar
	sweetgum	100	143	
	yellow-poplar	110	129	
31A:				
Roanoke	sweetgum	90	100	sweetgum
	white oak	75	57	
	willow oak	76	57	
32A:				
Roanoke	sweetgum	90	100	sweetgum
	white oak	75	57	
	willow oak	76	57	
Chewacla	loblolly pine	95	143	American sycamore, loblolly pine, sweetgum, yellow-poplar
	sweetgum	97	129	
	water oak	80	72	
	yellow-poplar	95	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
33B:				
Slagle	loblolly pine	86	129	loblolly pine, sweetgum, yellow-poplar
	sweetgum	86	100	
	water oak	76	72	
	yellow-poplar	90	86	
Urban land.				
34B:				
Tetotum	loblolly pine	88	129	loblolly pine
	sweetgum	85	86	
Urban land.				
35A:				
Toccoa	loblolly pine	90	129	American sycamore, cherrybark oak, loblolly pine, yellow-poplar
	sweetgum	100	143	
	yellow-poplar	107	114	
36A:				
Tomotley	loblolly pine	97	143	loblolly pine
	water oak	78	72	
	willow oak	86	86	
Urban land.				
37B:				
Turbeville	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	70	114	
	Virginia pine	70	114	
	yellow-poplar	84	86	
Urban land.				
37C:				
Turbeville	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	70	114	
	Virginia pine	70	114	
	yellow-poplar	84	86	
Urban land.				
38B:				
Turbeville	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	70	114	
	Virginia pine	70	114	
	yellow-poplar	84	86	
Urban land.				
38C:				
Turbeville	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	70	114	
	Virginia pine	70	114	
	yellow-poplar	84	86	
Urban land.				

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
39. Udorthents				
40. Udorthents-Dumps				
41. Urban land				
42A:				
Varina	loblolly pine	85	114	loblolly pine
	longleaf pine	70	86	
Urban land.				
43C:				
Wateree	loblolly pine	77	100	loblolly pine,
	shortleaf pine	69	114	Virginia pine,
	Virginia pine	71	114	yellow-poplar
	white oak	68	57	
	yellow-poplar	84	86	
Urban land.				
43D:				
Wateree	loblolly pine	77	100	loblolly pine,
	shortleaf pine	69	114	Virginia pine,
	Virginia pine	71	114	yellow-poplar
	white oak	68	57	
	yellow-poplar	84	86	
44E:				
Wateree	loblolly pine	77	100	loblolly pine,
	shortleaf pine	69	114	Virginia pine,
	Virginia pine	71	114	yellow-poplar
	white oak	68	57	
	yellow-poplar	84	86	
Wedowee	loblolly pine	80	114	loblolly pine,
	northern red oak	70	57	shortleaf pine,
	shortleaf pine	70	114	Virginia pine,
	Virginia pine	70	114	yellow-poplar
	white oak	65	43	
45F:				
Wateree	loblolly pine	77	100	loblolly pine,
	shortleaf pine	69	114	Virginia pine,
	Virginia pine	71	114	yellow-poplar
	white oak	68	57	
	yellow-poplar	84	86	
Wedowee	loblolly pine	80	114	loblolly pine,
	northern red oak	70	57	shortleaf pine,
	shortleaf pine	70	114	Virginia pine,
	Virginia pine	70	114	yellow-poplar
	white oak	65	43	
Rock outcrop.				

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
46E:				
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	Virginia pine	70	114	
	white oak	65	43	
47A:				
Worsham	loblolly pine	88	129	eastern white pine, loblolly pine, yellow-poplar
	pin oak	85	72	
	Virginia pine	80	114	
	yellow-poplar	91	86	
Urban land.				
W.				
Water				

Table 9.—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:							
Abell	85	Slight		Well suited		Moderate	
						Low strength	0.50
2B:							
Appling	70	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
3B:							
Appling	70	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
3C:							
Appling	70	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
3D:							
Appling	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
4C:							
Appling	45	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Wedowee	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Urban land	10	Not rated		Not rated		Not rated	
4D:							
Appling	45	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Wedowee	40	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
5A:							
Atlee	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land	20	Not rated		Not rated		Not rated	
6A:							
Augusta	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		

Table 9.—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
7B:							
Bourne	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land	20	Not rated		Not rated		Not rated	
7C:							
Bourne	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Urban land	20	Not rated		Not rated		Not rated	
8C:							
Cecil	70	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
8D:							
Cecil	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
9A:							
Chastain	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
10A:							
Chewacla	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Sandiness	0.50		
11B:							
Colfax	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
Urban land	20	Not rated		Not rated		Not rated	
12C:							
Colfax	70	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
				Slope	0.50		
Urban land	20	Not rated		Not rated		Not rated	
13A:							
Dogue	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
14A:							
Dunbar	85	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50

Table 9.—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
15B:							
Durham	43	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Bourne	42	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land	15	Not rated		Not rated		Not rated	
16B:							
Edgehill	70	Slight		Well suited		Slight	
						Strength	0.10
Urban land	20	Not rated		Not rated		Not rated	
16C:							
Edgehill	70	Slight		Moderately suited		Slight	
				Slope	0.50	Strength	0.10
Urban land	20	Not rated		Not rated		Not rated	
16D:							
Edgehill	85	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Strength	0.10
16E:							
Edgehill	85	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Strength	0.10
17B:							
Faceville	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land	20	Not rated		Not rated		Not rated	
17C:							
Faceville	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Urban land	20	Not rated		Not rated		Not rated	
17D:							
Faceville	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
18B:							
Faceville	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Gritney	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Urban land	15	Not rated		Not rated		Not rated	

Table 9.—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
18C:							
Faceville-----------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Gritney-------------	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
				Wetness	0.50		
Urban land----------	15	Not rated		Not rated		Not rated	
19C:							
Grover--------------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Urban land----------	15	Not rated		Not rated		Not rated	
19D:							
Grover--------------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
19E:							
Grover--------------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
20C:							
Grover--------------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Wateree-------------	35	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Urban land----------	15	Not rated		Not rated		Not rated	
21A:							
Johnston------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Flooding	1.00		
				Wetness	1.00		
22B:							
Kempsville----------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land----------	20	Not rated		Not rated		Not rated	
23B:							
Kempsville----------	40	Slight		Well suited		Moderate	
						Low strength	0.50
Bourne--------------	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land----------	15	Not rated		Not rated		Not rated	

Table 9.—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
24B:							
Masada	70	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
24C:							
Masada	65	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
25B:							
Masada	70	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
25C:							
Masada	70	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
26A:							
Nawney	75	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	1.00	Wetness	1.00	Wetness	0.50
		Low strength	0.50	Low strength	0.50		
27B:							
Norfolk	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land	20	Not rated		Not rated		Not rated	
28B:							
Orangeburg	40	Slight		Well suited		Moderate	
						Low strength	0.50
Faceville	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land	15	Not rated		Not rated		Not rated	
28C:							
Orangeburg	40	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Faceville	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Urban land	15	Not rated		Not rated		Not rated	
29B:							
Pouncey	70	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		

Table 9.—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
29B:							
Urban land	20	Not rated		Not rated		Not rated	
30A:							
Riverview	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
31A:							
Roanoke	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	1.00
				Low strength	0.50		
32A:							
Roanoke	40	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
Chewacla	35	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Sandiness	0.50		
				Low strength	0.50		
33B:							
Slagle	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land	20	Not rated		Not rated		Not rated	
34B:							
Tetotum	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land	20	Not rated		Not rated		Not rated	
35A:							
Toccoa	85	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
36A:							
Tomotley	70	Slight		Poorly suited		Moderate	
				Wetness	1.00	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
37B:							
Turbeville	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land	20	Not rated		Not rated		Not rated	
37C:							
Turbeville	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Urban land	20	Not rated		Not rated		Not rated	

Table 9.—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
38B:							
Turbeville----------	70	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land----------	20	Not rated		Not rated		Not rated	
38C:							
Turbeville----------	70	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Urban land----------	20	Not rated		Not rated		Not rated	
39:							
Udorthents----------	100	Not rated		Not rated		Not rated	
40:							
Udorthents----------	50	Not rated		Not rated		Not rated	
Dumps---------------	50	Not rated		Not rated		Not rated	
41:							
Urban land----------	100	Not rated		Not rated		Not rated	
42A:							
Varina--------------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Urban land----------	20	Not rated		Not rated		Not rated	
43C:							
Wateree-------------	70	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Urban land----------	20	Not rated		Not rated		Not rated	
43D:							
Wateree-------------	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
44E:							
Wateree-------------	50	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Wedowee-------------	45	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
45F:							
Wateree-------------	50	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Wedowee-------------	30	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Rock outcrop--------	10	Not rated		Not rated		Not rated	
46E:							
Wedowee-------------	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50

Table 9.—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
47A:							
Worsham-------------	70	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	1.00
				Low strength	0.50		
Urban land----------	20	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 9.—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		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
1B:							
Abell	85	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
2B:							
Appling	70	Slight		Slight		Well suited	
Urban land	20	Not rated		Not rated		Not rated	
3B:							
Appling	70	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Urban land	20	Not rated		Not rated		Not rated	
3C:							
Appling	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
3D:							
Appling	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
4C:							
Appling	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Wedowee	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Urban land	10	Not rated		Not rated		Not rated	
4D:							
Appling	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Wedowee	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
5A:							
Atlee	70	Slight		Slight		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
6A:							
Augusta	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50

Table 9.—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
7B:							
Bourne	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
7C:							
Bourne	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
8C:							
Cecil	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
8D:							
Cecil	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
9A:							
Chastain	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
10A:							
Chewacla	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Sandiness	0.50
11B:							
Colfax	70	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
12C:							
Colfax	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
13A:							
Dogue	85	Slight		Slight		Moderately suited	
						Low strength	0.50
14A:							
Dunbar	85	Slight		Slight		Moderately suited	
						Wetness	0.50

Table 9.—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
15B:							
Durham	43	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Bourne	42	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
16B:							
Edgehill	70	Slight		Slight		Well suited	
Urban land	20	Not rated		Not rated		Not rated	
16C:							
Edgehill	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
16D:							
Edgehill	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
16E:							
Edgehill	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
17B:							
Faceville	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
17C:							
Faceville	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
17D:							
Faceville	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
18B:							
Faceville	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Gritney	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
Urban land	15	Not rated		Not rated		Not rated	
18C:							
Faceville	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50

Table 9.—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
18C:							
Gritney	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
Urban land	15	Not rated		Not rated		Not rated	
19C:							
Grover	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
19D:							
Grover	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
19E:							
Grover	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
20C:							
Grover	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Wateree	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Urban land	15	Not rated		Not rated		Not rated	
21A:							
Johnston	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
22B:							
Kempsville	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
23B:							
Kempsville	40	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Bourne	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
24B:							
Masada	70	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Urban land	20	Not rated		Not rated		Not rated	

Table 9.—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
24C:							
Masada	65	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
25B:							
Masada	70	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Urban land	20	Not rated		Not rated		Not rated	
25C:							
Masada	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
26A:							
Nawney	75	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
27B:							
Norfolk	70	Slight		Slight		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
28B:							
Orangeburg	40	Slight		Slight		Well suited	
Faceville	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
28C:							
Orangeburg	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Faceville	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
29B:							
Pouncey	70	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
30A:							
Riverview	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50

Table 9.—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
31A:							
Roanoke	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
32A:							
Roanoke	40	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
Chewacla	35	Slight		Slight		Poorly suited	
						Flooding	1.00
						Sandiness	0.50
						Low strength	0.50
33B:							
Slagle	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
34B:							
Tetotum	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
35A:							
Toccoa	85	Slight		Slight		Poorly suited	
						Flooding	1.00
36A:							
Tomotley	70	Slight		Slight		Poorly suited	
						Wetness	1.00
Urban land	20	Not rated		Not rated		Not rated	
37B:							
Turbeville	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
37C:							
Turbeville	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
38B:							
Turbeville	70	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Urban land	20	Not rated		Not rated		Not rated	
38C:							
Turbeville	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50

Table 9.—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
38C:							
Urban land	20	Not rated		Not rated		Not rated	
39:							
Udorthents	100	Not rated		Not rated		Not rated	
40:							
Udorthents	50	Not rated		Not rated		Not rated	
Dumps	50	Not rated		Not rated		Not rated	
41:							
Urban land	100	Not rated		Not rated		Not rated	
42A:							
Varina	70	Slight		Slight		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
43C:							
Wateree	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
43D:							
Wateree	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
44E:							
Wateree	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Wedowee	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
45F:							
Wateree	50	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Wedowee	30	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop	10	Not rated		Not rated		Not rated	
46E:							
Wedowee	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
47A:							
Worsham	70	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 9.—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:							
Abell	85	Well suited		Well suited		Well suited	
2B:							
Appling	70	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
Urban land	20	Not rated		Not rated		Not rated	
3B:							
Appling	70	Well suited		Well suited		Well suited	
Urban land	20	Not rated		Not rated		Not rated	
3C:							
Appling	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Urban land	20	Not rated		Not rated		Not rated	
3D:							
Appling	85	Well suited		Poorly suited		Well suited	
				Slope	0.75		
4C:							
Appling	45	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Wedowee	40	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Urban land	10	Not rated		Not rated		Not rated	
4D:							
Appling	45	Well suited		Poorly suited		Well suited	
				Slope	0.75		
Wedowee	40	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
5A:							
Atlee	70	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
6A:							
Augusta	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 9.—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
7B:							
Bourne	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
7C:							
Bourne	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
8C:							
Cecil	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Urban land	20	Not rated		Not rated		Not rated	
8D:							
Cecil	85	Well suited		Poorly suited		Well suited	
				Slope	0.75		
9A:							
Chastain	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
10A:							
Chewacla	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
						Sandiness	0.50
11B:							
Colfax	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
12C:							
Colfax	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Urban land	20	Not rated		Not rated		Not rated	
13A:							
Dogue	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
14A:							
Dunbar	85	Well suited		Well suited		Well suited	
15B:							
Durham	43	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Bourne	42	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	

Table 9.—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
16B:							
Edgehill	70	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
Urban land	20	Not rated		Not rated		Not rated	
16C:							
Edgehill	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
Urban land	20	Not rated		Not rated		Not rated	
16D:							
Edgehill	85	Well suited		Poorly suited		Well suited	
				Slope	0.75		
				Rock fragments	0.50		
16E:							
Edgehill	85	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
				Rock fragments	0.50		
17B:							
Faceville	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
17C:							
Faceville	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
17D:							
Faceville	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
18B:							
Faceville	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Gritney	35	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
18C:							
Faceville	40	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Gritney	35	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Urban land	15	Not rated		Not rated		Not rated	

Table 9.—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
19C:							
Grover	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
19D:							
Grover	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
19E:							
Grover	85	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Low strength	0.50
						Slope	0.50
20C:							
Grover	40	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Wateree	35	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Urban land	15	Not rated		Not rated		Not rated	
21A:							
Johnston	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
22B:							
Kempsville	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
23B:							
Kempsville	40	Well suited		Well suited		Well suited	
Bourne	35	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
24B:							
Masada	70	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
Urban land	20	Not rated		Not rated		Not rated	
24C:							
Masada	65	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Slope	0.50		
				Stickiness; high plasticity index	0.50		
Urban land	20	Not rated		Not rated		Not rated	

Table 9.—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
25B:							
Masada	70	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
				Rock fragments	0.50		
Urban land	20	Not rated		Not rated		Not rated	
25C:							
Masada	70	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Slope	0.50		
				Stickiness; high plasticity index	0.50		
				Rock fragments	0.50		
Urban land	20	Not rated		Not rated		Not rated	
26A:							
Nawney	75	Moderately suited		Poorly suited		Poorly suited	
		Wetness	0.50	Wetness	0.75	Wetness	1.00
						Low strength	0.50
27B:							
Norfolk	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
28B:							
Orangeburg	40	Well suited		Well suited		Well suited	
Faceville	35	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
28C:							
Orangeburg	40	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Faceville	35	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
29B:							
Pouncey	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
30A:							
Riverview	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
31A:							
Roanoke	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Table 9.—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
32A:							
Roanoke	40	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Chewacla	35	Well suited		Well suited		Moderately suited	
						Low strength	0.50
						Sandiness	0.50
33B:							
Slagle	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
34B:							
Tetotum	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
35A:							
Toccoa	85	Well suited		Well suited		Well suited	
36A:							
Tomotley	70	Well suited		Well suited		Well suited	
Urban land	20	Not rated		Not rated		Not rated	
37B:							
Turbeville	70	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
37C:							
Turbeville	70	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		
Urban land	20	Not rated		Not rated		Not rated	
38B:							
Turbeville	70	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
				Rock fragments	0.50		
Urban land	20	Not rated		Not rated		Not rated	
38C:							
Turbeville	70	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
				Slope	0.50		
				Rock fragments	0.50		
Urban land	20	Not rated		Not rated		Not rated	

Table 9.—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
39:							
Udorthents	100	Not rated		Not rated		Not rated	
40:							
Udorthents	50	Not rated		Not rated		Not rated	
Dumps	50	Not rated		Not rated		Not rated	
41:							
Urban land	100	Not rated		Not rated		Not rated	
42A:							
Varina	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
43C:							
Wateree	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Urban land	20	Not rated		Not rated		Not rated	
43D:							
Wateree	85	Well suited		Poorly suited		Well suited	
				Slope	0.75		
44E:							
Wateree	50	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
Wedowee	45	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
45F:							
Wateree	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
Wedowee	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
Rock outcrop	10	Not rated		Not rated		Not rated	
46E:							
Wedowee	85	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
47A:							
Worsham	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 9.—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:					
Abell	85	Well suited		Well suited	
2B:					
Appling	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
3B:					
Appling	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
3C:					
Appling	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
3D:					
Appling	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
4C:					
Appling	45	Well suited		Well suited	
Wedowee	40	Well suited		Well suited	
Urban land	10	Not rated		Not rated	
4D:					
Appling	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Wedowee	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
5A:					
Atlee	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
6A:					
Augusta	85	Well suited		Well suited	
7B:					
Bourne	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
7C:					
Bourne	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	

Table 9.—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
8C:					
Cecil	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
8D:					
Cecil	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
9A:					
Chastain	85	Well suited		Well suited	
10A:					
Chewacla	85	Well suited		Well suited	
11B:					
Colfax	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
12C:					
Colfax	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
13A:					
Dogue	85	Well suited		Well suited	
14A:					
Dunbar	85	Well suited		Well suited	
15B:					
Durham	43	Well suited		Well suited	
Bourne	42	Well suited		Well suited	
Urban land	15	Not rated		Not rated	
16B:					
Edgehill	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
16C:					
Edgehill	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
16D:					
Edgehill	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
16E:					
Edgehill	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
17B:					
Faceville	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	

Table 9.—Forestland Management, Part IV—Continued

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
17C:					
Faceville	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
17D:					
Faceville	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
18B:					
Faceville	40	Well suited		Well suited	
Gritney	35	Well suited		Well suited	
Urban land	15	Not rated		Not rated	
18C:					
Faceville	40	Well suited		Well suited	
Gritney	35	Well suited		Well suited	
Urban land	15	Not rated		Not rated	
19C:					
Grover	70	Well suited		Well suited	
Urban land	15	Not rated		Not rated	
19D:					
Grover	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
19E:					
Grover	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
20C:					
Grover	40	Well suited		Well suited	
Wateree	35	Well suited		Well suited	
Urban land	15	Not rated		Not rated	
21A:					
Johnston	85	Well suited		Well suited	
22B:					
Kempsville	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
23B:					
Kempsville	40	Well suited		Well suited	
Bourne	35	Well suited		Well suited	
Urban land	15	Not rated		Not rated	

Table 9.—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
24B:					
Masada	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
24C:					
Masada	65	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
25B:					
Masada	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
25C:					
Masada	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
26A:					
Nawney	75	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
27B:					
Norfolk	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
28B:					
Orangeburg	40	Well suited		Well suited	
Faceville	35	Well suited		Well suited	
Urban land	15	Not rated		Not rated	
28C:					
Orangeburg	40	Well suited		Well suited	
Faceville	35	Well suited		Well suited	
Urban land	15	Not rated		Not rated	
29B:					
Pouncey	70	Well suited		Poorly suited	
				Restrictive layer	0.50
Urban land	20	Not rated		Not rated	
30A:					
Riverview	85	Well suited		Well suited	
31A:					
Roanoke	85	Well suited		Well suited	
32A:					
Roanoke	40	Well suited		Well suited	
Chewacla	35	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

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
33B:					
Slagle	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
34B:					
Tetotum	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
35A:					
Toccoa	85	Well suited		Well suited	
36A:					
Tomotley	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
37B:					
Turbeville	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
37C:					
Turbeville	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
38B:					
Turbeville	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
38C:					
Turbeville	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
39:					
Udorthents	100	Not rated		Not rated	
40:					
Udorthents	50	Not rated		Not rated	
Dumps	50	Not rated		Not rated	
41:					
Urban land	100	Not rated		Not rated	
42A:					
Varina	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
43C:					
Wateree	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	

Table 9.—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
43D:					
Wateree	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
44E:					
Wateree	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Wedowee	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
45F:					
Wateree	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Wedowee	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Rock outcrop	10	Not rated		Not rated	
46E:					
Wedowee	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
47A:					
Worsham	70	Well suited		Well suited	
Urban land	20	Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	

Table 9.—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: Rating class and limiting features	Potential for damage to soil by fire: Value	Potential for seedling mortality: Rating class and limiting features	Potential for seedling mortality: Value
1B:					
Abell	85	Moderate		Low	
		Texture/rock fragments	0.50		
2B:					
Appling	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	20	Not rated		Not rated	
3B:					
Appling	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	20	Not rated		Not rated	
3C:					
Appling	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	20	Not rated		Not rated	
3D:					
Appling	85	Moderate		Low	
		Texture/rock fragments	0.50		
4C:					
Appling	45	Moderate		Low	
		Texture/rock fragments	0.50		
Wedowee	40	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	10	Not rated		Not rated	
4D:					
Appling	45	Moderate		Low	
		Texture/rock fragments	0.50		
Wedowee	40	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—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
5A:					
Atlee---------------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
6A:					
Augusta-------------	85	Moderate		Low	
		Texture/rock fragments	0.50		
7B:					
Bourne--------------	70	Low		Low	
		Texture/rock fragments	0.10		
Urban land----------	20	Not rated		Not rated	
7C:					
Bourne--------------	70	Low		Low	
		Texture/rock fragments	0.10		
Urban land----------	20	Not rated		Not rated	
8C:					
Cecil---------------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
8D:					
Cecil---------------	85	Moderate		Low	
		Texture/rock fragments	0.50		
9A:					
Chastain------------	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
10A:					
Chewacla------------	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
11B:					
Colfax--------------	70	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land----------	20	Not rated		Not rated	
12C:					
Colfax--------------	70	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land----------	20	Not rated		Not rated	

Table 9.—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
13A:					
Dogue---------------	85	Moderate		Low	
		Texture/rock fragments	0.50		
14A:					
Dunbar--------------	85	Low		Low	
		Texture/rock fragments	0.10		
15B:					
Durham--------------	43	Moderate		Low	
		Texture/rock fragments	0.50		
Bourne--------------	42	Low		Low	
		Texture/rock fragments	0.10		
Urban land----------	15	Not rated		Not rated	
16B:					
Edgehill------------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
16C:					
Edgehill------------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
16D:					
Edgehill------------	85	Moderate		Low	
		Texture/rock fragments	0.50		
16E:					
Edgehill------------	85	Moderate		Low	
		Texture/rock fragments	0.50		
17B:					
Faceville-----------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
17C:					
Faceville-----------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	

Table 9.—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
17D:					
Faceville	85	Moderate		Low	
		Texture/rock fragments	0.50		
18B:					
Faceville	40	Moderate		Low	
		Texture/rock fragments	0.50		
Gritney	35	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	15	Not rated		Not rated	
18C:					
Faceville	40	Moderate		Low	
		Texture/rock fragments	0.50		
Gritney	35	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	15	Not rated		Not rated	
19C:					
Grover	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	15	Not rated		Not rated	
19D:					
Grover	85	Moderate		Low	
		Texture/rock fragments	0.50		
19E:					
Grover	85	Moderate		Low	
		Texture/rock fragments	0.50		
20C:					
Grover	40	Moderate		Low	
		Texture/rock fragments	0.50		
Wateree	35	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	15	Not rated		Not rated	
21A:					
Johnston	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00

Table 9.—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
22B:					
Kempsville----------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
23B:					
Kempsville----------	40	Moderate		Low	
		Texture/rock fragments	0.50		
Bourne--------------	35	Low		Low	
		Texture/rock fragments	0.10		
Urban land----------	15	Not rated		Not rated	
24B:					
Masada--------------	70	Low		Low	
		Texture/rock fragments	0.10		
Urban land----------	20	Not rated		Not rated	
24C:					
Masada--------------	65	Low		Low	
		Texture/rock fragments	0.10		
Urban land----------	20	Not rated		Not rated	
25B:					
Masada--------------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
25C:					
Masada--------------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
26A:					
Nawney--------------	75	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
27B:					
Norfolk-------------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	

Table 9.—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
28B:					
Orangeburg----------	40	Moderate		Low	
		Texture/rock fragments	0.50		
Faceville-----------	35	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	15	Not rated		Not rated	
28C:					
Orangeburg----------	40	Moderate		Low	
		Texture/rock fragments	0.50		
Faceville-----------	35	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	15	Not rated		Not rated	
29B:					
Pouncey-------------	70	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land----------	20	Not rated		Not rated	
30A:					
Riverview-----------	85	Moderate		Low	
		Texture/rock fragments	0.50		
31A:					
Roanoke-------------	85	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
32A:					
Roanoke-------------	40	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
Chewacla------------	35	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
33B:					
Slagle--------------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
34B:					
Tetotum-------------	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	

Table 9.—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
35A:					
Toccoa	85	Moderate		Low	
		Texture/rock fragments	0.50		
36A:					
Tomotley	70	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
Urban land	20	Not rated		Not rated	
37B:					
Turbeville	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	20	Not rated		Not rated	
37C:					
Turbeville	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	20	Not rated		Not rated	
38B:					
Turbeville	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	20	Not rated		Not rated	
38C:					
Turbeville	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	20	Not rated		Not rated	
39:					
Udorthents	100	Not rated		Not rated	
40:					
Udorthents	50	Not rated		Not rated	
Dumps	50	Not rated		Not rated	
41:					
Urban land	100	Not rated		Not rated	
42A:					
Varina	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	20	Not rated		Not rated	

Table 9.—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
43C:					
Wateree	70	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	20	Not rated		Not rated	
43D:					
Wateree	85	Moderate		Low	
		Texture/rock fragments	0.50		
44E:					
Wateree	50	Moderate		Low	
		Texture/rock fragments	0.50		
Wedowee	45	Moderate		Low	
		Texture/rock fragments	0.50		
45F:					
Wateree	50	Moderate		Low	
		Texture/rock fragments	0.50		
Wedowee	30	Moderate		Low	
		Texture/rock fragments	0.50		
Rock outcrop	10	Not rated		Not rated	
46E:					
Wedowee	85	Moderate		Low	
		Texture/rock fragments	0.50		
47A:					
Worsham	70	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
Urban land	20	Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	

Table 10.—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:							
Abell	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
2B:							
Appling	70	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
						Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
3B:							
Appling	70	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
3C:							
Appling	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
3D:							
Appling	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
4C:							
Appling	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Wedowee	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Urban land	10	Not rated		Not rated		Not rated	
4D:							
Appling	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Wedowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
5A:							
Atlee	70	Very limited		Very limited		Somewhat limited	
		Depth to cemented pan	0.99	Depth to cemented pan	0.99	Depth to saturated zone	0.39
		Depth to saturated zone	0.39	Depth to saturated zone	0.19		
Urban land	20	Not rated		Not rated		Not rated	

Table 10.—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
6A:							
Augusta	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
7B:							
Bourne	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to cemented pan	0.97	Depth to cemented pan	0.97	Depth to cemented pan	0.97
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
		Too sandy	0.01	Too sandy	0.01	Depth to saturated zone	0.39
Urban land	20	Not rated		Not rated		Not rated	
7C:							
Bourne	70	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.97	Depth to cemented pan	0.97	Slope	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to cemented pan	0.97
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.39
Urban land	20	Not rated		Not rated		Not rated	
8C:							
Cecil	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Urban land	20	Not rated		Not rated		Not rated	
8D:							
Cecil	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
9A:							
Chastain	85	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	Flooding	1.00
		Slow water movement	0.94	Flooding	0.40	Slow water movement	0.94
10A:							
Chewacla	85	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
11B:							
Colfax	70	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	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90
		Too sandy	0.01	Too sandy	0.01	Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	

Table 10.—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
12C:							
Colfax	70	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	0.99	Depth to cemented pan	0.99	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to cemented pan	0.99
Urban land	20	Not rated		Not rated		Not rated	
13A:							
Dogue	85	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				
14A:							
Dunbar	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.81	Depth to saturated zone	0.48	Depth to saturated zone	0.81
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
15B:							
Durham	43	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.15	Slow water movement	0.15	Slope	0.50
		Too sandy	0.01	Too sandy	0.01	Slow water movement	0.15
						Too sandy	0.01
Bourne	42	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to cemented pan	0.97	Depth to cemented pan	0.97	Depth to cemented pan	0.97
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
		Too sandy	0.01	Too sandy	0.01	Depth to saturated zone	0.39
Urban land	15	Not rated		Not rated		Not rated	
16B:							
Edgehill	70	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
						Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
16C:							
Edgehill	70	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Gravel content	1.00
Urban land	20	Not rated		Not rated		Not rated	
16D:							
Edgehill	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00

Table 10.—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
16E:							
Edgehill	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
17B:							
Faceville	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.50
						Too sandy	0.01
Urban land	20	Not rated		Not rated		Not rated	
17C:							
Faceville	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Urban land	20	Not rated		Not rated		Not rated	
17D:							
Faceville	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
18B:							
Faceville	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.50
						Too sandy	0.01
Gritney	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.94	Depth to saturated zone	0.98
		Slow water movement	0.94	Depth to saturated zone	0.75	Slow water movement	0.94
						Slope	0.50
Urban land	15	Not rated		Not rated		Not rated	
18C:							
Faceville	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Gritney	35	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Slow water movement	0.94	Slope	1.00
		Slow water movement	0.94	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Slow water movement	0.94
Urban land	15	Not rated		Not rated		Not rated	
19C:							
Grover	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	15	Not rated		Not rated		Not rated	

Table 10.—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
19D:							
Grover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
19E:							
Grover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
20C:							
Grover	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Wateree	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
						Depth to bedrock	0.97
Urban land	15	Not rated		Not rated		Not rated	
21A:							
Johnston	85	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	Flooding	0.40	Ponding	1.00
22B:							
Kempsville	70	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
23B:							
Kempsville	40	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Bourne	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to cemented pan	0.97	Depth to cemented pan	0.97	Depth to cemented pan	0.97
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
		Too sandy	0.01	Too sandy	0.01	Depth to saturated zone	0.39
Urban land	15	Not rated		Not rated		Not rated	
24B:							
Masada	70	Not limited		Not limited		Somewhat limited	
						Slope	0.50
						Gravel content	0.18
Urban land	20	Not rated		Not rated		Not rated	
24C:							
Masada	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
						Gravel content	0.18
Urban land	20	Not rated		Not rated		Not rated	

Table 10.—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
25B:							
Masada	70	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.59	Gravel content	0.59	Gravel content	1.00
		Too sandy	0.01	Too sandy	0.01	Slope	0.50
						Too sandy	0.01
Urban land	20	Not rated		Not rated		Not rated	
25C:							
Masada	70	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.59	Gravel content	0.59	Slope	1.00
		Slope	0.04	Slope	0.04	Gravel content	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Urban land	20	Not rated		Not rated		Not rated	
26A:							
Nawney	75	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	Flooding	0.40	Flooding	1.00
27B:							
Norfolk	70	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Urban land	20	Not rated		Not rated		Not rated	
28B:							
Orangeburg	40	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Faceville	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.50
						Too sandy	0.01
Urban land	15	Not rated		Not rated		Not rated	
28C:							
Orangeburg	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Faceville	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Urban land	15	Not rated		Not rated		Not rated	
29B:							
Pouncey	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Depth to bedrock	0.84
Urban land	20	Not rated		Not rated		Not rated	

Table 10.—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
30A:							
Riverview-----------	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
31A:							
Roanoke-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
32A:							
Roanoke-------------	40	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	Flooding	0.40	Flooding	1.00
Chewacla------------	35	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Depth to saturated zone	0.44	Depth to saturated zone	0.22	Depth to saturated zone	0.44
33B:							
Slagle--------------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slope	0.50
						Depth to saturated zone	0.07
Urban land----------	20	Not rated		Not rated		Not rated	
34B:							
Tetotum-------------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
						Depth to saturated zone	0.39
Urban land----------	20	Not rated		Not rated		Not rated	
35A:							
Toccoa--------------	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
36A:							
Tomotley------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land----------	20	Not rated		Not rated		Not rated	
37B:							
Turbeville----------	70	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Urban land----------	20	Not rated		Not rated		Not rated	
37C:							
Turbeville----------	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land----------	20	Not rated		Not rated		Not rated	

Table 10.—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
38B:							
Turbeville----------	70	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.25	Gravel content	0.25	Gravel content	1.00
		Too sandy	0.01	Too sandy	0.01	Slope	0.50
						Too sandy	0.01
Urban land----------	20	Not rated		Not rated		Not rated	
38C:							
Turbeville----------	70	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.25	Gravel content	0.25	Slope	1.00
		Slope	0.04	Slope	0.04	Gravel content	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Urban land----------	20	Not rated		Not rated		Not rated	
39:							
Udorthents----------	100	Not rated		Not rated		Not rated	
40:							
Udorthents----------	50	Not rated		Not rated		Not rated	
Dumps---------------	50	Not rated		Not rated		Not rated	
41:							
Urban land----------	100	Not rated		Not rated		Not rated	
42A:							
Varina--------------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Urban land----------	20	Not rated		Not rated		Not rated	
43C:							
Wateree-------------	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.01	Slope	0.01	Slope	1.00
						Depth to bedrock	0.97
Urban land----------	20	Not rated		Not rated		Not rated	
43D:							
Wateree-------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.97
44E:							
Wateree-------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.97
Wedowee-------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	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
45F:							
Wateree-------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.97

Table 10.—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
45F:							
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	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
Rock outcrop	10	Not rated		Not rated		Not rated	
46E:							
Wedowee	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	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
47A:							
Worsham	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
Urban land	20	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 10.—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		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Abell	85	Not limited		Not limited		Not limited	
2B:							
Appling	70	Not limited		Not limited		Somewhat limited	
						Large stones content	0.08
						Gravel content	0.01
Urban land	20	Not rated		Not rated		Not rated	
3B:							
Appling	70	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
3C:							
Appling	70	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
3D:							
Appling	85	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
4C:							
Appling	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.04
Wedowee	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.04
Urban land	10	Not rated		Not rated		Not rated	
4D:							
Appling	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.02	Too sandy	0.01	Slope	1.00
		Too sandy	0.01				
Wedowee	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.02	Too sandy	0.01	Slope	1.00
		Too sandy	0.01				
5A:							
Atlee	70	Not limited		Not limited		Very limited	
						Depth to cemented pan	0.99
						Droughty	0.97
						Depth to saturated zone	0.19
Urban land	20	Not rated		Not rated		Not rated	

Table 10.—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
6A:							
Augusta	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
		Too sandy	0.01	Too sandy	0.01		
7B:							
Bourne	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Depth to cemented pan	0.97
						Droughty	0.49
						Depth to saturated zone	0.19
Urban land	20	Not rated		Not rated		Not rated	
7C:							
Bourne	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Depth to cemented pan	0.97
						Droughty	0.49
						Depth to saturated zone	0.19
Urban land	20	Not rated		Not rated		Not rated	
8C:							
Cecil	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
8D:							
Cecil	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.02	Too sandy	0.01	Slope	1.00
		Too sandy	0.01				
9A:							
Chastain	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
10A:							
Chewacla	85	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
11B:							
Colfax	70	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too sandy	0.01	Too sandy	0.01	Depth to cemented pan	0.90
						Droughty	0.18
Urban land	20	Not rated		Not rated		Not rated	

Table 10.—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
12C:							
Colfax	70	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	0.99
						Droughty	0.99
Urban land	20	Not rated		Not rated		Not rated	
13A:							
Dogue	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
14A:							
Dunbar	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.11	Depth to saturated zone	0.11	Depth to saturated zone	0.48
15B:							
Durham	43	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
Bourne	42	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Depth to cemented pan	0.97
						Droughty	0.49
						Depth to saturated zone	0.19
Urban land	15	Not rated		Not rated		Not rated	
16B:							
Edgehill	70	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.07
						Large stones content	0.01
Urban land	20	Not rated		Not rated		Not rated	
16C:							
Edgehill	70	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	0.07
						Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
16D:							
Edgehill	85	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
						Gravel content	1.00
						Droughty	0.07
16E:							
Edgehill	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Gravel content	1.00
						Droughty	0.07

Table 10.—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
17B:							
Faceville-----------	70	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
Urban land----------	20	Not rated		Not rated		Not rated	
17C:							
Faceville-----------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.04
Urban land----------	20	Not rated		Not rated		Not rated	
17D:							
Faceville-----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.02	Too sandy	0.01	Slope	1.00
		Too sandy	0.01				
18B:							
Faceville-----------	40	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
Gritney-------------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Urban land----------	15	Not rated		Not rated		Not rated	
18C:							
Faceville-----------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.04
Gritney-------------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Slope	0.04
Urban land----------	15	Not rated		Not rated		Not rated	
19C:							
Grover--------------	70	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Urban land----------	15	Not rated		Not rated		Not rated	
19D:							
Grover--------------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
19E:							
Grover--------------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.08	Slope	1.00
20C:							
Grover--------------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Wateree-------------	35	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.97
						Droughty	0.90
						Slope	0.04

Table 10.—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
20C:							
Urban land----------	15	Not rated		Not rated		Not rated	
21A:							
Johnston------------	85	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
22B:							
Kempsville----------	70	Not limited		Not limited		Not limited	
Urban land----------	20	Not rated		Not rated		Not rated	
23B:							
Kempsville----------	40	Not limited		Not limited		Not limited	
Bourne--------------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Depth to cemented pan	0.97
						Droughty	0.49
						Depth to saturated zone	0.19
Urban land----------	15	Not rated		Not rated		Not rated	
24B:							
Masada--------------	70	Not limited		Not limited		Not limited	
Urban land----------	20	Not rated		Not rated		Not rated	
24C:							
Masada--------------	65	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Urban land----------	20	Not rated		Not rated		Not rated	
25B:							
Masada--------------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.59
Urban land----------	20	Not rated		Not rated		Not rated	
25C:							
Masada--------------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.59
						Slope	0.04
Urban land----------	20	Not rated		Not rated		Not rated	
26A:							
Nawney--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
27B:							
Norfolk-------------	70	Not limited		Not limited		Not limited	
Urban land----------	20	Not rated		Not rated		Not rated	

Table 10.—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
28B:							
Orangeburg----------	40	Not limited		Not limited		Not limited	
Faceville-----------	35	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
Urban land----------	15	Not rated		Not rated		Not rated	
28C:							
Orangeburg----------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Faceville-----------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Slope	0.04
Urban land----------	15	Not rated		Not rated		Not rated	
29B:							
Pouncey-------------	70	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 bedrock	0.84
						Droughty	0.38
Urban land----------	20	Not rated		Not rated		Not rated	
30A:							
Riverview-----------	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
31A:							
Roanoke-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
32A:							
Roanoke-------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
Chewacla------------	35	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Depth to saturated zone	0.22
33B:							
Slagle--------------	70	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
Urban land----------	20	Not rated		Not rated		Not rated	
34B:							
Tetotum-------------	70	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
Urban land----------	20	Not rated		Not rated		Not rated	

Table 10.—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
35A:							
Toccoa	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
36A:							
Tomotley	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	20	Not rated		Not rated		Not rated	
37B:							
Turbeville	70	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
37C:							
Turbeville	70	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
38B:							
Turbeville	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.25
Urban land	20	Not rated		Not rated		Not rated	
38C:							
Turbeville	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.25
						Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
39:							
Udorthents	100	Not rated		Not rated		Not rated	
40:							
Udorthents	50	Not rated		Not rated		Not rated	
Dumps	50	Not rated		Not rated		Not rated	
41:							
Urban land	100	Not rated		Not rated		Not rated	
42A:							
Varina	70	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
Urban land	20	Not rated		Not rated		Not rated	
43C:							
Wateree	70	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.97
						Droughty	0.90
						Slope	0.01
Urban land	20	Not rated		Not rated		Not rated	

Table 10.—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
43D:							
Wateree	85	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
						Depth to bedrock	0.97
						Droughty	0.90
44E:							
Wateree	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
						Depth to bedrock	0.97
						Droughty	0.90
Wedowee	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.08
45F:							
Wateree	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.97
						Droughty	0.90
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.08
Rock outcrop	10	Not rated		Not rated		Not rated	
46E:							
Wedowee	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.08
47A:							
Worsham	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	20	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11.—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		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B:							
Abell	85	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.99		
2B:							
Appling	70	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
3B:							
Appling	70	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
3C:							
Appling	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
3D:							
Appling	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
4C:							
Appling	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Wedowee	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	10	Not rated		Not rated		Not rated	
4D:							
Appling	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Wedowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
5A:							
Atlee	70	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
Urban land	20	Not rated		Not rated		Not rated	
6A:							
Augusta	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98

Table 11.—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:							
Bourne	70	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.97	Depth to saturated zone	1.00	Depth to thick cemented pan	0.97
		Depth to saturated zone	0.39	Depth to thick cemented pan	1.00	Depth to saturated zone	0.39
Urban land	20	Not rated		Not rated		Not rated	
7C:							
Bourne	70	Somewhat limited		Very limited		Very limited	
		Depth to thick cemented pan	0.97	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.39	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.97
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.39
Urban land	20	Not rated		Not rated		Not rated	
8C:							
Cecil	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
8D:							
Cecil	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
9A:							
Chastain	85	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
10A:							
Chewacla	85	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
11B:							
Colfax	70	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	0.90	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.90
Urban land	20	Not rated		Not rated		Not rated	
12C:							
Colfax	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Depth to thin cemented pan	0.99	Slope	1.00
				Slope	0.04		
Urban land	20	Not rated		Not rated		Not rated	

Table 11.—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
13A:							
Dogue	85	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
14A:							
Dunbar	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.81	Depth to saturated zone	1.00	Depth to saturated zone	0.81
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
15B:							
Durham	43	Not limited		Not limited		Not limited	
Bourne	42	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.97	Depth to saturated zone	1.00	Depth to thick cemented pan	0.97
		Depth to saturated zone	0.39	Depth to thick cemented pan	1.00	Depth to saturated zone	0.39
Urban land	15	Not rated		Not rated		Not rated	
16B:							
Edgehill	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Urban land	20	Not rated		Not rated		Not rated	
16C:							
Edgehill	70	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Urban land	20	Not rated		Not rated		Not rated	
16D:							
Edgehill	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
16E:							
Edgehill	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
17B:							
Faceville	70	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
17C:							
Faceville	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	

Table 11.—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
17D:							
Faceville	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
18B:							
Faceville	40	Not limited		Not limited		Not limited	
Gritney	35	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Urban land	15	Not rated		Not rated		Not rated	
18C:							
Faceville	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Gritney	35	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Urban land	15	Not rated		Not rated		Not rated	
19C:							
Grover	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	15	Not rated		Not rated		Not rated	
19D:							
Grover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
19E:							
Grover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
20C:							
Grover	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Wateree	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Depth to soft bedrock	0.97	Slope	1.00
				Slope	0.04		
Urban land	15	Not rated		Not rated		Not rated	
21A:							
Johnston	85	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

Table 11.—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
22B:							
Kempsville	70	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
23B:							
Kempsville	40	Not limited		Not limited		Not limited	
Bourne	35	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.97	Depth to saturated zone	1.00	Depth to thick cemented pan	0.97
		Depth to saturated zone	0.39	Depth to thick cemented pan	1.00	Depth to saturated zone	0.39
Urban land	15	Not rated		Not rated		Not rated	
24B:							
Masada	70	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
24C:							
Masada	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
25B:							
Masada	70	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
25C:							
Masada	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
26A:							
Nawney	75	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
27B:							
Norfolk	70	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.15		
Urban land	20	Not rated		Not rated		Not rated	
28B:							
Orangeburg	40	Not limited		Not limited		Not limited	
Faceville	35	Not limited		Not limited		Not limited	
Urban land	15	Not rated		Not rated		Not rated	

Table 11.—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
28C:							
Orangeburg----------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Faceville-----------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land----------	15	Not rated		Not rated		Not rated	
29B:							
Pouncey-------------	70	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 hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to hard bedrock	0.84
Urban land----------	20	Not rated		Not rated		Not rated	
30A:							
Riverview-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.16		
31A:							
Roanoke-------------	85	Very limited		Very limited		Very limited	
		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
32A:							
Roanoke-------------	40	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
Chewacla------------	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
33B:							
Slagle--------------	70	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.07	Depth to saturated zone	1.00	Depth to saturated zone	0.07
Urban land----------	20	Not rated		Not rated		Not rated	
34B:							
Tetotum-------------	70	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
Urban land----------	20	Not rated		Not rated		Not rated	
35A:							
Toccoa--------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.73		

Table 11.—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
36A:							
Tomotley	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	20	Not rated		Not rated		Not rated	
37B:							
Turbeville	70	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
37C:							
Turbeville	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
38B:							
Turbeville	70	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
38C:							
Turbeville	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
39:							
Udorthents	100	Not rated		Not rated		Not rated	
40:							
Udorthents	50	Not rated		Not rated		Not rated	
Dumps	50	Not rated		Not rated		Not rated	
41:							
Urban land	100	Not rated		Not rated		Not rated	
42A:							
Varina	70	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.61		
Urban land	20	Not rated		Not rated		Not rated	
43C:							
Wateree	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.01	Depth to soft bedrock	0.97	Slope	1.00
				Slope	0.01		
Urban land	20	Not rated		Not rated		Not rated	
43D:							
Wateree	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.97		

Table 11.—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
44E:							
Wateree	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.97		
Wedowee	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
45F:							
Wateree	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.97		
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	10	Not rated		Not rated		Not rated	
46E:							
Wedowee	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
47A:							
Worsham	70	Very limited		Very limited		Very limited	
		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
Urban land	20	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11.—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:							
Abell	85	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
				Cutbanks cave	0.10		
2B:							
Appling	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Too clayey	0.28	Large stones content	0.08
				Cutbanks cave	0.10	Gravel content	0.01
Urban land	20	Not rated		Not rated		Not rated	
3B:							
Appling	70	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Too clayey	0.28		
				Cutbanks cave	0.10		
Urban land	20	Not rated		Not rated		Not rated	
3C:							
Appling	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Too clayey	0.28	Slope	0.04
		Slope	0.04	Cutbanks cave	0.10		
				Slope	0.04		
Urban land	20	Not rated		Not rated		Not rated	
3D:							
Appling	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Too clayey	0.28		
				Cutbanks cave	0.10		
4C:							
Appling	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Too clayey	0.28	Slope	0.04
		Slope	0.04	Cutbanks cave	0.10		
				Slope	0.04		
Wedowee	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10	Slope	0.04
		Low strength	0.08	Slope	0.04		
		Slope	0.04				
Urban land	10	Not rated		Not rated		Not rated	
4D:							
Appling	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Too clayey	0.28		
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

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
4D:							
Wedowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
		Low strength	0.08				
5A:							
Atlee	70	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to cemented pan	0.99
		Low strength	1.00	Cutbanks cave	0.10	Droughty	0.97
		Depth to saturated zone	0.19			Depth to saturated zone	0.19
Urban land	20	Not rated		Not rated		Not rated	
6A:							
Augusta	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
7B:							
Bourne	70	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.97	Depth to thick cemented pan	1.00	Depth to cemented pan	0.97
		Frost action	0.50	Depth to saturated zone	1.00	Droughty	0.49
		Depth to saturated zone	0.19	Dense layer	0.50	Depth to saturated zone	0.19
Urban land	20	Not rated		Not rated		Not rated	
7C:							
Bourne	70	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.97	Depth to thick cemented pan	1.00	Depth to cemented pan	0.97
		Frost action	0.50	Depth to saturated zone	1.00	Droughty	0.49
		Depth to saturated zone	0.19	Dense layer	0.50	Depth to saturated zone	0.19
Urban land	20	Not rated		Not rated		Not rated	
8C:							
Cecil	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Too clayey	0.72	Slope	0.04
		Low strength	0.10	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
Urban land	20	Not rated		Not rated		Not rated	
8D:							
Cecil	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Too clayey	0.72		
		Low strength	0.10	Cutbanks cave	0.10		

Table 11.—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
9A:							
Chastain------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.80		
10A:							
Chewacla------------	85	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Flooding	0.80		
11B:							
Colfax--------------	70	Very limited		Very limited		Very limited	
		Frost action	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	0.90
		Depth to thick cemented pan	0.90	Cutbanks cave	0.10	Droughty	0.18
Urban land----------	20	Not rated		Not rated		Not rated	
12C:							
Colfax--------------	70	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Depth to thin cemented pan	0.99	Depth to cemented pan	0.99
		Slope	0.04	Too clayey	0.50	Droughty	0.99
Urban land----------	20	Not rated		Not rated		Not rated	
13A:							
Dogue---------------	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Too clayey	0.03		
14A:							
Dunbar--------------	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.48
		Frost action	0.50	Too clayey	0.28		
		Depth to saturated zone	0.48	Cutbanks cave	0.10		
15B:							
Durham--------------	43	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
Bourne--------------	42	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.97	Depth to thick cemented pan	1.00	Depth to cemented pan	0.97
		Frost action	0.50	Depth to saturated zone	1.00	Droughty	0.49
		Depth to saturated zone	0.19	Dense layer	0.50	Depth to saturated zone	0.19
Urban land----------	15	Not rated		Not rated		Not rated	

Table 11.—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
16B:							
Edgehill------------	70	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Too clayey	0.12	Droughty	0.07
						Large stones content	0.01
Urban land----------	20	Not rated		Not rated		Not rated	
16C:							
Edgehill------------	70	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Too clayey	0.12	Droughty	0.07
		Slope	0.04	Slope	0.04	Slope	0.04
Urban land----------	20	Not rated		Not rated		Not rated	
16D:							
Edgehill------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Gravel content	1.00
		Frost action	0.50	Too clayey	0.12	Droughty	0.07
16E:							
Edgehill------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	1.00
		Frost action	0.50	Too clayey	0.12	Droughty	0.07
17B:							
Faceville-----------	70	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Too clayey	0.12		
		Low strength	0.10	Cutbanks cave	0.10		
Urban land----------	20	Not rated		Not rated		Not rated	
17C:							
Faceville-----------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Too clayey	0.12	Slope	0.04
		Low strength	0.10	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
Urban land----------	20	Not rated		Not rated		Not rated	
17D:							
Faceville-----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Too clayey	0.12		
		Low strength	0.10	Cutbanks cave	0.10		
18B:							
Faceville-----------	40	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Too clayey	0.12		
		Low strength	0.10	Cutbanks cave	0.10		
Gritney-------------	35	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	1.00		
		Depth to saturated zone	0.75	Too clayey	0.28		

Table 11.—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
18B:							
Urban land	15	Not rated		Not rated		Not rated	
18C:							
Faceville	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Too clayey	0.12	Slope	0.04
		Low strength	0.10	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
Gritney	35	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	1.00	Slope	0.04
		Depth to saturated zone	0.75	Too clayey	0.28		
Urban land	15	Not rated		Not rated		Not rated	
19C:							
Grover	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10	Slope	0.04
		Slope	0.04	Slope	0.04		
Urban land	15	Not rated		Not rated		Not rated	
19D:							
Grover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
19E:							
Grover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
20C:							
Grover	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10	Slope	0.04
		Slope	0.04	Slope	0.04		
Wateree	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Depth to soft bedrock	0.97	Depth to bedrock	0.97
		Slope	0.04			Droughty	0.90
				Cutbanks cave	0.10	Slope	0.04
				Slope	0.04		
Urban land	15	Not rated		Not rated		Not rated	
21A:							
Johnston	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
						Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	1.00		
		Ponding	1.00	Ponding	1.00	Ponding	1.00
22B:							
Kempsville	70	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
Urban land	20	Not rated		Not rated		Not rated	

Table 11.—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
23B:							
Kempsville----------	40	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
Bourne--------------	35	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.97	Depth to thick cemented pan	1.00	Depth to cemented pan	0.97
		Frost action	0.50	Depth to saturated zone	1.00	Droughty	0.49
		Depth to saturated zone	0.19	Dense layer	0.50	Depth to saturated zone	0.19
Urban land----------	15	Not rated		Not rated		Not rated	
24B:							
Masada--------------	70	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.12		
		Frost action	0.50	Cutbanks cave	0.10		
Urban land----------	20	Not rated		Not rated		Not rated	
24C:							
Masada--------------	65	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.12	Slope	0.04
		Frost action	0.50	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
Urban land----------	20	Not rated		Not rated		Not rated	
25B:							
Masada--------------	70	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.12	Gravel content	0.59
		Frost action	0.50	Cutbanks cave	0.10		
Urban land----------	20	Not rated		Not rated		Not rated	
25C:							
Masada--------------	70	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.12	Gravel content	0.59
		Frost action	0.50	Cutbanks cave	0.10	Slope	0.04
		Slope	0.04	Slope	0.04		
Urban land----------	20	Not rated		Not rated		Not rated	
26A:							
Nawney--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.80		
27B:							
Norfolk-------------	70	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.15		
				Cutbanks cave	0.10		
Urban land----------	20	Not rated		Not rated		Not rated	

Table 11.—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
28B:							
Orangeburg----------	40	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
		Low strength	0.10				
Faceville-----------	35	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Too clayey	0.12		
		Low strength	0.10	Cutbanks cave	0.10		
Urban land----------	15	Not rated		Not rated		Not rated	
28C:							
Orangeburg----------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10	Slope	0.04
		Low strength	0.10	Slope	0.04		
		Slope	0.04				
Faceville-----------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Too clayey	0.12	Slope	0.04
		Low strength	0.10	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
Urban land----------	15	Not rated		Not rated		Not rated	
29B:							
Pouncey-------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.84
		Depth to hard bedrock	0.84	Too clayey	0.12	Droughty	0.38
Urban land----------	20	Not rated		Not rated		Not rated	
30A:							
Riverview-----------	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
		Low strength	1.00	Depth to saturated zone	0.16		
		Frost action	0.50	Cutbanks cave	0.10		
31A:							
Roanoke-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
32A:							
Roanoke-------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.80		
Chewacla------------	35	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.22
		Depth to saturated zone	0.22	Flooding	0.80		

Table 11.—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
33B:							
Slagle	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Depth to saturated zone	0.03	Cutbanks cave	0.10		
Urban land	20	Not rated		Not rated		Not rated	
34B:							
Tetotum	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
				Too clayey	0.02		
Urban land	20	Not rated		Not rated		Not rated	
35A:							
Toccoa	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
		Frost action	0.50	Depth to saturated zone	0.73		
				Cutbanks cave	0.10		
36A:							
Tomotley	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
Urban land	20	Not rated		Not rated		Not rated	
37B:							
Turbeville	70	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Low strength	0.10	Too clayey	0.01		
Urban land	20	Not rated		Not rated		Not rated	
37C:							
Turbeville	70	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Slope	0.04
		Low strength	0.10	Slope	0.04		
		Slope	0.04	Too clayey	0.01		
Urban land	20	Not rated		Not rated		Not rated	
38B:							
Turbeville	70	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.25
		Low strength	0.10	Too clayey	0.01		
Urban land	20	Not rated		Not rated		Not rated	
38C:							
Turbeville	70	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.25
		Low strength	0.10	Slope	0.04	Slope	0.04
		Slope	0.04	Too clayey	0.01		

Table 11.—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
38C:							
Urban land	20	Not rated		Not rated		Not rated	
39:							
Udorthents	100	Not rated		Not rated		Not rated	
40:							
Udorthents	50	Not rated		Not rated		Not rated	
Dumps	50	Not rated		Not rated		Not rated	
41:							
Urban land	100	Not rated		Not rated		Not rated	
42A:							
Varina	70	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.61		
		Low strength	0.10	Too clayey	0.28		
				Cutbanks cave	0.10		
Urban land	20	Not rated		Not rated		Not rated	
43C:							
Wateree	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Depth to soft bedrock	0.97	Depth to bedrock	0.97
		Slope	0.01	Cutbanks cave	0.10	Droughty	0.90
				Slope	0.01	Slope	0.01
Urban land	20	Not rated		Not rated		Not rated	
43D:							
Wateree	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to soft bedrock	0.97	Depth to bedrock	0.97
				Cutbanks cave	0.10	Droughty	0.90
44E:							
Wateree	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to soft bedrock	0.97	Depth to bedrock	0.97
				Cutbanks cave	0.10	Droughty	0.90
Wedowee	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.08
		Low strength	0.08				
45F:							
Wateree	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to soft bedrock	0.97	Depth to bedrock	0.97
				Cutbanks cave	0.10	Droughty	0.90

Table 11.—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
45F:							
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.08
		Low strength	0.08				
Rock outcrop	10	Not rated		Not rated		Not rated	
46E:							
Wedowee	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.08
		Low strength	0.08				
47A:							
Worsham	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00	Too clayey	0.03		
Urban land	20	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 12.—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:					
Abell	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.32
2B:					
Appling	70	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
Urban land	20	Not rated		Not rated	
3B:					
Appling	70	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
Urban land	20	Not rated		Not rated	
3C:					
Appling	70	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.04	Seepage	0.50
Urban land	20	Not rated		Not rated	
3D:					
Appling	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
4C:					
Appling	45	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.04	Seepage	0.50
Wedowee	40	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.04	Seepage	0.99
Urban land	10	Not rated		Not rated	

Table 12.—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
4D:					
Appling	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Wedowee	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
5A:					
Atlee	70	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
				Seepage	0.50
Urban land	20	Not rated		Not rated	
6A:					
Augusta	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	0.50
		Slow water movement	0.50		
7B:					
Bourne	70	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.75
Urban land	20	Not rated		Not rated	
7C:					
Bourne	70	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Urban land	20	Not rated		Not rated	
8C:					
Cecil	70	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Slope	0.04		
Urban land	20	Not rated		Not rated	

Table 12.—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
8D:					
Cecil	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	0.50
		Slow water movement	0.50		
9A:					
Chastain	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
10A:					
Chewacla	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
11B:					
Colfax	70	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	Seepage	0.50
Urban land	20	Not rated		Not rated	
12C:					
Colfax	70	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
		Slope	0.04	Slope	1.00
Urban land	20	Not rated		Not rated	
13A:					
Dogue	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
				Flooding	0.40
		Seepage, bottom layer	1.00		
14A:					
Dunbar	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		

Table 12.—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
15B:					
Durham--------------	43	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
				Slope	0.32
Bourne--------------	42	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.75
Urban land----------	15	Not rated		Not rated	
16B:					
Edgehill------------	70	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.32
Urban land----------	20	Not rated		Not rated	
16C:					
Edgehill------------	70	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
		Slope	0.04		
Urban land----------	20	Not rated		Not rated	
16D:					
Edgehill------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
16E:					
Edgehill------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
17B:					
Faceville-----------	70	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
Urban land----------	20	Not rated		Not rated	

Table 12.—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
17C:					
Faceville-----------	70	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.04	Seepage	0.50
Urban land----------	20	Not rated		Not rated	
17D:					
Faceville-----------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
18B:					
Faceville-----------	40	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
Gritney-------------	35	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Seepage, bottom layer	1.00	Slope	0.32
Urban land----------	15	Not rated		Not rated	
18C:					
Faceville-----------	40	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.04	Seepage	0.50
Gritney-------------	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.99
Urban land----------	15	Not rated		Not rated	
19C:					
Grover--------------	70	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.04	Seepage	0.50
Urban land----------	15	Not rated		Not rated	
19D:					
Grover--------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 12.—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
19E:					
Grover	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
20C:					
Grover	40	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
		Slope	0.04		
Wateree	35	Very limited		Very limited	
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
Urban land	15	Not rated		Not rated	
21A:					
Johnston	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
22B:					
Kempsville	70	Somewhat limited		Very limited	
		Slow water movement	0.72	Seepage	1.00
				Slope	0.32
Urban land	20	Not rated		Not rated	
23B:					
Kempsville	40	Somewhat limited		Very limited	
		Slow water movement	0.72	Seepage	1.00
				Slope	0.32
Bourne	35	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	0.75
		Seepage, bottom layer	1.00		
Urban land	15	Not rated		Not rated	
24B:					
Masada	70	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
Urban land	20	Not rated		Not rated	

Table 12.—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
24C:					
Masada--------------	65	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.04	Seepage	0.50
Urban land----------	20	Not rated		Not rated	
25B:					
Masada--------------	70	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
Urban land----------	20	Not rated		Not rated	
25C:					
Masada--------------	70	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.04	Seepage	0.50
Urban land----------	20	Not rated		Not rated	
26A:					
Nawney--------------	75	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
27B:					
Norfolk-------------	70	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.08
		Depth to saturated zone	0.40		
Urban land----------	20	Not rated		Not rated	
28B:					
Orangeburg----------	40	Somewhat limited		Very limited	
		Slow water movement	0.50	Seepage	1.00
				Slope	0.32
Faceville-----------	35	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
Urban land----------	15	Not rated		Not rated	
28C:					
Orangeburg----------	40	Somewhat limited		Very limited	
		Slow water movement	0.50	Seepage	1.00
				Slope	1.00
		Slope	0.04		

Table 12.—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
28C:					
Faceville-----------	35	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.04	Seepage	0.50
Urban land----------	15	Not rated		Not rated	
29B:					
Pouncey-------------	70	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Seepage	0.50
Urban land----------	20	Not rated		Not rated	
30A:					
Riverview-----------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
31A:					
Roanoke-------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
32A:					
Roanoke-------------	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00	Seepage	1.00
Chewacla------------	35	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
33B:					
Slagle--------------	70	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	0.32
Urban land----------	20	Not rated		Not rated	

Table 12.—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
34B:					
Tetotum	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.32
		Slow water movement	0.50		
Urban land	20	Not rated		Not rated	
35A:					
Toccoa	85	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		
36A:					
Tomotley	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.68	Seepage	0.50
Urban land	20	Not rated		Not rated	
37B:					
Turbeville	70	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
Urban land	20	Not rated		Not rated	
37C:					
Turbeville	70	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
		Slope	0.04		
Urban land	20	Not rated		Not rated	
38B:					
Turbeville	70	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
Urban land	20	Not rated		Not rated	
38C:					
Turbeville	70	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
		Slope	0.04		
Urban land	20	Not rated		Not rated	
39:					
Udorthents	100	Not rated		Not rated	

Table 12.—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
40:					
Udorthents----------	50	Not rated		Not rated	
Dumps---------------	50	Not rated		Not rated	
41:					
Urban land----------	100	Not rated		Not rated	
42A:					
Varina--------------	70	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.50
		Depth to saturated zone	0.99		
Urban land----------	20	Not rated		Not rated	
43C:					
Wateree-------------	70	Very limited		Very limited	
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Slope	0.01	Slope	1.00
Urban land----------	20	Not rated		Not rated	
43D:					
Wateree-------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
44E:					
Wateree-------------	50	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00
Wedowee-------------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
45F:					
Wateree-------------	50	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00
Wedowee-------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
Rock outcrop--------	10	Not rated		Not rated	

Table 12.—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
46E:					
Wedowee	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
47A:					
Worsham	70	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	1.00
Urban land	20	Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	

Table 12.—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:							
Abell	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.24
		Seepage, bottom layer	1.00			Seepage	0.21
2B:							
Appling	70	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Urban land	20	Not rated		Not rated		Not rated	
3B:							
Appling	70	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Urban land	20	Not rated		Not rated		Not rated	
3C:							
Appling	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
3D:							
Appling	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
4C:							
Appling	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Wedowee	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Slope	0.04
Urban land	10	Not rated		Not rated		Not rated	
4D:							
Appling	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Wedowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 12.—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
5A:							
Atlee	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too clayey	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.86
						Too clayey	0.50
Urban land	20	Not rated		Not rated		Not rated	
6A:							
Augusta	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Seepage, bottom layer	1.00				
7B:							
Bourne	70	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
		Depth to saturated zone	0.99				
Urban land	20	Not rated		Not rated		Not rated	
7C:							
Bourne	70	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
		Depth to saturated zone	0.99	Slope	0.04	Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
8C:							
Cecil	70	Very limited		Somewhat limited		Somewhat limited	
		Seepage, bottom layer	1.00	Slope	0.04	Too clayey	0.50
		Too clayey	0.50			Slope	0.04
		Slope	0.04				
Urban land	20	Not rated		Not rated		Not rated	
8D:							
Cecil	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				

Table 12.—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
9A:							
Chastain------------	85	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 sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
10A:							
Chewacla------------	85	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		
		Seepage, bottom layer	1.00				
11B:							
Colfax--------------	70	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
Urban land----------	20	Not rated		Not rated		Not rated	
12C:							
Colfax--------------	70	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 thin cemented pan	0.50	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	0.04
Urban land----------	20	Not rated		Not rated		Not rated	
13A:							
Dogue---------------	85	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				
14A:							
Dunbar--------------	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Too clayey	0.50			Too clayey	0.50
15B:							
Durham--------------	43	Not limited		Not limited		Not limited	
Bourne--------------	42	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
		Depth to saturated zone	0.99				

Table 12.—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
15B:							
Urban land	15	Not rated		Not rated		Not rated	
16B:							
Edgehill	70	Very limited		Not limited		Very limited	
		Seepage, bottom layer	1.00			Too clayey	1.00
						Gravel content	1.00
						Seepage	1.00
Urban land	20	Not rated		Not rated		Not rated	
16C:							
Edgehill	70	Very limited		Somewhat limited		Very limited	
		Seepage, bottom layer	1.00	Slope	0.04	Too clayey	1.00
						Gravel content	1.00
		Slope	0.04			Seepage	1.00
Urban land	20	Not rated		Not rated		Not rated	
16D:							
Edgehill	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too clayey	1.00
		Seepage, bottom layer	1.00			Gravel content	1.00
						Slope	1.00
16E:							
Edgehill	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00			Too clayey	1.00
						Gravel content	1.00
17B:							
Faceville	70	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Urban land	20	Not rated		Not rated		Not rated	
17C:							
Faceville	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
17D:							
Faceville	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
18B:							
Faceville	40	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Gritney	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Too clayey	1.00
		Too clayey	1.00			Depth to saturated zone	0.99
		Seepage, bottom layer	1.00				
Urban land	15	Not rated		Not rated		Not rated	

Table 12.—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
18C:							
Faceville	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Gritney	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	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
		Seepage, bottom layer	1.00			Slope	0.04
Urban land	15	Not rated		Not rated		Not rated	
19C:							
Grover	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Urban land	15	Not rated		Not rated		Not rated	
19D:							
Grover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
19E:							
Grover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
20C:							
Grover	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Wateree	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Slope	0.04
Urban land	15	Not rated		Not rated		Not rated	
21A:							
Johnston	85	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	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Ponding	1.00
22B:							
Kempsville	70	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Urban land	20	Not rated		Not rated		Not rated	

Table 12.—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
23B:							
Kempsville	40	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Bourne	35	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
		Depth to saturated zone	0.99				
Urban land	15	Not rated		Not rated		Not rated	
24B:							
Masada	70	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
Urban land	20	Not rated		Not rated		Not rated	
24C:							
Masada	65	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
25B:							
Masada	70	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
Urban land	20	Not rated		Not rated		Not rated	
25C:							
Masada	70	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
26A:							
Nawney	75	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
		Seepage, bottom layer	1.00				
27B:							
Norfolk	70	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
Urban land	20	Not rated		Not rated		Not rated	

Table 12.—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
28B:							
Orangeburg	40	Not limited		Very limited		Not limited	
				Seepage	1.00		
Faceville	35	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Urban land	15	Not rated		Not rated		Not rated	
28C:							
Orangeburg	40	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Seepage	1.00	Slope	0.04
				Slope	0.04		
Faceville	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Urban land	15	Not rated		Not rated		Not rated	
29B:							
Pouncey	70	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 bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Urban land	20	Not rated		Not rated		Not rated	
30A:							
Riverview	85	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		
31A:							
Roanoke	85	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	Seepage	1.00	Too clayey	1.00
		Seepage, bottom layer	1.00			Seepage	1.00
32A:							
Roanoke	40	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	Seepage	1.00	Seepage	1.00
Chewacla	35	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.88
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				

Table 12.—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
33B:							
Slagle	70	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
		Seepage, bottom layer	1.00				
Urban land	20	Not rated		Not rated		Not rated	
34B:							
Tetotum	70	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
Urban land	20	Not rated		Not rated		Not rated	
35A:							
Toccoa	85	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		
36A:							
Tomotley	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	20	Not rated		Not rated		Not rated	
37B:							
Turbeville	70	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Urban land	20	Not rated		Not rated		Not rated	
37C:							
Turbeville	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	
38B:							
Turbeville	70	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Urban land	20	Not rated		Not rated		Not rated	
38C:							
Turbeville	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Urban land	20	Not rated		Not rated		Not rated	

Table 12.—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
39:							
Udorthents	100	Not rated		Not rated		Not rated	
40:							
Udorthents	50	Not rated		Not rated		Not rated	
Dumps	50	Not rated		Not rated		Not rated	
41:							
Urban land	100	Not rated		Not rated		Not rated	
42A:							
Varina	70	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Urban land	20	Not rated		Not rated		Not rated	
43C:							
Wateree	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.01	Slope	0.01	Slope	0.01
Urban land	20	Not rated		Not rated		Not rated	
43D:							
Wateree	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
44E:							
Wateree	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Wedowee	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
45F:							
Wateree	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	10	Not rated		Not rated		Not rated	
46E:							
Wedowee	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 12.—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
47A:							
Worsham-------------	70	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
Urban land----------	20	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not limited		Not rated	

Table 13.—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:					
Abell	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.04
2B:					
Appling	70	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Urban land	20	Not rated		Not rated	
3B:					
Appling	70	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Urban land	20	Not rated		Not rated	
3C:					
Appling	70	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Urban land	20	Not rated		Not rated	
3D:					
Appling	85	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
4C:					
Appling	45	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Wedowee	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.02
Urban land	10	Not rated		Not rated	
4D:					
Appling	45	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Wedowee	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.02

Table 13.—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
5A:					
Atlee	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
6A:					
Augusta	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
7B:					
Bourne	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
7C:					
Bourne	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
8C:					
Cecil	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
8D:					
Cecil	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
9A:					
Chastain	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.42
10A:					
Chewacla	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.38
11B:					
Colfax	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
12C:					
Colfax	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	

Table 13.—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
13A:					
Dogue	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
14A:					
Dunbar	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.01
15B:					
Durham	43	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Bourne	42	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	15	Not rated		Not rated	
16B:					
Edgehill	70	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.03
Urban land	20	Not rated		Not rated	
16C:					
Edgehill	70	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.03
Urban land	20	Not rated		Not rated	
16D:					
Edgehill	85	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.03
16E:					
Edgehill	85	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.03
17B:					
Faceville	70	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
Urban land	20	Not rated		Not rated	
17C:					
Faceville	70	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
Urban land	20	Not rated		Not rated	

Table 13.—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
17D:					
Faceville-----------	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
18B:					
Faceville-----------	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
Gritney-------------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
Urban land----------	15	Not rated		Not rated	
18C:					
Faceville-----------	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
Gritney-------------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
Urban land----------	15	Not rated		Not rated	
19C:					
Grover--------------	70	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Urban land----------	15	Not rated		Not rated	
19D:					
Grover--------------	85	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
19E:					
Grover--------------	85	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
20C:					
Grover--------------	40	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Wateree-------------	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Urban land----------	15	Not rated		Not rated	
21A:					
Johnston------------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.11

Table 13.—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
22B:					
Kempsville----------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	20	Not rated		Not rated	
23B:					
Kempsville----------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bourne--------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	15	Not rated		Not rated	
24B:					
Masada--------------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	20	Not rated		Not rated	
24C:					
Masada--------------	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	20	Not rated		Not rated	
25B:					
Masada--------------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	20	Not rated		Not rated	
25C:					
Masada--------------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	20	Not rated		Not rated	
26A:					
Nawney--------------	75	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
27B:					
Norfolk-------------	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Urban land----------	20	Not rated		Not rated	

Table 13.—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
28B:					
Orangeburg----------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Faceville-----------	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
Urban land----------	15	Not rated		Not rated	
28C:					
Orangeburg----------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Faceville-----------	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
Urban land----------	15	Not rated		Not rated	
29B:					
Pouncey-------------	70	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.01
Urban land----------	20	Not rated		Not rated	
30A:					
Riverview-----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
31A:					
Roanoke-------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
32A:					
Roanoke-------------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chewacla------------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.38
33B:					
Slagle--------------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	20	Not rated		Not rated	
34B:					
Tetotum-------------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	20	Not rated		Not rated	

Table 13.—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
35A:					
Toccoa	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
36A:					
Tomotley	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.11
Urban land	20	Not rated		Not rated	
37B:					
Turbeville	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
37C:					
Turbeville	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
38B:					
Turbeville	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
38C:					
Turbeville	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
39:					
Udorthents	100	Not rated		Not rated	
40:					
Udorthents	50	Not rated		Not rated	
Dumps	50	Not rated		Not rated	
41:					
Urban land	100	Not rated		Not rated	
42A:					
Varina	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	

Table 13.—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
43C:					
Wateree-------------	70	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Urban land----------	20	Not rated		Not rated	
43D:					
Wateree-------------	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
44E:					
Wateree-------------	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Wedowee-------------	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.02
45F:					
Wateree-------------	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Wedowee-------------	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.02
Rock outcrop--------	10	Not rated		Not rated	
46E:					
Wedowee-------------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.02
47A:					
Worsham-------------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	20	Not rated		Not rated	
W:					
Water---------------	100	Not rated		Not rated	

Table 13.—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:							
Abell	85	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.98	Wetness depth	0.98
		Too acid	0.54			Too acid	0.98
2B:							
Appling	70	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.88
		Too acid	0.32				
Urban land	20	Not rated		Not rated		Not rated	
3B:							
Appling	70	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.88
		Too acid	0.32				
Urban land	20	Not rated		Not rated		Not rated	
3C:							
Appling	70	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.88
						Slope	0.96
		Too acid	0.32				
Urban land	20	Not rated		Not rated		Not rated	
3D:							
Appling	85	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.98	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.00
						Too acid	0.88
		Too acid	0.32				
4C:							
Appling	45	Poor		Good		Poor	
		Too clayey	0.00			Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.88
						Slope	0.96
		Too acid	0.32				
Wedowee	40	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.59
						Slope	0.96
		Too acid	0.50			Too sandy	0.99
		Too sandy	0.99				
Urban land	10	Not rated		Not rated		Not rated	

Table 13.—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
4D:							
Appling	45	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.98	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.00
		Too acid	0.32			Too acid	0.88
Wedowee	40	Fair		Fair		Poor	
		Organic matter content low	0.12	Slope	0.98	Slope	0.00
		Too acid	0.50			Too acid	0.59
		Too sandy	0.99			Too sandy	0.99
5A:							
Atlee	70	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.00
		Depth to cemented pan	0.00	Low strength	0.00	Wetness depth	0.53
		Too acid	0.50	Wetness depth	0.53	Too acid	0.76
Urban land	20	Not rated		Not rated		Not rated	
6A:							
Augusta	85	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
		Too acid	0.54			Too acid	0.98
7B:							
Bourne	70	Poor		Poor		Fair	
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.03
		Depth to cemented pan	0.03	Wetness depth	0.53	Wetness depth	0.53
		Too acid	0.12				
Urban land	20	Not rated		Not rated		Not rated	
7C:							
Bourne	70	Poor		Poor		Fair	
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.03
		Depth to cemented pan	0.03	Wetness depth	0.53	Wetness depth	0.53
		Too acid	0.12			Slope	0.96
Urban land	20	Not rated		Not rated		Not rated	
8C:							
Cecil	70	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.88
		Too acid	0.32			Slope	0.96
Urban land	20	Not rated		Not rated		Not rated	

Table 13.—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
8D:							
Cecil---------------	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Slope	0.98	Slope	0.00
						Too acid	0.88
		Too acid	0.32				
9A:							
Chastain------------	85	Fair		Poor		Poor	
		Too clayey	0.08	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.54			Too clayey	0.08
		Water erosion	0.99			Too acid	0.98
10A:							
Chewacla------------	85	Fair		Poor		Poor	
		Too acid	0.68	Wetness depth	0.00	Wetness depth	0.00
11B:							
Colfax--------------	70	Fair		Poor		Poor	
		Droughty	0.04	Depth to cemented pan	0.00	Wetness depth	0.00
		Depth to cemented pan	0.10	Wetness depth	0.00	Depth to cemented pan	0.10
		Too acid	0.12			Too acid	0.59
Urban land----------	20	Not rated		Not rated		Not rated	
12C:							
Colfax--------------	70	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Wetness depth	0.00
		Depth to cemented pan	0.01	Wetness depth	0.00	Depth to cemented pan	0.01
		Too acid	0.12			Too acid	0.59
Urban land----------	20	Not rated		Not rated		Not rated	
13A:							
Dogue---------------	85	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	0.99	Wetness depth	0.76
14A:							
Dunbar--------------	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Wetness depth	0.29	Wetness depth	0.29
				Shrink-swell	0.96	Too acid	0.88
		Too acid	0.50				
15B:							
Durham--------------	43	Fair		Good		Fair	
		Organic matter content low	0.12			Too clayey	0.39
						Too acid	0.88
		Too acid	0.32				
		Too clayey	0.68				

Table 13.—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
15B:							
Bourne	42	Poor		Poor		Fair	
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.03
		Depth to cemented pan	0.03	Wetness depth	0.53	Wetness depth	0.53
		Too acid	0.12				
Urban land	15	Not rated		Not rated		Not rated	
16B:							
Edgehill	70	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.94	Rock fragments	0.00
		Organic matter content low	0.12			Too clayey	0.00
		Too acid	0.32			Hard to reclaim (rock fragments)	0.00
Urban land	20	Not rated		Not rated		Not rated	
16C:							
Edgehill	70	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.94	Rock fragments	0.00
		Organic matter content low	0.12			Too clayey	0.00
		Too acid	0.32			Hard to reclaim (rock fragments)	0.00
Urban land	20	Not rated		Not rated		Not rated	
16D:							
Edgehill	85	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.94	Rock fragments	0.00
		Organic matter content low	0.12	Slope	0.98	Too clayey	0.00
		Too acid	0.32			Slope	0.00
16E:							
Edgehill	85	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Organic matter content low	0.12	Shrink-swell	0.94	Rock fragments	0.00
		Too acid	0.32			Too clayey	0.00
17B:							
Faceville	70	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.50				
Urban land	20	Not rated		Not rated		Not rated	
17C:							
Faceville	70	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.96
		Too acid	0.50			Too acid	0.98
Urban land	20	Not rated		Not rated		Not rated	

Table 13.—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
17D:							
Faceville	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Slope	0.98	Slope	0.00
		Too acid	0.50			Too acid	0.98
18B:							
Faceville	40	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.50				
Gritney	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.08	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.12	Shrink-swell	0.94	Too acid	0.50
Urban land	15	Not rated		Not rated		Not rated	
18C:							
Faceville	40	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.96
		Too acid	0.50			Too acid	0.98
Gritney	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.08	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.12	Shrink-swell	0.94	Too acid	0.50
Urban land	15	Not rated		Not rated		Not rated	
19C:							
Grover	70	Fair		Good		Fair	
		Organic matter content low	0.12			Slope	0.96
		Too acid	0.54			Too acid	0.98
Urban land	15	Not rated		Not rated		Not rated	
19D:							
Grover	85	Fair		Fair		Poor	
		Organic matter content low	0.12	Slope	0.98	Slope	0.00
		Too acid	0.54			Too acid	0.98
19E:							
Grover	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Too acid	0.54			Too acid	0.98

Table 13.—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
20C:							
Grover	40	Fair		Good		Fair	
		Organic matter content low	0.12			Slope	0.96
		Too acid	0.54			Too acid	0.98
Wateree	35	Poor		Poor		Fair	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.03
		Depth to bedrock	0.03			Slope	0.96
		Organic matter content low	0.12			Too acid	0.98
Urban land	15	Not rated		Not rated		Not rated	
21A:							
Johnston	85	Fair		Poor		Poor	
		Too acid	0.50	Wetness depth	0.00	Wetness depth	0.00
						Too acid	0.88
22B:							
Kempsville	70	Fair		Fair		Fair	
		Organic matter content low	0.12	Low strength	0.22	Too acid	0.98
		Too acid	0.54				
		Water erosion	0.68				
Urban land	20	Not rated		Not rated		Not rated	
23B:							
Kempsville	40	Fair		Fair		Fair	
		Organic matter content low	0.12	Low strength	0.22	Too acid	0.98
		Too acid	0.54				
Bourne	35	Poor		Poor		Fair	
		Droughty	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.03
		Depth to cemented pan	0.03	Wetness depth	0.53	Wetness depth	0.53
		Too acid	0.12				
Urban land	15	Not rated		Not rated		Not rated	
24B:							
Masada	70	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.88
		Too acid	0.32				
Urban land	20	Not rated		Not rated		Not rated	
24C:							
Masada	65	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.88
		Too acid	0.32			Slope	0.96
Urban land	20	Not rated		Not rated		Not rated	

Table 13.—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
25B:							
Masada	70	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.88
		Too acid	0.32				
Urban land	20	Not rated		Not rated		Not rated	
25C:							
Masada	70	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.88
						Slope	0.96
		Too acid	0.32				
Urban land	20	Not rated		Not rated		Not rated	
26A:							
Nawney	75	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.22	Too acid	0.59
				Shrink-swell	0.95		
27B:							
Norfolk	70	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
Urban land	20	Not rated		Not rated		Not rated	
28B:							
Orangeburg	40	Fair		Fair		Fair	
		Organic matter content low	0.12	Low strength	0.10	Too acid	0.98
		Too acid	0.32				
Faceville	35	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.50				
Urban land	15	Not rated		Not rated		Not rated	
28C:							
Orangeburg	40	Fair		Fair		Fair	
		Organic matter content low	0.12	Low strength	0.10	Slope	0.96
						Too acid	0.98
		Too acid	0.32				
Faceville	35	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.96
						Too acid	0.98
		Too acid	0.50				
Urban land	15	Not rated		Not rated		Not rated	

Table 13.—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
29B:							
Pouncey-------------	70	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness depth	0.00	Wetness depth	0.00
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.16
		Depth to bedrock	0.16	Shrink-swell	0.91	Too acid	0.88
Urban land----------	20	Not rated		Not rated		Not rated	
30A:							
Riverview-----------	85	Fair		Good		Fair	
		Too acid	0.54			Too acid	0.98
		Organic matter content low	0.88				
		Water erosion	0.90				
31A:							
Roanoke-------------	85	Poor		Poor		Poor	
		Organic matter content low	0.00	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00	Too clayey	0.00
		Too clayey	0.00	Shrink-swell	0.87	Too acid	0.59
		Too acid	0.12				
32A:							
Roanoke-------------	40	Poor		Poor		Poor	
		Organic matter content low	0.00	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00	Too clayey	0.00
		Too clayey	0.00	Shrink-swell	0.87	Too acid	0.59
		Too acid	0.12				
Chewacla------------	35	Fair		Fair		Fair	
		Too acid	0.68	Wetness depth	0.50	Wetness depth	0.50
33B:							
Slagle--------------	70	Fair		Fair		Fair	
		Too acid	0.12	Wetness depth	0.76	Too acid	0.59
		Organic matter content low	0.12			Wetness depth	0.76
Urban land----------	20	Not rated		Not rated		Not rated	
34B:							
Tetotum-------------	70	Fair		Fair		Fair	
		Too acid	0.12	Wetness depth	0.53	Wetness depth	0.53
		Organic matter content low	0.12			Too acid	0.59
		Water erosion	0.99				
Urban land----------	20	Not rated		Not rated		Not rated	
35A:							
Toccoa--------------	85	Fair		Good		Good	
		Organic matter content low	0.12				
		Too acid	0.84				

Table 13.—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
36A:							
Tomotley------------	70	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.88			Too acid	0.59
Urban land----------	20	Not rated		Not rated		Not rated	
37B:							
Turbeville----------	70	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Too acid	0.32			Too acid	0.88
		Organic matter content low	0.88				
Urban land----------	20	Not rated		Not rated		Not rated	
37C:							
Turbeville----------	70	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Too acid	0.32			Too acid	0.88
		Organic matter content low	0.88			Slope	0.96
Urban land----------	20	Not rated		Not rated		Not rated	
38B:							
Turbeville----------	70	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Too acid	0.32			Too acid	0.88
		Organic matter content low	0.88				
Urban land----------	20	Not rated		Not rated		Not rated	
38C:							
Turbeville----------	70	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Too acid	0.32			Too acid	0.88
		Organic matter content low	0.88			Slope	0.96
Urban land----------	20	Not rated		Not rated		Not rated	
39:							
Udorthents----------	100	Not rated		Not rated		Not rated	
40:							
Udorthents----------	50	Not rated		Not rated		Not rated	
Dumps---------------	50	Not rated		Not rated		Not rated	
41:							
Urban land----------	100	Not rated		Not rated		Not rated	

Table 13.—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
42A:							
Varina	70	Poor		Fair		Poor	
		Wind erosion	0.00	Low strength	0.10	Too clayey	0.00
		Too clayey	0.00			Too acid	0.88
		Organic matter content low	0.12				
Urban land	20	Not rated		Not rated		Not rated	
43C:							
Wateree	70	Poor		Poor		Fair	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.03
		Depth to bedrock	0.03			Too acid	0.98
		Organic matter content low	0.12				
Urban land	20	Not rated		Not rated		Not rated	
43D:							
Wateree	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.03	Slope	0.98	Depth to bedrock	0.03
		Organic matter content low	0.12			Too acid	0.98
44E:							
Wateree	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.03	Slope	0.00	Depth to bedrock	0.03
		Organic matter content low	0.12			Too acid	0.98
Wedowee	45	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Rock fragments	0.00
		Too acid	0.50			Too acid	0.59
		Too sandy	0.99				
45F:							
Wateree	50	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Depth to bedrock	0.03	Depth to bedrock	0.00	Depth to bedrock	0.03
		Organic matter content low	0.12			Too acid	0.98
Wedowee	30	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Rock fragments	0.00
		Too acid	0.50			Too acid	0.59
		Too sandy	0.99				
Rock outcrop	10	Not rated		Not rated		Not rated	
46E:							
Wedowee	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
						Rock fragments	0.00
		Too acid	0.50			Too acid	0.59
		Too sandy	0.99				

Table 13.—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
47A:							
Worsham-------------	70	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
		Too acid	0.32	Shrink-swell	0.91	Too acid	0.88
Urban land----------	20	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 14.—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: 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
1B:							
Abell	85	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	0.68	Depth to saturated zone	0.14
		Slope	0.08	Seepage	0.04	Cutbanks cave	0.10
2B:							
Appling	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	0.08	Seepage	0.01		
Urban land	20	Not rated		Not rated		Not rated	
3B:							
Appling	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	0.08	Seepage	0.01		
Urban land	20	Not rated		Not rated		Not rated	
3C:							
Appling	70	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	1.00	Seepage	0.01		
Urban land	20	Not rated		Not rated		Not rated	
3D:							
Appling	85	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	1.00	Seepage	0.01		
4C:							
Appling	45	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	1.00	Seepage	0.01		
Wedowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.02		
Urban land	10	Not rated		Not rated		Not rated	
4D:							
Appling	45	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	1.00	Seepage	0.01		
Wedowee	40	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.02		

Table 14.—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
5A:							
Atlee	70	Somewhat limited		Very limited		Somewhat limited	
		Depth to cemented pan	0.99	Thin layer	0.99	Slow refill	0.43
		Seepage	0.70	Depth to saturated zone	0.99	Cutbanks cave	0.10
				Piping	0.85	Depth to saturated zone	0.01
Urban land	20	Not rated		Not rated		Not rated	
6A:							
Augusta	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
				Seepage	0.03		
7B:							
Bourne	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Depth to cemented pan	0.99	Depth to saturated zone	0.99		
		Slope	0.08	Thin layer	0.99		
Urban land	20	Not rated		Not rated		Not rated	
7C:							
Bourne	70	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	1.00	Depth to saturated zone	0.99		
		Depth to cemented pan	0.99	Thin layer	0.99		
Urban land	20	Not rated		Not rated		Not rated	
8C:							
Cecil	70	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	1.00				
Urban land	20	Not rated		Not rated		Not rated	
8D:							
Cecil	85	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	1.00				
9A:							
Chastain	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.42		
10A:							
Chewacla	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.38		

Table 14.—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
11B:							
Colfax	70	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.98	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
		Slope	0.08	Thin layer	0.98		
Urban land	20	Not rated		Not rated		Not rated	
12C:							
Colfax	70	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.99	Thin layer	0.99		
		Seepage	0.19	Seepage	0.04		
Urban land	20	Not rated		Not rated		Not rated	
13A:							
Dogue	85	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	0.95	Cutbanks cave	0.10
				Piping	0.94	Depth to saturated zone	0.02
14A:							
Dunbar	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
				Piping	1.00	Cutbanks cave	0.10
				Seepage	0.01		
15B:							
Durham	43	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.04	Depth to water	1.00
		Slope	0.08				
Bourne	42	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Depth to cemented pan	0.99	Depth to saturated zone	0.99		
		Slope	0.08	Thin layer	0.99		
Urban land	15	Not rated		Not rated		Not rated	
16B:							
Edgehill	70	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	Depth to water	1.00
		Slope	0.08				
Urban land	20	Not rated		Not rated		Not rated	
16C:							
Edgehill	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.12	Depth to water	1.00
		Seepage	1.00				
Urban land	20	Not rated		Not rated		Not rated	

Table 14.—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
16D:							
Edgehill	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.12	Depth to water	1.00
		Seepage	1.00				
16E:							
Edgehill	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.12	Depth to water	1.00
		Seepage	1.00				
17B:							
Faceville	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.08	Seepage	0.02		
Urban land	20	Not rated		Not rated		Not rated	
17C:							
Faceville	70	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.02		
Urban land	20	Not rated		Not rated		Not rated	
17D:							
Faceville	85	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.02		
18B:							
Faceville	40	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.08	Seepage	0.02		
Gritney	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.08				
				Piping	0.95		
				Seepage	0.08		
Urban land	15	Not rated		Not rated		Not rated	
18C:							
Faceville	40	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.02		
Gritney	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	1.00				
				Piping	0.95		
				Seepage	0.08		
Urban land	15	Not rated		Not rated		Not rated	
19C:							
Grover	70	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.01		
Urban land	15	Not rated		Not rated		Not rated	

Table 14.—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
19D:							
Grover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.01		
19E:							
Grover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.01		
20C:							
Grover	40	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.01		
Wateree	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	0.99	Depth to water	1.00
		Slope	1.00	Seepage	0.04		
		Depth to bedrock	0.37				
Urban land	15	Not rated		Not rated		Not rated	
21A:							
Johnston	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.11		
22B:							
Kempsville	70	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.08				
Urban land	20	Not rated		Not rated		Not rated	
23B:							
Kempsville	40	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.08				
Bourne	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Depth to cemented pan	0.99	Depth to saturated zone	0.99		
		Slope	0.08	Thin layer	0.99		
Urban land	15	Not rated		Not rated		Not rated	
24B:							
Masada	70	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.09	Depth to water	1.00
		Slope	0.08				
Urban land	20	Not rated		Not rated		Not rated	
24C:							
Masada	65	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.09	Depth to water	1.00
		Seepage	0.70				

Table 14.—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
24C:							
Urban land	20	Not rated		Not rated		Not rated	
25B:							
Masada	70	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.13	Depth to water	1.00
		Slope	0.08				
Urban land	20	Not rated		Not rated		Not rated	
25C:							
Masada	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.13	Depth to water	1.00
		Seepage	0.70				
Urban land	20	Not rated		Not rated		Not rated	
26A:							
Nawney	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.79		
				Seepage	0.01		
27B:							
Norfolk	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
				Seepage	0.03	Slow refill	0.30
Urban land	20	Not rated		Not rated		Not rated	
28B:							
Orangeburg	40	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	0.08				
Faceville	35	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.08	Seepage	0.02		
Urban land	15	Not rated		Not rated		Not rated	
28C:							
Orangeburg	40	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
Faceville	35	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.02		
Urban land	15	Not rated		Not rated		Not rated	
29B:							
Pouncey	70	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.96	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	0.96	Slow refill	0.30
				Piping	0.58	Cutbanks cave	0.10
Urban land	20	Not rated		Not rated		Not rated	

Table 14.—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
30A:							
Riverview-----------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	0.99	Depth to water	1.00
31A:							
Roanoke-------------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
32A:							
Roanoke-------------	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
Chewacla------------	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	1.00
				Seepage	0.38		
33B:							
Slagle--------------	70	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	0.95	Cutbanks cave	0.10
		Slope	0.08			Depth to saturated zone	0.02
				Piping	0.91		
Urban land----------	20	Not rated		Not rated		Not rated	
34B:							
Tetotum-------------	70	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Piping	1.00	Cutbanks cave	0.10
		Slope	0.08	Depth to saturated zone	0.99	Depth to saturated zone	0.01
Urban land----------	20	Not rated		Not rated		Not rated	
35A:							
Toccoa--------------	85	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
36A:							
Tomotley------------	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.11		
Urban land----------	20	Not rated		Not rated		Not rated	
37B:							
Turbeville----------	70	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.08				
Urban land----------	20	Not rated		Not rated		Not rated	
37C:							
Turbeville----------	70	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				

Table 14.—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
37C:							
Urban land	20	Not rated		Not rated		Not rated	
38B:							
Turbeville	70	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.08				
Urban land	20	Not rated		Not rated		Not rated	
38C:							
Turbeville	70	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Urban land	20	Not rated		Not rated		Not rated	
39:							
Udorthents	100	Not rated		Not rated		Not rated	
40:							
Udorthents	50	Not rated		Not rated		Not rated	
Dumps	50	Not rated		Not rated		Not rated	
41:							
Urban land	100	Not rated		Not rated		Not rated	
42A:							
Varina	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
Urban land	20	Not rated		Not rated		Not rated	
43C:							
Wateree	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	0.99	Depth to water	1.00
		Slope	1.00	Seepage	0.04		
		Depth to bedrock	0.37				
Urban land	20	Not rated		Not rated		Not rated	
43D:							
Wateree	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	0.99	Depth to water	1.00
		Slope	1.00	Seepage	0.04		
		Depth to bedrock	0.37				
44E:							
Wateree	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	0.99	Depth to water	1.00
		Slope	1.00	Seepage	0.04		
		Depth to bedrock	0.37				
Wedowee	45	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.02		

Table 14.—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
45F:							
Wateree	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	0.99	Depth to water	1.00
		Slope	1.00	Seepage	0.04		
		Depth to bedrock	0.37				
Wedowee	30	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.02		
Rock outcrop	10	Not rated		Not rated		Not rated	
46E:							
Wedowee	85	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Seepage	0.02		
47A:							
Worsham	70	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.90		
Urban land	20	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 15.—Engineering Soil Properties

(Absence of an entry indicates that data were not estimated)

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	
1B:												
Abell-----------	0-15	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	90-100	54-70	27-40	12-23	NP-6
	15-30	Sandy clay loam, clay loam, sandy loam	CL, CL-ML, SC	A-2, A-4, A-6	0	0	90-100	85-100	51-100	26-80	23-38	6-14
	30-40	Clay, clay loam, silty clay loam	ML, CL	A-6, A-7-6	0	0-5	90-100	85-100	76-100	60-95	34-48	12-20
	40-60	Loam, sandy loam, silt loam	SM, SC-SM	A-2, A-4	0	0-5	85-100	85-100	51-70	26-40	16-31	2-10
2B:												
Appling---------	0-10	Gravelly sandy loam	SM, SC-SM	A-1-b, A-2-4, A-4	0	5-15	70-95	55-85	40-75	15-40	9-27	NP-4
	10-42	Sandy clay, clay loam, clay	MH, ML	A-7, A-4	0	0-5	95-100	90-100	70-95	51-80	31-51	5-12
	42-60	Sandy clay, clay loam, sandy clay loam	SC-SM, ML, CL-ML	A-4, A-6	0	0-5	95-100	85-100	70-90	40-75	20-39	2-11
	60-72	Sandy clay loam, sandy loam	CL, SM, SW-SM, SC	A-4, A-7-6, A-2-4	0	0	80-100	75-100	40-100	3-80	0-49	NP-28
Urban land.												
3B:												
Appling---------	0-10	Sandy loam	SM, SC-SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	9-20	NP-2
	10-42	Sandy clay, clay loam, clay	MH, ML	A-7, A-4	0	0-5	95-100	90-100	70-95	51-80	31-51	5-12
	42-60	Sandy clay, clay loam, sandy clay loam	ML, CL-ML, SC-SM	A-4, A-6	0	0-5	95-100	85-100	70-90	40-75	20-39	2-11
	60-72	Sandy clay loam, sandy loam	CL, SC, SM, SW-SM	A-4, A-7-6, A-2-4	0	0	80-100	75-100	40-100	3-80	0-49	NP-28
Urban land.												
3C:												
Appling---------	0-10	Sandy loam	SM, SC-SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	9-20	NP-2
	10-42	Sandy clay, clay loam, clay	ML, MH	A-7, A-4	0	0-5	95-100	90-100	70-95	51-80	31-51	5-12
	42-60	Sandy clay, clay loam, sandy clay loam	SC-SM, CL-ML, ML	A-4, A-6	0	0-5	95-100	85-100	70-90	40-75	20-39	2-11
	60-72	Sandy clay loam, sandy loam	SM, SC, CL, SW-SM	A-4, A-7-6, A-2-4	0	0	80-100	75-100	40-100	3-80	0-49	NP-28
Urban land.												

Table 15.—Engineering Soil 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	
3D:												
Appling---------	0-10	Sandy loam	SM, SC-SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	9-20	NP-2
	10-42	Sandy clay, clay loam, clay	MH, ML	A-7, A-4	0	0-5	95-100	90-100	70-95	51-80	31-51	5-12
	42-60	Sandy clay, clay loam, sandy clay loam	ML, CL-ML, SC-SM	A-4, A-6	0	0-5	95-100	85-100	70-90	40-75	20-39	2-11
	60-72	Sandy clay loam, sandy loam	SW-SM, CL, SC, SM	A-4, A-7-6, A-2-4	0	0	80-100	75-100	40-100	3-80	0-49	NP-28
4C:												
Appling---------	0-10	Fine sandy loam	SC-SM, SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	9-20	NP-2
	10-42	Sandy clay, clay loam, clay	MH, ML	A-7, A-4	0	0-5	95-100	90-100	70-95	51-80	31-51	5-12
	42-60	Sandy clay, clay loam, sandy clay loam	ML, CL-ML, SC-SM	A-4, A-6	0	0-5	95-100	85-100	70-90	40-75	20-39	2-11
	60-72	Sandy clay loam, sandy loam	SW-SM, CL, SC, SM	A-4, A-7-6, A-2-4	0	0	80-100	75-100	40-100	3-80	0-49	NP-28
Wedowee---------	0-17	Fine sandy loam	SC-SM, SM, ML	A-4, A-2-4	0	0	95-100	80-100	56-85	32-55	9-20	NP-2
	17-33	Clay, clay loam, sandy clay	ML	A-4	0	0	95-100	95-100	86-100	66-95	31-38	5-8
	33-60	Sandy loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	80-100	48-100	24-80	16-27	NP-4
Urban land.												
4D:												
Appling---------	0-10	Fine sandy loam	SM, SC-SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	9-20	NP-2
	10-42	Sandy clay, clay loam, clay	MH, ML	A-7, A-4	0	0-5	95-100	90-100	70-95	51-80	31-51	5-12
	42-60	Sandy clay, clay loam, sandy clay loam	ML, SC-SM, CL-ML	A-4, A-6	0	0-5	95-100	85-100	70-90	40-75	20-39	2-11
	60-72	Sandy clay loam, sandy loam	SM, SW-SM, CL, SC	A-4, A-7-6, A-2-4	0	0	80-100	75-100	40-100	3-80	0-49	NP-28
Wedowee---------	0-17	Fine sandy loam	SC-SM, SM, ML	A-4, A-2-4	0	0	95-100	80-100	56-85	32-55	9-20	NP-2
	17-33	Clay, clay loam, sandy clay	ML	A-4	0	0	95-100	95-100	86-100	66-95	31-38	5-8
	33-60	Sandy loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	80-100	48-100	24-80	16-27	NP-4

Table 15.—Engineering Soil 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	
5A:												
Atlee-----------	0-11	Very fine sandy loam, silt loam	CL, CL-ML	A-4	0	0	100	100	60-100	55-90	20-31	3-10
	11-20	Clay loam, loam, silt loam	CL	A-6	0	0	100	100	85-100	60-90	29-48	13-28
	20-36	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0	100	100	85-100	60-90	27-48	12-28
	36-163	Clay loam, sandy clay, sandy clay loam, clay	CH, CL	A-6, A-7	0	0	100	100	90-100	55-95	37-67	19-44
Urban land.												
6A:												
Augusta---------	0-10	Fine sandy loam	SM, SC-SM, ML	A-2, A-4	0	0	90-100	80-100	56-85	32-55	12-25	NP-7
	10-72	Sandy clay loam, clay loam, loam	CL, CL-ML	A-4, A-6	0	0	90-100	80-100	68-100	48-80	25-38	7-14
	72-90	Gravelly sandy loam, sandy loam, sandy clay loam	SM, SC-SM, SC, CL	A-2-4, A-4, A-6	0	0	80-100	65-100	39-90	20-55	12-38	NP-14
7B:												
Bourne----------	0-11	Fine sandy loam	SM, CL-ML, ML, SC-SM	A-2, A-4	0	0	80-100	80-100	56-85	32-55	12-25	NP-7
	11-22	Sandy clay loam, clay loam, loam	SC, CL	A-6	0	0	80-100	80-100	68-100	48-80	25-38	7-14
	22-44	Fine sandy loam, loam, sandy clay loam	CL, SC, SC-SM	A-6, A-2, A-4	0	0	80-100	80-100	56-100	32-80	20-38	4-14
	44-72	Clay, clay loam, silty clay, sandy clay loam	SC, CL, CH	A-2-4, A-2-6, A-4, A-6, A-7-6	0	0	80-100	75-100	60-100	25-95	25-60	8-30
Urban land.												
7C:												
Bourne----------	0-11	Fine sandy loam	SM, SC-SM, CL-ML, ML	A-2, A-4	0	0	80-100	80-100	56-85	32-55	12-25	NP-7
	11-22	Sandy clay loam, clay loam, loam	CL, SC	A-6	0	0	80-100	80-100	68-100	48-80	25-38	7-14
	22-44	Fine sandy loam, loam, sandy clay loam	SC-SM, CL, SC	A-6, A-2, A-4	0	0	80-100	80-100	56-100	32-80	20-38	4-14
	44-72	Clay, clay loam, sandy clay loam, silty clay	SC, CL, CH	A-2-4, A-2-6, A-4, A-6, A-7-6	0	0	80-100	75-100	60-100	25-95	25-60	8-30
Urban land.												

Table 15.—Engineering Soil 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	
8C:												
Cecil-----------	0-9	Fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0-5	84-100	80-100	67-90	26-42	9-20	NP-2
	9-14	Sandy clay loam, clay loam	ML, SC-SM, SM	A-4	0	0-5	75-100	75-100	68-95	38-81	20-31	2-5
	14-63	Clay, clay loam	MH, ML	A-5, A-7	0	0-5	97-100	92-100	72-100	55-95	31-56	5-14
	63-83	Loam, clay loam, sand	SM, SC-SM, SW-SM, CL	A-6, A-7-6, A-2, A-4	0	0	80-100	75-100	40-100	3-80	7-45	NP-18
Urban land.												
8D:												
Cecil-----------	0-9	Fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0-5	84-100	80-100	67-90	26-42	9-20	NP-2
	9-14	Sandy clay loam, clay loam	ML, SM, SC-SM	A-4	0	0-5	75-100	75-100	68-95	38-81	20-31	2-5
	14-63	Clay, clay loam	MH, ML	A-5, A-7	0	0-5	97-100	92-100	72-100	55-95	31-56	5-14
	63-83	Loam, clay loam, sand	SM, SC-SM, SW-SM, CL	A-6, A-7-6, A-2, A-4	0	0	80-100	75-100	40-100	3-80	7-45	NP-18
9A:												
Chastain--------	0-13	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-95	60-75	20-38	4-14
	13-36	Clay loam, silty clay loam, silty clay	CH, MH, ML, CL	A-6, A-7	0	0	100	100	90-100	70-95	38-61	14-27
	36-80	Sand, loamy sand, fine sand	SM, SP, SP-SM, SC-SM	A-2-4, A-3	0	0	90-100	85-100	51-90	4-25	9-16	NP-2
10A:												
Chewacla--------	0-5	Loam	CL, CL-ML, ML	A-4, A-6	0	0	98-100	95-100	81-95	57-75	16-38	2-14
	5-13	Clay loam, silty clay loam, silt loam	CL	A-4, A-6	0	0	96-100	95-100	86-100	66-95	23-38	6-14
	13-40	Sandy clay loam, loam, sandy loam	CL, SC-SM	A-4, A-6	0	0	96-100	95-100	60-90	29-65	23-38	6-14
	40-60	Sand, clay	SP-SM, SC, SW-SM, SM, CH, CL	A-2-6, A-6	0	0	80-100	75-100	40-100	3-95	7-61	NP-27
11B:												
Colfax----------	0-8	Fine sandy loam	ML, SM, SC-SM	A-2, A-4	0	0-3	90-100	85-100	60-85	34-55	12-25	NP-7
	8-24	Sandy clay loam, clay loam, loam	CL, ML	A-4, A-6	0	0-3	90-100	85-100	72-100	51-80	25-41	7-14
	24-40	Sandy clay loam, clay loam, loam	CL	A-4, A-6	0	0-3	90-100	85-100	72-100	51-80	20-38	4-14
	40-86	Clay, clay loam, sandy loam	CL	A-4, A-6	0	0-3	95-100	85-100	52-100	34-95	26-56	9-32
	86-117	Clay	CH, CL	A-7-6	0	0	80-100	75-100	65-100	55-95	45-60	20-30
Urban land.												

Table 15.—Engineering Soil 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	
12C:												
Colfax----------	0-10	Sandy loam	SM, SC-SM, SC	A-2-4, A-4	0	0-3	90-100	90-100	55-70	27-45	12-25	NP-10
	10-16	Sandy clay loam, clay loam, loam	CL, ML	A-4, A-6	0	0-3	90-100	85-100	72-100	51-80	25-41	7-14
	16-21	Sandy clay loam, clay loam, loam	CL	A-4, A-6	0	0-3	90-100	85-100	72-100	51-80	20-38	4-14
	21-52	Sandy clay loam, sandy loam	CL	A-4, A-6	0	0-3	95-100	85-100	72-100	51-80	20-34	4-12
	52-73	Clay	CL, CH	A-7-6	0	0	80-100	75-100	65-100	55-95	45-60	20-30
Urban land.												
13A:												
Dogue-----------	0-9	Loam	ML	A-4	0	0	95-100	85-100	72-95	51-75	12-20	NP-4
	9-42	Clay, clay loam, sandy clay	CL, ML, CH	A-6, A-7-6	0	0	95-100	85-100	77-100	61-95	38-52	14-22
	42-62	Loam, stratified sand to sandy clay loam	SC, SC-SM, SM, SP-SM	A-1, A-2, A-4	0	0	85-100	85-100	42-100	10-55	12-34	NP-12
14A:												
Dunbar----------	0-12	Fine sandy loam	SC-SM, SM	A-4	0	0	100	100	70-85	40-55	9-25	NP-3
	12-20	Sandy clay loam, clay loam, loam	ML	A-4	0	0	95-100	90-100	76-100	54-80	19-31	1-5
	20-72	Clay, clay loam, sandy clay	ML	A-6, A-7, A-4	0	0	100	100	90-100	70-95	31-49	5-12
15B:												
Durham----------	0-16	Fine sandy loam	SM, ML, SC-SM	A-4	0	0-3	95-100	90-100	63-85	36-55	9-20	NP-2
	16-39	Sandy clay loam, clay loam	ML	A-4	0	0-3	95-100	90-100	72-100	32-80	24-38	2-8
	39-60	Sandy clay loam, sandy loam	SC-SM, SM, ML	A-2, A-4	0	0-3	95-100	90-100	57-90	28-65	11-27	NP-4
	60-84	Sandy loam, loamy sand, sandy clay loam	SC-SM, SM	A-2-4, A-4	0	0-3	95-100	85-100	45-90	15-55	9-20	NP-2
Bourne----------	0-11	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	80-100	80-100	56-85	32-55	12-25	NP-7
	11-22	Sandy clay loam, clay loam, loam	SC, CL	A-6	0	0	80-100	80-100	68-100	48-80	25-38	7-14
	22-44	Fine sandy loam, loam, sandy clay loam	CL, SC, SC-SM	A-6, A-2, A-4	0	0	80-100	80-100	56-100	32-80	20-38	4-14
	44-72	Clay, clay loam, sandy clay loam, silty clay	SC, CL, CH	A-2-4, A-2-6, A-4, A-6, A-7-6	0	0	80-100	75-100	60-100	25-95	25-60	8-30
Urban land.												

Table 15.—Engineering Soil 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	
16B:												
Edgehill--------	0-17	Very gravelly fine sandy loam	GC-GM, GM, SC-SM, SM	A-1-b, A-2	0	0-10	30-85	30-75	21-50	12-30	16-25	2-7
	17-41	Very gravelly clay, gravelly clay, very gravelly clay loam	GM, SC-SM, GC	A-2-7, A-7	0	0-15	40-85	30-75	27-70	21-55	38-56	14-24
	41-80	Very gravelly sandy loam, stratified sand to very gravelly sandy loam	SC-SM, SM, GM, GC-GM	A-1, A-2-6, A-4, A-7, A-6	0	0-25	35-98	25-95	12-65	1-40	16-56	2-24
Urban land.												
16C:												
Edgehill--------	0-17	Very gravelly fine sandy loam	GC-GM, GM, SM, SC-SM	A-1-b, A-2	0	0-10	30-85	30-75	21-50	12-30	16-25	2-7
	17-41	Very gravelly clay, gravelly clay, very gravelly clay loam	SC-SM, GM, GC	A-2-7, A-7	0	0-15	40-85	30-75	27-70	21-55	38-56	14-24
	41-80	Very gravelly sandy loam, stratified sand to very gravelly sandy loam	GM, GC-GM, SC-SM, SM	A-6, A-1, A-2-6, A-4, A-7	0	0-25	35-98	25-95	12-65	1-40	16-56	2-24
Urban land.												
16D:												
Edgehill--------	0-17	Very gravelly fine sandy loam	GC-GM, GM, SC-SM, SM	A-1-b, A-2	0	0-10	30-85	30-75	21-50	12-30	16-25	2-7
	17-41	Very gravelly clay, gravelly clay, very gravelly clay loam	GC, GM, SC-SM	A-2-7, A-7	0	0-15	40-85	30-75	27-70	21-55	38-56	14-24
	41-80	Very gravelly sandy loam, stratified sand to very gravelly sandy loam	SM, GM, GC-GM, SC-SM	A-1, A-2-6, A-4, A-7, A-6	0	0-25	35-98	25-95	12-65	1-40	16-56	2-24
16E:												
Edgehill--------	0-17	Very gravelly fine sandy loam	GC-GM, GM, SC-SM, SM	A-1-b, A-2	0	0-10	30-85	30-75	21-50	12-30	16-25	2-7
	17-41	Very gravelly clay, gravelly clay, very gravelly clay loam	GM, GC, SC-SM	A-2-7, A-7	0	0-15	40-85	30-75	27-70	21-55	38-56	14-24
	41-80	Very gravelly sandy loam, stratified sand to very gravelly sandy loam	GC-GM, SC-SM, SM, GM	A-1, A-2-6, A-4, A-7, A-6	0	0-25	35-98	25-95	12-65	1-40	16-56	2-24

Table 15.—Engineering Soil 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	
17B:												
Faceville-------	0-12	Loamy sand, sandy loam, fine sandy loam	ML, SC-SM, SM	A-2, A-4	0	0	90-100	80-100	56-85	24-55	9-20	NP-2
	12-18	Sandy clay loam, sandy clay	ML, SM	A-4	0	0	98-100	90-100	72-95	32-70	20-32	2-6
	18-72	Clay, sandy clay, clay loam	MH, ML	A-6, A-7, A-4	0	0	98-100	95-100	86-100	66-95	31-51	5-11
Urban land.												
17C:												
Faceville-------	0-12	Sandy loam, loamy sand, fine sandy loam	ML, SC-SM, SM	A-2, A-4	0	0	90-100	80-100	56-85	24-55	9-20	NP-2
	12-18	Sandy clay loam, sandy clay	SM, ML	A-4	0	0	98-100	90-100	72-95	32-70	20-32	2-6
	18-72	Clay, sandy clay, clay loam	ML, MH	A-6, A-7, A-4	0	0	98-100	95-100	86-100	66-95	31-51	5-11
Urban land.												
17D:												
Faceville-------	0-12	Loamy sand, sandy loam, fine sandy loam	ML, SC-SM, SM	A-2, A-4	0	0	90-100	80-100	56-85	24-55	9-20	NP-2
	12-18	Sandy clay loam, sandy clay	ML, SM	A-4	0	0	98-100	90-100	72-95	32-70	20-32	2-6
	18-72	Clay, sandy clay, clay loam	ML, MH	A-6, A-7, A-4	0	0	98-100	95-100	86-100	66-95	31-51	5-11
18B:												
Faceville-------	0-12	Loamy sand, sandy loam, fine sandy loam	ML, SC-SM, SM	A-2, A-4	0	0	90-100	80-100	56-85	24-55	9-20	NP-2
	12-18	Sandy clay loam, sandy clay	ML, SM	A-4	0	0	98-100	90-100	72-95	32-70	20-32	2-6
	18-72	Clay, sandy clay, clay loam	ML, MH	A-6, A-7, A-4	0	0	98-100	95-100	86-100	66-95	31-51	5-11
Gritney---------	0-9	Fine sandy loam	SM, SC-SM, SC, ML	A-4, A-2	0	0	90-100	80-100	60-85	33-55	16-30	2-10
	9-52	Clay, sandy clay, clay loam	ML, CH, CL, MH	A-7	0	0	95-100	90-100	85-100	63-95	38-61	14-27
	52-85	Loamy sand, stratified loamy sand to clay	SM, SC, ML, CL	A-6, A-4, A-2-4, A-1	0	0-2	70-100	55-100	30-90	14-60	9-43	NP-17
Urban land.												

Table 15.—Engineering Soil 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	
18C:												
Faceville-------	0-12	Loamy sand, sandy loam, fine sandy loam	SC-SM, ML, SM	A-2, A-4	0	0	90-100	80-100	56-85	24-55	9-20	NP-2
	12-18	Sandy clay loam, sandy clay	SM, ML	A-4	0	0	98-100	90-100	72-95	32-70	20-32	2-6
	18-72	Clay, sandy clay, clay loam	MH, ML	A-6, A-7, A-4	0	0	98-100	95-100	86-100	66-95	31-51	5-11
Gritney---------	0-9	Fine sandy loam	ML, SC, SC-SM, SM	A-4, A-2	0	0	90-100	80-100	60-85	33-55	16-30	2-10
	9-52	Clay, sandy clay, clay loam	CL, CH, ML, MH	A-7	0	0	95-100	90-100	85-100	63-95	38-61	14-27
	52-85	Loamy sand, stratified loamy sand to clay	SM, SC, ML, CL	A-6, A-4, A-2-4, A-1	0	0-2	70-100	55-100	30-90	14-60	9-43	NP-17
Urban land.												
19C:												
Grover----------	0-12	Fine sandy loam	SC-SM, SM, ML	A-2-4, A-4	0	0-5	95-100	85-100	60-85	34-55	11-23	NP-6
	12-36	Clay loam, sandy clay loam, loam	CL	A-6, A-4	0	0-5	95-100	85-100	72-100	51-80	23-38	6-14
	36-60	Sandy clay loam, loam, sandy loam	ML, SC-SM, CL-ML	A-2-4, A-4	0	0-5	90-100	85-100	51-90	26-57	11-30	NP-10
Urban land.												
19D:												
Grover----------	0-12	Fine sandy loam	SC-SM, SM, ML	A-2-4, A-4	0	0-5	95-100	85-100	60-85	34-55	11-23	NP-6
	12-36	Clay loam, sandy clay loam, loam	CL	A-6, A-4	0	0-5	95-100	85-100	72-100	51-80	23-38	6-14
	36-60	Sandy clay loam, loam, sandy loam	ML, SC-SM, CL-ML	A-2-4, A-4	0	0-5	90-100	85-100	51-90	26-57	11-30	NP-10
19E:												
Grover----------	0-12	Fine sandy loam	SC-SM, SM, ML	A-2-4, A-4	0	0-5	95-100	85-100	60-85	34-55	11-23	NP-6
	12-36	Clay loam, sandy clay loam, loam	CL	A-6, A-4	0	0-5	95-100	85-100	72-100	51-80	23-38	6-14
	36-60	Sandy clay loam, loam, sandy loam	ML, SC-SM, CL-ML	A-2-4, A-4	0	0-5	90-100	85-100	51-90	26-57	11-30	NP-10
20C:												
Grover----------	0-12	Fine sandy loam	SC-SM, SM, ML	A-2-4, A-4	0	0-5	95-100	85-100	60-85	34-55	11-23	NP-6
	12-36	Clay loam, sandy clay loam, loam	CL	A-6, A-4	0	0-5	95-100	85-100	72-100	51-80	23-38	6-14
	36-60	Sandy clay loam, loam, sandy loam	SC-SM, CL-ML, ML	A-2-4, A-4	0	0-5	90-100	85-100	51-90	26-57	11-30	NP-10

Table 15.—Engineering Soil 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	
20C:												
Wateree---------	0-9	Sandy loam, gravelly sandy loam, fine sandy loam	SC-SM, SM	A-2-4	0	0-5	75-100	65-100	40-85	20-55	17-31	2-10
	9-22	Sandy loam, gravelly sandy loam, fine sandy loam	SC-SM, SM, SC	A-2-4, A-4	0	0-5	75-100	65-100	40-85	20-55	18-30	3-12
	22-80	Bedrock			---	---	---	---	---	---	---	---
Urban land.												
21A:												
Johnston--------	0-24	Mucky loam, loam, sandy loam	CL-ML, ML, OL	A-4, A-5, A-6	0	0	100	100	60-95	30-75	20-45	2-14
	24-30	Sandy loam, loam, fine sandy loam, loamy sand	SM, SC-SM	A-2-4, A-4	0	0	100	100	50-95	15-75	10-30	NP-5
	30-64	Loamy sand, stratified sand to sandy clay loam	SM	A-2-4, A-4	0	0	100	100	50-95	5-75	15-35	NP-10
22B:												
Kempsville------	0-19	Very fine sandy loam, fine sandy loam, sandy loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	90-100	80-100	48-95	24-65	17-31	2-10
	19-37	Sandy clay loam, fine sandy loam, clay loam	CL, SC-SM	A-2, A-4	0	0-2	90-100	80-100	55-100	30-80	23-38	7-15
	37-65	Sandy clay, sandy clay loam	SC, CL	A-2, A-6, A-4, A-7-6	0	0-2	90-100	80-100	65-95	30-60	25-47	8-20
	65-150	Sandy clay loam, stratified loamy sand to sandy clay loam	SC, SC-SM, SM	A-1, A-2-4, A-4, A-6	0	0-5	85-100	80-100	40-90	10-55	12-34	NP-12
Urban land.												
23B:												
Kempsville------	0-19	Sandy loam	SC-SM, SM	A-2, A-4	0	0-2	90-100	80-100	45-70	25-40	12-20	NP-4
	19-37	Sandy clay loam, fine sandy loam, clay loam	CL, SC-SM	A-2, A-4	0	0-2	90-100	80-100	55-100	30-80	23-38	7-15
	37-65	Sandy clay, sandy clay loam	CL, SC	A-2, A-6, A-4, A-7-6	0	0-2	90-100	80-100	65-95	30-60	25-47	8-20
	65-150	Sandy clay loam, stratified loamy sand to sandy clay loam	SC, SC-SM, SM	A-1, A-2-4, A-4, A-6	0	0-5	85-100	80-100	40-90	10-55	12-34	NP-12

Table 15.—Engineering Soil 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	
23B:												
Bourne----------	0-11	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	80-100	80-100	56-85	32-55	12-25	NP-7
	11-22	Sandy clay loam, clay loam, loam	CL, SC	A-6	0	0	80-100	80-100	68-100	48-80	25-38	7-14
	22-44	Fine sandy loam, loam, sandy clay loam	CL, SC, SC-SM	A-6, A-2, A-4	0	0	80-100	80-100	56-100	32-80	20-38	4-14
	44-72	Clay, clay loam, sandy clay loam, silty clay	SC, CL, CH	A-2-4, A-2-6, A-4, A-6, A-7-6	0	0	80-100	75-100	60-100	25-95	25-60	8-30
Urban land.												
24B:												
Masada----------	0-10	Fine sandy loam	SM, SC, ML, CL, CL-ML	A-4	0	0-5	90-100	80-100	56-85	32-55	16-31	2-10
	10-74	Clay, gravelly clay, gravelly clay loam	ML, GC, CH, CL	A-7	0	0-10	55-100	50-100	45-100	38-95	38-56	14-24
	74-80	Gravelly clay loam, clay loam	CL, GC, SC	A-6, A-7	0	0-10	55-100	50-100	45-100	35-80	34-43	12-17
Urban land.												
24C:												
Masada----------	0-10	Fine sandy loam	CL-ML, CL, ML, SC, SM	A-4	0	0-5	90-100	80-100	56-85	32-55	16-31	2-10
	10-74	Clay, gravelly clay, gravelly clay loam	CH, CL, ML, GC	A-7	0	0-10	55-100	50-100	45-100	38-95	38-56	14-24
	74-80	Gravelly clay loam, clay loam	SC, GC, CL	A-6, A-7	0	0-10	55-100	50-100	45-100	35-80	34-43	12-17
Urban land.												
25B:												
Masada----------	0-10	Gravelly fine sandy loam	GC-GM, SC-SM	A-2-4, A-4	0	0-5	60-85	50-75	35-64	20-41	12-25	NP-7
	10-74	Clay, gravelly clay, gravelly clay loam	ML, GC, CH, CL	A-7	0	0-10	55-100	50-100	45-100	38-95	38-56	14-24
	74-80	Gravelly clay loam, clay loam	SC, CL, GC	A-6, A-7	0	0-10	55-100	50-100	45-100	35-80	34-43	12-17
Urban land.												

Table 15.—Engineering Soil 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	
25C:												
Masada----------	0-10	Gravelly fine sandy loam	SC-SM, GC-GM	A-2-4, A-4	0	0-5	60-85	50-75	35-64	20-41	12-25	NP-7
	10-74	Clay, gravelly clay, gravelly clay loam	ML, GC, CH, CL	A-7	0	0-10	55-100	50-100	45-100	38-95	38-56	14-24
	74-80	Gravelly clay loam, clay loam	CL, GC, SC	A-6, A-7	0	0-10	55-100	50-100	45-100	35-80	34-43	12-17
Urban land.												
26A:												
Nawney----------	0-7	Silt loam, loam, sandy loam	CL	A-6, A-7-6	0	0	100	98-100	70-100	40-90	30-45	10-24
	7-41	Clay loam, loam, silty clay loam, sandy loam	SM, SC, ML, CL	A-4, A-6, A-7-6	0	0	100	98-100	60-100	30-95	14-46	3-25
	41-65	Stratified sand to silty clay loam	CL, SC	A-4, A-6, A-7-6, A-2-4	0	0	100	98-100	50-100	5-95	15-45	5-25
27B:												
Norfolk---------	0-11	Fine sandy loam	SM, SC-SM, ML	A-4	0	0	95-100	90-100	63-85	36-55	9-19	NP-1
	11-31	Sandy clay loam, clay loam, sandy loam	SC-SM, ML	A-2, A-4	0	0	95-100	90-100	54-100	30-80	19-31	1-5
	31-90	Clay, sandy clay loam, clay loam	ML, SC-SM	A-4	0	0	100	98-100	86-100	56-95	20-37	2-7
	90-107	Sandy loam, sandy clay loam, clay	SM	A-4, A-2-4, A-6	0	0	80-100	75-100	45-100	20-95	7-49	NP-12
Urban land.												
28B:												
Orangeburg------	0-16	Sandy loam	SC-SM	A-2-4	0	0	98-100	95-100	57-70	28-40	23-31	7-13
	16-24	Sandy loam	SC-SM	A-2-6	0	0	98-100	95-100	57-70	28-40	23-34	7-15
	24-43	Sandy clay loam, sandy loam	CL, SC, SC-SM	A-7-6, A-6	0	0	98-100	95-100	57-90	28-65	34-51	15-29
	43-72	Sandy clay loam, sandy clay, sandy loam	CL, SC	A-6, A-7-6	0	0	98-100	95-100	57-95	28-60	36-61	17-37
Faceville-------	0-12	Sandy loam, loamy sand, fine sandy loam	SC-SM, SM, ML	A-2, A-4	0	0	90-100	80-100	56-85	24-55	9-20	NP-2
	12-18	Sandy clay loam, sandy clay	ML, SM	A-4	0	0	98-100	90-100	72-95	32-70	20-32	2-6
	18-72	Clay, sandy clay, clay loam	MH, ML	A-6, A-7, A-4	0	0	98-100	95-100	86-100	66-95	31-51	5-11
Urban land.												

Table 15.—Engineering Soil 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	
28C:												
Orangeburg------	0-16	Sandy loam	SC-SM	A-2-4	0	0	98-100	95-100	57-70	28-40	23-31	7-13
	16-24	Sandy loam	SC-SM	A-2-6	0	0	98-100	95-100	57-70	28-40	23-34	7-15
	24-43	Sandy clay loam, sandy loam	CL, SC, SC-SM	A-6, A-7-6	0	0	98-100	95-100	57-90	28-65	34-51	15-29
	43-72	Sandy clay loam, sandy clay, sandy loam	CL, SC	A-6, A-7-6	0	0	98-100	95-100	57-95	28-60	36-61	17-37
Faceville-------	0-12	Sandy loam, loamy sand, fine sandy loam	ML, SC-SM, SM	A-2, A-4	0	0	90-100	80-100	56-85	24-55	9-20	NP-2
	12-18	Sandy clay loam, sandy clay	ML, SM	A-4	0	0	98-100	90-100	72-95	32-70	20-32	2-6
	18-72	Clay, sandy clay, clay loam	ML, MH	A-6, A-7, A-4	0	0	98-100	95-100	86-100	66-95	31-51	5-11
Urban land.												
29B:												
Pouncey---------	0-18	Fine sandy loam	SC-SM, SC, CL	A-2, A-4, A-6	0	0	95-100	85-100	60-85	34-55	20-40	5-20
	18-25	Clay, clay loam, sandy clay	CL, ML	A-7	0	0	95-100	90-100	80-100	63-95	30-56	14-24
	25-35	Bedrock			---	---	---	---	---	---	---	---
Urban land.												
30A:												
Riverview-------	0-5	Silt loam, loam, very fine sandy loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	50-90	21-41	6-19
	5-27	Silt loam, loam, very fine sandy loam	CL	A-6	0	0	100	100	85-100	50-90	28-39	12-19
	27-79	Silt loam, sandy loam, sand, silty clay loam	CL-ML, SC-SM, SM	A-2, A-4	0	0	100	100	50-100	5-95	0-45	NP-25
31A:												
Roanoke---------	0-6	Silt loam, loam	CL-ML, CL, SC-SM	A-4, A-6	0	0	100	100	85-100	60-90	21-41	6-19
	4-60	Clay, silty clay, clay loam	CL	A-6, A-7	0	0	98-100	95-100	86-100	66-95	37-67	19-44
	60-70	Gravelly clay, clay, silty clay, clay loam	CL	A-6, A-7	0	0	90-100	70-100	65-100	56-95	37-67	19-44

Table 15.—Engineering Soil 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	
32A:												
Roanoke---------	0-6	Silt loam, loam	CL, CL-ML, SC-SM	A-4, A-6	0	0	100	100	85-100	60-90	21-41	6-19
	4-60	Clay, silty clay, clay loam	CL	A-6, A-7	0	0	98-100	95-100	86-100	66-95	37-67	19-44
	60-70	Gravelly clay, clay, silty clay, clay loam	CL	A-6, A-7	0	0	90-100	70-100	65-100	56-95	37-67	19-44
Chewacla--------	0-5	Loam	CL-ML, CL, ML	A-4, A-6	0	0	98-100	95-100	81-95	57-75	16-38	2-14
	5-13	Clay loam, silty clay loam, silt loam	CL	A-4, A-6	0	0	96-100	95-100	86-100	66-95	23-38	6-14
	13-40	Sandy clay loam, loam, sandy loam	SC-SM, CL	A-4, A-6	0	0	96-100	95-100	60-90	29-65	23-38	6-14
	40-60	Sand, clay	SP-SM, SC, SM, CL, SW-SM, CH	A-2-6, A-6	0	0	80-100	75-100	40-100	3-95	7-61	NP-27
33B:												
Slagle----------	0-13	Fine sandy loam, sandy loam, loam	ML, SC-SM, SM, SC	A-2-4, A-4	0	0-2	95-100	90-100	55-95	30-75	15-25	NP-10
	13-40	Sandy clay loam, clay loam, fine sandy loam, sandy loam	SC, SC-SM, CL, CL-ML	A-4, A-6	0	0-2	95-100	90-100	55-100	30-80	20-40	5-20
	40-51	Sandy clay loam, clay loam, sandy loam, clay	SC, CL	A-4, A-6, A-7-6	0	0-2	95-100	90-100	55-100	30-95	25-50	8-30
	51-65	Fine sandy loam, stratified loamy sand to clay	ML, SC, SM, CL	A-1, A-2-4, A-4, A-6	0	0-2	95-100	90-100	45-100	15-95	15-40	NP-25
Urban land.												
34B:												
Tetotum---------	0-11	Loam	CL, ML, SC, SM	A-4	0	0	85-100	80-100	68-95	48-75	16-27	2-8
	11-54	Clay loam, sandy clay loam, silty clay loam	SC, CL	A-6, A-4	0	0-2	85-100	80-100	64-100	28-95	23-38	6-14
	54-70	Clay, stratified sandy loam to clay	CL, ML, SC-SM, SM	A-2, A-4, A-6	0	0-2	80-100	80-100	50-100	25-95	12-34	NP-12
Urban land.												
35A:												
Toccoa----------	0-15	Fine sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	50-85	30-55	9-20	NP-4
	15-60	Sandy loam, loam	ML, SM, SC-SM	A-4, A-2	0	0	95-100	90-100	54-95	30-75	9-24	NP-6

Table 15.—Engineering Soil 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	
36A:												
Tomotley--------	0-7	Fine sandy loam, loam, loamy sand	SC-SM, SM	A-2-4, A-4	0	0-2	98-100	92-100	45-85	15-55	16-30	NP-11
	7-40	Sandy clay loam, fine sandy loam, clay loam, loam	CL, SC, SC-SM	A-4, A-6	0	0-2	98-100	92-100	65-100	38-80	28-43	9-21
	40-65	Loamy sand, stratified sand to clay		A-4, A-6, A-7, A-2-4, A-3	0	0	100	100	50-100	5-95	16-57	NP-32
Urban land.												
37B:												
Turbeville------	0-11	Fine sandy loam	SM, CL-ML, ML, SC-SM	A-2, A-4	0	0-2	80-100	80-100	56-85	32-55	10-23	NP-5
	11-62	Clay loam, clay	SC, CL	A-6, A-7	0	0-2	80-100	80-100	68-100	48-80	34-54	17-32
	62-70	Gravelly loam, sand, clay loam, clay	CH, CL	A-7-6	0	0-5	80-100	65-100	46-100	10-95	19-66	5-43
Urban land.												
37C:												
Turbeville------	0-11	Fine sandy loam	SM, CL-ML, ML, SC-SM	A-2, A-4	0	0-2	80-100	80-100	56-85	32-55	10-23	NP-5
	11-62	Clay loam, clay	SC, CL	A-6, A-7	0	0-2	80-100	80-100	68-100	48-80	34-54	17-32
	62-70	Gravelly loam, sand, clay loam, clay	CH, CL	A-7-6	0	0-5	80-100	65-100	46-100	10-95	19-66	5-43
Urban land.												
38B:												
Turbeville------	0-11	Gravelly fine sandy loam	SC-SM, GC-GM, GM	A-2, A-4	0	0-5	60-80	60-75	42-64	24-41	14-23	1-6
	11-62	Clay loam, clay	SC, CL	A-6, A-7	0	0-2	80-100	80-100	68-100	48-80	34-54	17-32
	62-70	Gravelly loam, sand, clay loam, clay	CL, CH	A-7-6	0	0-5	80-100	65-100	46-100	10-95	19-66	5-43
Urban land.												
38C:												
Turbeville------	0-11	Gravelly fine sandy loam	GC-GM, GM, SC-SM	A-2, A-4	0	0-5	60-80	60-75	42-64	24-41	14-23	1-6
	11-62	Clay loam, clay	CL, SC	A-6, A-7	0	0-2	80-100	80-100	68-100	48-80	34-54	17-32
	62-70	Gravelly loam, sand, clay loam, clay	CH, CL	A-7-6	0	0-5	80-100	65-100	46-100	10-95	19-66	5-43
Urban land.												

Table 15.—Engineering Soil 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	
39. Udorthents												
40. Udorthents-Dumps												
41. Urban land												
42A:												
Varina----------	0-10	Fine sandy loam	ML, SM	A-4	0	0-5	95-100	90-100	65-85	36-55	8-13	NP
	10-50	Clay, clay loam, sandy clay	ML	A-6, A-7, A-4	0	0	95-100	90-100	80-100	63-95	31-49	5-12
	50-70	Sandy clay, clay loam, clay	ML	A-4, A-6, A-7	0	0	95-100	90-100	81-100	63-95	27-45	4-11
Urban land.												
43C:												
Wateree---------	0-9	Sandy loam, gravelly sandy loam, fine sandy loam	SC-SM, SM	A-2-4	0	0-5	75-100	65-100	40-85	20-55	17-31	2-10
	9-22	Sandy loam, gravelly sandy loam, fine sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-5	75-100	65-100	40-85	20-55	18-30	3-12
	22-80	Bedrock			---	---	---	---	---	---	---	---
Urban land.												
43D:												
Wateree---------	0-9	Sandy loam, gravelly sandy loam, fine sandy loam	SC-SM, SM	A-2-4	0	0-5	75-100	65-100	40-85	20-55	17-31	2-10
	9-22	Sandy loam, gravelly sandy loam, fine sandy loam	SM, SC-SM, SC	A-2-4, A-4	0	0-5	75-100	65-100	40-85	20-55	18-30	3-12
	22-80	Bedrock			---	---	---	---	---	---	---	---
44E:												
Wateree---------	0-9	Sandy loam, gravelly sandy loam, fine sandy loam	SM, SC-SM	A-2-4	0	0-5	75-100	65-100	40-85	20-55	17-31	2-10
	9-22	Sandy loam, gravelly sandy loam, fine sandy loam	SC, SM, SC-SM	A-2-4, A-4	0	0-5	75-100	65-100	40-85	20-55	18-30	3-12
	22-80	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Soil 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	
44E:												
Wedowee---------	0-17	Gravelly fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0	95-100	65-100	46-85	26-55	9-20	NP-2
	17-33	Clay, clay loam, sandy clay	ML	A-4	0	0	95-100	95-100	86-100	66-95	31-38	5-8
	33-60	Sandy loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	80-100	48-100	24-80	16-27	NP-4
45F:												
Wateree---------	0-9	Sandy loam, gravelly sandy loam, fine sandy loam	SM, SC-SM	A-2-4	0	0-5	75-100	65-100	40-85	20-55	17-31	2-10
	9-22	Sandy loam, gravelly sandy loam, fine sandy loam	SM, SC, SC-SM	A-2-4, A-4	0	0-5	75-100	65-100	40-85	20-55	18-30	3-12
	22-80	Bedrock			---	---	---	---	---	---	---	---
Wedowee---------	0-17	Gravelly fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0	95-100	65-100	46-85	26-55	9-20	NP-2
	17-33	Clay, clay loam, sandy clay	ML	A-4	0	0	95-100	95-100	86-100	66-95	31-38	5-8
	33-60	Sandy loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	80-100	48-100	24-80	16-27	NP-4
Rock outcrop.												
46E:												
Wedowee---------	0-17	Gravelly fine sandy loam	SM, SC-SM	A-2-4, A-4	0	0	95-100	65-100	46-85	26-55	9-20	NP-2
	17-33	Clay, clay loam, sandy clay	ML	A-4	0	0	95-100	95-100	86-100	66-95	31-38	5-8
	33-60	Sandy loam, sandy clay loam, clay loam	SM, SC-SM	A-2-4, A-4	0	0	80-100	80-100	48-100	24-80	16-27	NP-4
47A:												
Worsham---------	0-14	Fine sandy loam	SM, SC-SM, ML	A-2, A-4	0	0-5	90-100	85-100	60-85	34-55	16-25	2-7
	14-44	Clay, sandy clay, sandy clay loam	CL, SC, ML, CH	A-2, A-7	0	0-5	90-100	85-100	70-100	30-95	34-56	12-24
	44-70	Sandy clay loam, clay loam, sandy loam	ML, SC	A-2, A-4, A-6, A-7-6	0	0-10	90-95	80-95	48-95	24-76	16-43	2-17
Urban land.												
W.												
Water												

Table 16.—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 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					
1B:														
Abell----------------	0-15	52-82	5-30	5-18	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	1.0-2.0	.28	.28	4	3	86
	15-30	20-82	5-50	18-35	1.35-1.55	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.28	.28			
	30-40	5-82	5-72	30-45	1.35-1.55	4.00-14.00	0.11-0.17	3.0-5.9	0.0-0.5	.28	.28			
	40-60	15-82	5-80	10-27	1.45-1.60	4.00-42.00	0.08-0.18	0.0-2.9	0.0-0.5	.28	.28			
2B:														
Appling--------------	0-10	44-85	5-49	5-30	1.45-1.65	14.00-42.00	0.08-0.13	0.0-2.9	0.5-2.0	.15	.24	4	3	86
	10-42	5-65	5-45	35-60	1.25-1.45	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.28	.28			
	42-60	20-80	5-45	20-50	1.25-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	60-72	44-90	5-49	0-40	1.30-1.60	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.24			
Urban land.														
3B:														
Appling--------------	0-10	44-85	5-49	5-20	1.40-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.24	.28	4	3	86
	10-42	5-65	5-45	35-60	1.25-1.45	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.28	.28			
	42-60	20-80	5-45	20-50	1.25-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	60-72	44-90	5-49	0-40	1.30-1.60	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.24			
Urban land.														
3C:														
Appling--------------	0-10	44-85	5-49	5-20	1.40-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.24	.28	4	3	86
	10-42	5-65	5-45	35-60	1.25-1.45	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.28	.28			
	42-60	20-80	5-45	20-50	1.25-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	60-72	44-90	5-49	0-40	1.30-1.60	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.24			
Urban land.														
3D:														
Appling--------------	0-10	44-85	5-49	5-20	1.40-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.24	.28	4	3	86
	10-42	5-65	5-45	35-60	1.25-1.45	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.28	.28			
	42-60	20-80	5-45	20-50	1.25-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	60-72	44-90	5-49	0-40	1.30-1.60	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.24			
4C:														
Appling--------------	0-10	44-85	5-49	5-20	1.40-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.24	.28	4	3	86
	10-42	5-65	5-45	35-60	1.25-1.45	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.28	.28			
	42-60	20-80	5-45	20-50	1.25-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	60-72	44-90	5-49	0-40	1.30-1.60	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.24			

Table 16.—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					
4C:														
Wedowee--------------	0-17	44-85	5-49	5-20	1.25-1.60	4.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.24	.24	3	3	86
	17-33	5-65	5-45	35-45	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.28			
	33-60	20-85	5-49	15-30	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
Urban land.														
4D:														
Appling--------------	0-10	44-85	5-49	5-20	1.40-1.65	4.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.24	.28	4	3	86
	10-42	5-65	5-45	35-60	1.25-1.45	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.28	.28			
	42-60	20-80	5-45	20-50	1.25-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	60-72	44-90	5-49	0-40	1.30-1.60	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.24			
Wedowee--------------	0-17	44-85	5-49	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.24	.24	3	3	86
	17-33	5-65	5-45	35-45	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.28			
	33-60	20-85	5-49	15-30	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
5A:														
Atlee----------------	0-11	15-82	0-80	7-15	1.10-1.30	4.00-14.00	0.06-0.22	0.0-2.9	1.0-2.0	.37	.37	4	5	56
	11-20	15-52	20-80	20-40	1.20-1.40	4.00-14.00	0.14-0.20	0.0-2.9	0.0-0.2	.37	.37			
	20-36	15-52	15-73	18-40	1.30-1.50	1.40-4.00	0.07-0.12	0.0-2.9	0.0-0.2	.37	.37			
	36-163	5-80	5-50	27-60	1.30-1.60	1.40-14.00	0.11-0.19	3.0-5.9	0.0-0.2	.37	.37			
Urban land.														
6A:														
Augusta--------------	0-10	52-82	5-30	5-20	1.40-1.70	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.20	.20	4	3	86
	10-72	20-80	5-50	20-35	1.35-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.24			
	72-90	45-82	5-30	5-35	1.35-1.50	4.00-42.00	0.11-0.17	0.0-2.9	0.0-0.5	.24	.24			
7B:														
Bourne---------------	0-11	52-82	5-30	5-20	1.30-1.50	14.00-42.00	0.10-0.15	0.0-2.9	1.0-3.0	.28	.28	3	3	86
	11-22	20-80	5-50	20-35	1.40-1.60	4.00-14.00	0.11-0.16	0.0-2.9	0.0-0.5	.37	.37			
	22-44	24-82	5-50	15-35	1.70-1.90	0.42-1.40	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
	44-72	5-80	5-60	20-60	1.25-1.45	1.40-42.00	0.08-0.17	0.0-2.9	0.0-0.5	.20	.20			
Urban land.														
7C:														
Bourne---------------	0-11	52-82	5-30	5-20	1.30-1.50	14.00-42.00	0.10-0.15	0.0-2.9	1.0-3.0	.28	.28	3	3	86
	11-22	20-80	5-50	20-35	1.40-1.60	4.00-14.00	0.11-0.16	0.0-2.9	0.0-0.5	.37	.37			
	22-44	24-82	5-50	15-35	1.70-1.90	0.42-1.40	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
	44-72	5-80	5-60	20-60	1.25-1.45	1.40-42.00	0.08-0.17	0.0-2.9	0.0-0.5	.20	.20			
Urban land.														

Table 16.—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					
8C:														
Cecil----------------	0-9	44-85	5-49	5-20	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.5-1.0	.28	.28	4	3	86
	9-14	20-80	5-45	20-35	1.30-1.50	4.00-14.00	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	14-63	5-45	5-45	35-70	1.30-1.50	4.00-14.00	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	63-83	20-95	5-50	2-35	1.30-1.60	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.24			
Urban land.														
8D:														
Cecil----------------	0-9	44-85	5-49	5-20	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.5-1.0	.28	.28	4	3	86
	9-14	20-80	5-45	20-35	1.30-1.50	4.00-14.00	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	14-63	5-45	5-45	35-70	1.30-1.50	4.00-14.00	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	63-83	20-95	5-50	2-35	1.30-1.60	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.24			
9A:														
Chastain-------------	0-13	24-52	28-50	15-35	1.20-1.40	1.40-4.00	0.12-0.18	0.0-2.9	1.0-6.0	.32	.32	5	5	56
	13-36	5-45	15-65	35-60	1.30-1.50	0.42-1.40	0.12-0.16	0.0-2.9	1.0-3.0	.37	.37			
	36-80	70-95	0-29	2-10	1.50-1.70	42.00-141.00	0.03-0.06	0.0-2.9	1.0-3.0	.10	.10			
10A:														
Chewacla-------------	0-5	24-52	28-50	10-35	1.30-1.60	4.00-14.00	0.15-0.24	0.0-2.9	1.0-4.0	.28	.28	5	5	56
	5-13	15-45	15-80	18-35	1.30-1.50	4.00-14.00	0.15-0.24	0.0-2.9	0.5-2.0	.32	.32			
	13-40	24-82	5-50	18-35	1.30-1.60	4.00-14.00	0.12-0.20	0.0-2.9	0.5-2.0	.28	.28			
	40-60	5-95	5-39	0-60	1.25-1.60	1.40-141.00	0.05-0.20	0.0-2.9	0.0-0.5	.20	.20			
11B:														
Colfax---------------	0-8	52-82	5-30	5-20	1.20-1.50	4.00-42.00	0.08-0.12	0.0-2.9	1.0-3.0	.17	.17	3	3	86
	8-24	20-80	5-50	20-35	1.25-1.55	4.00-14.00	0.13-0.18	0.0-2.9	0.5-2.0	.28	.28			
	24-40	20-80	5-50	15-35	1.65-1.80	0.42-1.40	0.00-0.05	0.0-2.9	0.5-2.0	.28	.28			
	40-86	40-82	5-30	15-45	1.65-1.80	4.00-14.00	0.12-0.18	0.0-2.9	0.5-2.0	.28	.28			
	86-117	5-45	5-39	40-60	1.25-1.35	1.40-4.00	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
Urban land.														
12C:														
Colfax---------------	0-10	52-82	5-30	5-20	1.20-1.50	4.00-42.00	0.08-0.12	0.0-2.9	1.0-3.0	.17	.17	3	3	86
	10-16	20-80	5-50	20-35	1.25-1.55	4.00-14.00	0.13-0.18	0.0-2.9	0.5-2.0	.28	.28			
	16-21	20-80	5-50	15-35	1.65-1.80	4.00-14.00	0.00-0.05	0.0-2.9	0.5-2.0	.28	.28			
	21-52	45-82	5-30	15-30	1.65-1.80	0.42-1.40	0.12-0.18	0.0-2.9	0.5-2.0	.28	.28			
	52-73	5-45	5-39	40-60	1.25-1.35	1.40-4.00	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
Urban land.														
13A:														
Dogue----------------	0-9	24-52	28-50	5-15	1.30-1.45	4.00-14.00	0.14-0.20	0.0-2.9	0.5-1.0	.37	.37	5	5	56
	9-42	5-65	5-45	35-50	1.45-1.60	1.40-4.00	0.12-0.19	3.0-5.9	0.0-0.5	.28	.28			
	42-62	24-95	5-50	5-30	1.30-1.50	4.00-42.00	0.05-0.14	0.0-2.9	0.0-0.5	.17	.17			

Table 16.—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					
14A:														
Dunbar----------------	0-12	44-85	5-49	5-27	1.45-1.65	14.00-42.00	0.10-0.15	0.0-2.9	2.0-4.0	.32	.32	5	3	86
	12-20	20-80	5-50	18-35	1.35-1.50	1.40-4.00	0.14-0.19	0.0-2.9	0.5-1.0	.28	.28			
	20-72	5-65	5-45	35-60	1.25-1.45	1.40-4.00	0.13-0.18	3.0-5.9	0.0-0.5	.32	.32			
15B:														
Durham----------------	0-16	52-82	5-30	5-20	1.30-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	16-39	20-80	5-50	25-45	1.20-1.50	1.40-4.00	0.14-0.18	0.0-2.9	0.0-0.5	.20	.20			
	39-60	45-82	5-30	8-30	1.30-1.50	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.5	.20	.20			
	60-84	45-91	5-30	5-20	1.60-1.80	4.00-14.00	0.06-0.10	0.0-2.9	0.0-0.5	.17	.17			
Bourne----------------	0-11	52-82	5-30	5-20	1.30-1.50	14.00-42.00	0.10-0.15	0.0-2.9	1.0-3.0	.28	.28	3	3	86
	11-22	20-80	5-50	20-35	1.40-1.60	4.00-14.00	0.11-0.16	0.0-2.9	0.0-0.5	.37	.37			
	22-44	24-82	5-50	15-35	1.70-1.90	0.42-1.40	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
	44-72	5-80	5-60	20-60	1.25-1.45	1.40-42.00	0.08-0.17	0.0-2.9	0.0-0.5	.20	.20			
Urban land.														
16B:														
Edgehill-------------	0-17	44-85	5-49	10-20	1.20-1.50	4.00-42.00	0.06-0.10	0.0-2.9	0.5-2.0	.15	.20	3	8	0
	17-41	5-45	5-50	35-55	1.30-1.55	4.00-14.00	0.07-0.12	3.0-5.9	0.0-0.5	.17	.24			
	41-80	44-95	5-49	2-55	1.20-1.50	4.00-141.00	0.07-0.12	3.0-5.9	0.0-0.5	.17	.24			
Urban land.														
16C:														
Edgehill-------------	0-17	44-85	5-49	10-20	1.20-1.50	4.00-42.00	0.06-0.10	0.0-2.9	0.5-2.0	.15	.20	3	8	0
	17-41	5-45	5-50	35-55	1.30-1.55	4.00-14.00	0.07-0.12	3.0-5.9	0.0-0.5	.17	.24			
	41-80	44-95	5-49	2-55	1.20-1.50	4.00-141.00	0.07-0.12	3.0-5.9	0.0-0.5	.17	.24			
Urban land.														
16D:														
Edgehill-------------	0-17	44-85	5-49	10-20	1.20-1.50	4.00-42.00	0.06-0.10	0.0-2.9	0.5-2.0	.15	.20	3	8	0
	17-41	5-45	5-50	35-55	1.30-1.55	4.00-14.00	0.07-0.12	3.0-5.9	0.0-0.5	.17	.24			
	41-80	44-95	5-49	2-55	1.20-1.50	4.00-141.00	0.07-0.12	3.0-5.9	0.0-0.5	.17	.24			
16E:														
Edgehill-------------	0-17	44-85	5-49	10-20	1.20-1.50	4.00-42.00	0.06-0.10	0.0-2.9	0.5-2.0	.15	.20	3	8	0
	17-41	5-45	5-50	35-55	1.30-1.55	4.00-14.00	0.07-0.12	3.0-5.9	0.0-0.5	.17	.24			
	41-80	44-95	5-49	2-55	1.20-1.50	4.00-141.00	0.07-0.12	3.0-5.9	0.0-0.5	.17	.24			
17B:														
Faceville------------	0-12	44-85	5-49	5-20	1.40-1.65	42.00-141.00	0.06-0.09	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	12-18	45-80	5-27	20-36	1.35-1.60	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.37	.37			
	18-72	5-65	5-45	35-55	1.25-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.37	.37			
Urban land.														

Table 16.—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			Wind erodi-bility group	Wind erodi-bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
17C:														
Faceville------------	0-12	44-85	5-49	5-20	1.40-1.65	42.00-141.00	0.06-0.09	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	12-18	45-80	5-27	20-36	1.35-1.60	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.37	.37			
	18-72	5-65	5-45	35-55	1.25-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.37	.37			
Urban land.														
17D:														
Faceville------------	0-12	44-85	5-49	5-20	1.40-1.65	42.00-141.00	0.06-0.09	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	12-18	45-80	5-27	20-36	1.35-1.60	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.37	.37			
	18-72	5-65	5-45	35-55	1.25-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.37	.37			
18B:														
Faceville------------	0-12	44-85	5-49	5-20	1.40-1.65	42.00-141.00	0.06-0.09	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	12-18	45-80	5-27	20-36	1.35-1.60	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.37	.37			
	18-72	5-65	5-45	35-55	1.25-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.37	.37			
Gritney--------------	0-9	44-85	5-49	10-25	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	9-52	5-65	5-45	35-60	1.30-1.50	0.42-1.40	0.10-0.17	3.0-5.9	0.0-0.5	.32	.32			
	52-85	5-90	5-39	2-40	1.30-1.50	0.01-42.00	0.06-0.12	0.0-2.9	0.0-0.1	.20	.28			
Urban land.														
18C:														
Faceville------------	0-12	44-85	5-49	5-20	1.40-1.65	42.00-141.00	0.06-0.09	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	12-18	45-80	5-27	20-36	1.35-1.60	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.37	.37			
	18-72	5-65	5-45	35-55	1.25-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.37	.37			
Gritney--------------	0-9	44-85	5-49	10-25	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	9-52	5-65	5-45	35-60	1.30-1.50	0.42-1.40	0.10-0.17	3.0-5.9	0.0-0.5	.32	.32			
	52-85	5-90	5-39	2-40	1.30-1.50	0.01-42.00	0.06-0.12	0.0-2.9	0.0-0.1	.20	.28			
Urban land.														
19C:														
Grover---------------	0-12	52-82	5-30	4-18	1.45-1.65	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	12-36	20-80	5-50	18-35	1.25-1.40	4.00-14.00	0.12-0.14	0.0-2.9	0.0-0.5	.32	.32			
	36-60	24-82	5-50	4-25	1.60-1.70	4.00-14.00	0.10-0.14	0.0-2.9	0.0-0.5	.32	.32			
Urban land.														
19D:														
Grover---------------	0-12	52-82	5-30	4-18	1.45-1.65	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	12-36	20-80	5-50	18-35	1.25-1.40	4.00-14.00	0.12-0.14	0.0-2.9	0.0-0.5	.32	.32			
	36-60	24-82	5-50	4-25	1.60-1.70	4.00-14.00	0.10-0.14	0.0-2.9	0.0-0.5	.32	.32			

Table 16.—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					
19E:														
Grover---------------	0-12	52-82	5-30	4-18	1.45-1.65	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	12-36	20-80	5-50	18-35	1.25-1.40	4.00-14.00	0.12-0.14	0.0-2.9	0.0-0.5	.32	.32			
	36-60	24-82	5-50	4-25	1.60-1.70	4.00-14.00	0.10-0.14	0.0-2.9	0.0-0.5	.32	.32			
20C:														
Grover---------------	0-12	52-82	5-30	4-18	1.45-1.65	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	12-36	20-80	5-50	18-35	1.25-1.40	4.00-14.00	0.12-0.14	0.0-2.9	0.0-0.5	.32	.32			
	36-60	24-82	5-50	4-25	1.60-1.70	4.00-14.00	0.10-0.14	0.0-2.9	0.0-0.5	.32	.32			
Wateree--------------	0-9	44-85	5-49	5-15	1.25-1.45	42.00-141.00	0.09-0.12	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	9-22	44-85	5-49	7-18	1.30-1.50	42.00-141.00	0.10-0.12	0.0-2.9	0.0-0.5	.24	.24			
	22-80	---	---	---	---	0.00-0.42	---	---	---	---	---			
Urban land.														
21A:														
Johnston-------------	0-24	32-85	5-50	7-18	1.25-1.45	14.00-42.00	0.20-0.26	0.0-2.9	3.0-15	.17	.17	5	5	56
	24-30	32-91	5-50	2-12	1.55-1.65	42.00-141.00	0.02-0.07	0.0-2.9	0.5-3.0	.17	.17			
	30-64	45-95	3-29	5-20	1.45-1.65	42.00-141.00	0.06-0.12	0.0-2.9	0.0-2.0	.17	.17			
22B:														
Kempsville-----------	0-19	52-82	5-30	5-15	1.30-1.40	14.00-42.00	0.08-0.14	0.0-2.9	0.5-2.0	.49	.49	4	3	86
	19-37	20-82	5-50	18-34	1.30-1.45	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.24	.24			
	37-65	45-80	4-27	20-45	1.35-1.65	1.40-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.24			
	65-150	45-91	5-29	5-30	1.30-1.60	4.00-142.00	0.08-0.15	0.0-2.9	0.0-0.5	.24	.24			
Urban land.														
23B:														
Kempsville-----------	0-19	52-82	5-30	5-15	1.30-1.40	14.00-42.00	0.08-0.14	0.0-2.9	0.5-2.0	.28	.28	4	3	86
	19-37	20-82	5-50	18-34	1.30-1.45	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.24	.24			
	37-65	45-80	4-27	20-45	1.35-1.65	1.40-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.24			
	65-150	45-91	5-29	5-30	1.30-1.60	4.00-142.00	0.08-0.15	0.0-2.9	0.0-0.5	.24	.24			
Bourne---------------	0-11	52-82	5-30	5-20	1.30-1.50	14.00-42.00	0.10-0.15	0.0-2.9	1.0-3.0	.28	.28	3	3	86
	11-22	20-80	5-50	20-35	1.40-1.60	4.00-14.00	0.11-0.16	0.0-2.9	0.0-0.5	.37	.37			
	22-44	24-82	5-50	15-35	1.70-1.90	0.42-1.40	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
	44-72	5-80	5-60	20-60	1.25-1.45	1.40-42.00	0.08-0.17	0.0-2.9	0.0-0.5	.20	.20			
Urban land.														
24B:														
Masada---------------	0-10	44-85	5-49	10-27	1.20-1.50	14.00-42.00	0.10-0.17	0.0-2.9	1.0-3.0	.32	.32	4	3	86
	10-74	5-45	5-45	35-55	1.30-1.60	4.00-14.00	0.07-0.14	0.0-2.9	0.0-0.5	.24	.28			
	74-80	20-45	15-45	30-40	1.30-1.60	4.00-14.00	0.07-0.14	0.0-2.9	0.0-0.5	.24	.28			
Urban land.														

Table 16.—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					
24C:														
Masada	0-10	44-85	5-49	10-27	1.20-1.50	14.00-42.00	0.10-0.17	0.0-2.9	1.0-3.0	.32	.32	4	3	86
	10-74	5-45	5-45	35-55	1.30-1.60	4.00-14.00	0.07-0.14	0.0-2.9	0.0-0.5	.24	.28			
	74-80	20-45	15-45	30-40	1.30-1.60	4.00-14.00	0.07-0.14	0.0-2.9	0.0-0.5	.24	.28			
Urban land.														
25B:														
Masada	0-10	44-85	5-49	5-20	1.25-1.55	14.00-42.00	0.08-0.14	0.0-2.9	0.5-2.0	.24	.32	4	5	56
	10-74	0-45	5-45	35-55	1.30-1.60	4.00-14.00	0.07-0.14	0.0-2.9	0.0-0.5	.24	.28			
	74-80	20-45	15-45	30-40	1.30-1.60	4.00-14.00	0.07-0.14	0.0-2.9	0.0-0.5	.24	.28			
Urban land.														
25C:														
Masada	0-10	44-85	5-49	5-20	1.25-1.55	14.00-42.00	0.08-0.14	0.0-2.9	0.5-2.0	.24	.32	4	5	56
	10-74	5-45	5-45	35-55	1.30-1.60	4.00-14.00	0.07-0.14	0.0-2.9	0.0-0.5	.24	.28			
	74-80	20-45	15-45	30-40	1.30-1.60	4.00-14.00	0.07-0.14	0.0-2.9	0.0-0.5	.24	.28			
Urban land.														
26A:														
Nawney	0-7	15-82	5-80	10-27	1.20-1.35	4.00-14.00	0.14-0.22	0.0-2.9	1.0-3.0	.32	.32	5	8	0
	7-41	15-82	5-73	18-35	1.25-1.50	4.00-14.00	0.10-0.22	3.0-5.9	0.5-2.0	.28	.28			
	41-65	15-95	5-73	5-40	1.30-1.70	0.01-141.00	0.05-0.22	0.0-5.9	0.5-2.0	.28	.28			
27B:														
Norfolk	0-11	52-82	5-30	5-18	1.45-1.65	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	11-31	20-82	5-50	18-35	1.30-1.65	4.00-14.00	0.10-0.18	0.0-2.9	0.0-0.5	.24	.24			
	31-90	5-80	5-50	20-43	1.20-1.65	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.24			
	90-107	5-82	5-39	10-60	1.25-1.60	1.40-42.00	0.05-0.20	0.0-2.9	0.0-0.5	.20	.20			
Urban land.														
28B:														
Orangeburg	0-16	52-82	5-30	7-15	1.30-1.50	14.00-42.00	0.07-0.13	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	16-24	52-82	5-30	7-18	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.20	.20			
	24-43	45-82	5-30	18-35	1.60-1.75	4.00-14.00	0.11-0.14	0.0-2.9	0.0-0.5	.24	.24			
	43-72	45-82	5-30	18-45	1.60-1.75	4.00-14.00	0.11-0.14	0.0-2.9	0.0-0.5	.24	.24			
Faceville	0-12	44-85	5-49	5-20	1.40-1.65	42.00-141.00	0.06-0.09	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	12-18	45-80	5-27	20-36	1.35-1.60	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.37	.37			
	18-72	5-65	5-45	35-55	1.25-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.37	.37			
Urban land.														

Table 16.—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					
28C:														
Orangeburg-----------	0-16	52-82	5-30	7-15	1.30-1.50	14.00-42.00	0.07-0.13	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	16-24	52-82	5-30	7-18	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.20	.20			
	24-43	45-82	5-30	18-35	1.60-1.75	4.00-14.00	0.11-0.14	0.0-2.9	0.0-0.5	.24	.24			
	43-72	45-82	5-30	18-45	1.60-1.75	4.00-14.00	0.11-0.14	0.0-2.9	0.0-0.5	.24	.24			
Faceville------------	0-12	44-85	5-49	5-20	1.40-1.65	42.00-141.00	0.06-0.09	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	12-18	45-80	5-27	20-36	1.35-1.60	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.37	.37			
	18-72	5-65	5-45	35-55	1.25-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.37	.37			
Urban land.														
29B:														
Pouncey--------------	0-18	44-85	5-49	10-20	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	1.0-5.0	.28	.28	2	2	134
	18-25	0-65	5-45	35-55	1.30-1.60	0.01-0.42	0.10-0.15	6.0-8.9	0.0-1.0	.24	.24			
	25-35	---	---	---	---	0.42-1.40	---	---	---	---	---			
Urban land.														
30A:														
Riverview------------	0-5	15-82	5-80	10-27	1.30-1.60	4.00-14.00	0.16-0.24	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	5-27	15-82	5-80	18-27	1.20-1.40	4.00-14.00	0.15-0.22	0.0-2.9	0.5-1.0	.24	.24			
	27-79	15-95	5-80	2-35	1.20-1.50	14.00-42.00	0.07-0.11	0.0-2.9	0.5-1.0	.17	.17			
31A:														
Roanoke--------------	0-6	5-52	28-80	10-27	1.20-1.50	4.00-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.43	.43	4	5	56
	4-60	5-45	5-60	27-60	1.20-1.50	0.01-141.00	0.16-0.19	3.0-5.9	0.0-0.5	.24	.24			
	60-70	5-45	5-60	27-60	1.20-1.50	0.01-141.00	0.16-0.19	3.0-5.9	0.0-0.5	.24	.24			
32A:														
Roanoke--------------	0-6	5-52	28-80	10-27	1.20-1.50	4.00-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.43	.43	4	5	56
	4-60	5-45	5-60	27-60	1.20-1.50	0.01-141.00	0.16-0.19	3.0-5.9	0.0-0.5	.24	.24			
	60-70	5-45	5-60	27-60	1.20-1.50	0.01-141.00	0.16-0.19	3.0-5.9	0.0-0.5	.24	.24			
Chewacla-------------	0-5	24-52	28-50	10-35	1.30-1.60	4.00-14.00	0.15-0.24	0.0-2.9	1.0-4.0	.28	.28	5	5	56
	5-13	15-45	15-80	18-35	1.30-1.50	4.00-14.00	0.15-0.24	0.0-2.9	0.5-2.0	.32	.32			
	13-40	24-82	5-50	18-35	1.30-1.60	4.00-14.00	0.12-0.20	0.0-2.9	0.5-2.0	.28	.28			
	40-60	5-95	5-39	0-60	1.25-1.60	1.40-141.00	0.05-0.20	0.0-2.9	0.0-0.5	.20	.20			
33B:														
Slagle---------------	0-13	24-82	5-50	8-18	1.30-1.45	14.00-42.00	0.10-0.14	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	13-40	20-82	5-50	12-35	1.30-1.45	4.00-14.00	0.10-0.18	0.0-2.9	0.0-0.5	.24	.24			
	40-51	5-82	5-50	18-40	1.35-1.60	0.42-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.24	.24			
	51-65	5-91	5-39	5-40	1.35-1.50	1.40-42.00	0.08-0.15	0.0-2.9	0.0-0.5	.24	.24			
Urban land.														

Table 16.—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					
34B:														
Tetotum	0-11	24-52	28-50	10-22	1.40-1.65	4.00-14.00	0.14-0.19	0.0-2.9	0.5-2.0	.37	.37	4	5	56
	11-54	15-80	5-73	18-35	1.40-1.65	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.5	.32	.32			
	54-70	5-82	5-39	10-50	1.50-1.80	4.00-141.00	0.08-0.12	0.0-2.9	0.0-0.5	.32	.32			
Urban land.														
35A:														
Toccoa	0-15	44-85	5-49	2-15	1.40-1.55	14.00-42.00	0.09-0.12	0.0-2.9	1.0-2.0	.10	.10	4	3	86
	15-60	32-85	5-50	2-19	1.40-1.50	14.00-42.00	0.09-0.12	0.0-1.9	0.0-0.5	.20	.20			
36A:														
Tomotley	0-7	24-90	5-50	5-20	1.30-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-6.0	.20	.20	5	3	86
	7-40	20-82	5-50	18-35	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.20	.20			
	40-65	5-95	4-39	5-50	1.30-1.70	1.40-14.00	0.05-0.15	0.0-2.9	0.0-0.5	.10	.10			
Urban land.														
37B:														
Turbeville	0-11	44-85	5-49	3-18	1.35-1.55	14.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.32	.32	5	3	86
	11-62	20-80	5-50	25-45	1.30-1.45	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.32			
	62-70	5-90	5-45	9-60	1.35-1.50	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.24	.28			
Urban land.														
37C:														
Turbeville	0-11	44-85	5-49	3-18	1.35-1.55	14.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.32	.32	5	3	86
	11-62	20-80	5-50	25-45	1.30-1.45	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.32			
	62-70	5-90	5-45	9-60	1.35-1.50	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.24	.28			
Urban land.														
38B:														
Turbeville	0-11	44-85	5-49	8-18	1.35-1.55	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.24	.32	4	4	86
	11-62	20-80	5-50	25-45	1.30-1.45	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.32			
	62-70	5-90	5-45	9-60	1.35-1.50	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.24	.28			
Urban land.														
38C:														
Turbeville	0-11	44-85	5-49	8-18	1.35-1.55	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.24	.32	4	4	86
	11-62	20-80	5-50	25-45	1.30-1.45	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.28	.32			
	62-70	5-90	5-45	9-60	1.35-1.50	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.24	.28			
Urban land.														

Table 16.—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					
39. Udorthents														
40. Udorthents-Dumps														
41. Urban land														
42A:														
Varina---------------	0-10	44-85	5-49	3-10	1.50-1.70	42.00-141.00	0.05-0.09	0.0-2.9	0.5-2.0	.15	.15	4	2	134
	10-50	5-65	5-45	35-60	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.28			
	50-70	5-65	5-45	30-55	1.30-1.50	0.42-1.40	0.06-0.09	0.0-2.9	0.0-0.5	.28	.28			
Urban land.														
43C:														
Wateree--------------	0-9	44-85	5-49	5-15	1.25-1.45	42.00-141.00	0.09-0.12	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	9-22	44-85	5-49	7-18	1.30-1.50	42.00-141.00	0.10-0.12	0.0-2.9	0.0-0.5	.24	.24			
	22-80	---	---	---	---	0.00-0.42	---	---	---	---	---			
Urban land.														
43D:														
Wateree--------------	0-9	44-85	5-49	5-15	1.25-1.45	42.00-141.00	0.09-0.12	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	9-22	44-85	5-49	7-18	1.30-1.50	42.00-141.00	0.10-0.12	0.0-2.9	0.0-0.5	.24	.24			
	22-80	---	---	---	---	0.00-0.42	---	---	---	---	---			
44E:														
Wateree--------------	0-9	44-85	5-49	5-15	1.25-1.45	42.00-141.00	0.09-0.12	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	9-22	44-85	5-49	7-18	1.30-1.50	42.00-141.00	0.10-0.12	0.0-2.9	0.0-0.5	.24	.24			
	22-80	---	---	---	---	0.00-0.42	---	---	---	---	---			
Wedowee--------------	0-17	44-85	5-49	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.24	.24	3	3	86
	17-33	5-65	5-45	35-45	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.28			
	33-60	20-85	5-49	15-30	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
45F:														
Wateree--------------	0-9	44-85	5-49	5-15	1.25-1.45	42.00-141.00	0.09-0.12	0.0-2.9	0.5-2.0	.24	.24	3	3	86
	9-22	44-85	5-49	7-18	1.30-1.50	42.00-141.00	0.10-0.12	0.0-2.9	0.0-0.5	.24	.24			
	22-80	---	---	---	---	0.00-0.42	---	---	---	---	---			
Wedowee--------------	0-17	44-85	5-49	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.24	.24	4	3	86
	17-33	5-65	5-45	35-45	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.28			
	33-60	20-85	5-49	15-30	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
Rock outcrop.														

Table 16.—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			Wind erodi-bility group	Wind erodi-bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
46E:														
Wedowee	0-17	44-85	5-49	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.9	0.5-3.0	.24	.24	3	3	86
	17-33	5-65	5-45	35-45	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.28			
	33-60	20-85	5-49	15-30	1.20-1.50	4.00-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
47A:														
Worsham	0-14	44-85	5-49	10-20	1.25-1.55	14.00-42.00	0.10-0.15	0.0-2.9	1.0-2.0	.28	.28	4	3	86
	14-44	5-80	5-39	30-55	1.35-1.65	0.01-0.42	0.10-0.16	3.0-5.9	0.0-0.5	.28	.28			
	44-70	20-85	5-49	10-40	1.20-1.50	1.40-4.00	0.08-0.19	3.0-5.9	0.0-0.5	.28	.28			
Urban land.														
W.														
Water														

Table 17.—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:				
Abell	0-15	3.5-9.0	2.6-6.8	4.5-6.0
	15-30	4.5-9.9	3.4-7.4	4.5-6.0
	30-40	7.5-12	5.6-9.3	4.5-6.0
	40-60	2.5-7.9	1.9-5.9	4.5-6.0
2B:				
Appling	0-10	1.6-7.5	1.2-5.6	4.5-6.5
	10-42	3.5-7.1	2.6-5.3	4.5-5.5
	42-60	2.0-6.1	1.5-4.6	4.5-5.5
	60-72	1.0-11	0.5-8.0	3.6-6.0
Urban land.				
3B:				
Appling	0-10	1.6-6.5	1.2-4.9	4.5-6.5
	10-42	3.5-7.1	2.6-5.3	4.5-5.5
	42-60	2.0-6.1	1.5-4.6	4.5-5.5
	60-72	1.0-11	0.5-8.0	3.6-6.0
Urban land.				
3C:				
Appling	0-10	1.6-6.5	1.2-4.9	4.5-6.5
	10-42	3.5-7.1	2.6-5.3	4.5-5.5
	42-60	2.0-6.1	1.5-4.6	4.5-5.5
	60-72	1.0-11	0.5-8.0	3.6-6.0
Urban land.				
3D:				
Appling	0-10	1.6-6.5	1.2-4.9	4.5-6.5
	10-42	3.5-7.1	2.6-5.3	4.5-5.5
	42-60	2.0-6.1	1.5-4.6	4.5-5.5
	60-72	1.0-11	0.5-8.0	3.6-6.0
4C:				
Appling	0-10	1.6-6.5	1.2-4.9	4.5-6.5
	10-42	3.5-7.1	2.6-5.3	4.5-5.5
	42-60	2.0-6.1	1.5-4.6	4.5-5.5
	60-72	1.0-11	0.5-8.0	3.6-6.0
Wedowee	0-17	1.6-8.8	1.2-6.6	3.6-5.5
	17-33	3.5-5.6	2.6-4.2	3.6-5.5
	33-60	1.5-4.1	1.1-3.1	3.6-5.5
Urban land.				
4D:				
Appling	0-10	1.6-6.5	1.2-4.9	4.5-6.5
	10-42	3.5-7.1	2.6-5.3	4.5-5.5
	42-60	2.0-6.1	1.5-4.6	4.5-5.5
	60-72	1.0-11	0.5-8.0	3.6-6.0
Wedowee	0-17	1.6-8.8	1.2-6.6	3.6-5.5
	17-33	3.5-5.6	2.6-4.2	3.6-5.5
	33-60	1.5-4.1	1.1-3.1	3.6-5.5

Table 17.—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
5A:				
Atlee	0-11	4.0-8.2	3.0-6.2	3.6-6.0
	11-20	5.0-11	3.8-7.9	3.6-5.5
	20-36	4.5-11	3.4-7.9	3.6-5.5
	36-163	6.8-16	5.1-12	3.6-5.5
Urban land.				
6A:				
Augusta	0-10	2.4-9.5	1.8-7.1	4.5-6.0
	10-72	5.0-9.9	3.8-7.4	4.5-6.0
	72-90	1.2-9.9	0.9-7.4	3.6-6.0
7B:				
Bourne	0-11	3.5-12	2.6-8.8	4.5-6.5
	11-22	5.0-9.9	3.8-7.4	3.6-5.5
	22-44	3.8-9.9	2.8-8.0	3.6-5.5
	44-72	5.0-16	4.0-12	3.6-6.0
Urban land.				
7C:				
Bourne	0-11	3.5-12	2.6-8.8	4.5-6.5
	11-22	5.0-9.9	3.8-7.4	3.6-5.5
	22-44	3.8-9.9	2.8-8.0	3.6-5.5
	44-72	5.0-16	4.0-12	3.6-6.0
Urban land.				
8C:				
Cecil	0-9	1.6-4.2	1.2-3.2	4.5-6.5
	9-14	2.0-4.6	1.5-3.5	4.5-5.5
	14-63	3.5-7.5	2.6-5.6	4.5-5.5
	63-83	1.0-11	0.5-8.0	3.6-6.0
Urban land.				
8D:				
Cecil	0-9	1.6-4.2	1.2-3.2	4.5-6.5
	9-14	2.0-4.6	1.5-3.5	4.5-5.5
	14-63	3.5-7.5	2.6-5.6	4.5-5.5
	63-83	1.0-11	0.5-8.0	3.6-6.0
9A:				
Chastain	0-13	6.0-22	4.5-17	4.5-6.0
	13-36	11-22	8.2-16	4.5-6.0
	36-80	2.8-9.2	2.1-6.9	4.5-6.0
10A:				
Chewacla	0-5	4.8-18	3.6-13	4.5-6.5
	5-13	5.6-13	4.2-9.9	4.5-6.5
	13-40	5.6-13	4.2-9.9	4.5-6.5
	40-60	0.0-16	0.5-12	3.6-6.5

Table 17.—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
11B:				
Colfax	0-8	3.5-12	2.6-8.8	3.6-5.5
	8-24	6.1-13	4.6-9.9	3.6-5.5
	24-40	4.9-13	3.7-9.9	3.6-5.5
	40-86	4.9-12	3.7-9.0	3.6-5.5
	86-117	10-16	7.5-12	3.6-6.0
Urban land.				
12C:				
Colfax	0-10	3.5-12	2.6-10	3.6-5.5
	10-16	6.1-13	4.6-9.9	3.6-5.5
	16-21	4.9-13	3.7-9.9	3.6-5.5
	21-52	4.9-12	3.7-9.0	3.6-5.5
	52-73	10-16	7.5-12	3.6-6.0
Urban land.				
13A:				
Dogue	0-9	2.4-6.0	1.8-4.5	3.6-5.5
	9-42	8.8-14	6.6-10	3.6-5.5
	42-62	1.2-8.6	0.9-6.5	3.6-5.5
14A:				
Dunbar	0-12	5.0-12	3.8-8.8	4.5-5.5
	12-20	2.9-5.8	2.2-4.3	4.5-5.5
	20-72	3.5-7.1	2.6-5.3	4.5-5.5
15B:				
Durham	0-16	2.4-9.5	1.8-7.1	4.5-6.0
	16-39	6.2-12	4.7-9.3	4.5-5.5
	39-60	2.0-8.6	1.5-6.5	4.5-5.5
	60-84	1.2-6.1	0.9-4.6	4.5-5.5
Bourne	0-11	3.5-12	2.6-8.8	4.5-6.5
	11-22	5.0-9.9	3.8-7.4	3.6-5.5
	22-44	3.8-9.9	2.8-8.0	3.6-5.5
	44-72	5.0-16	4.0-12	3.6-6.0
Urban land.				
16B:				
Edgehill	0-17	3.6-9.5	2.7-7.1	4.5-6.0
	17-41	8.8-15	6.6-11	4.5-5.5
	41-80	2.5-15	1.9-11	4.5-5.5
Urban land.				
16C:				
Edgehill	0-17	3.6-9.5	2.7-7.1	4.5-6.0
	17-41	8.8-15	6.6-11	4.5-5.5
	41-80	2.5-15	1.9-11	4.5-5.5
Urban land.				
16D:				
Edgehill	0-17	3.6-9.5	2.7-7.1	4.5-6.0
	17-41	8.8-15	6.6-11	4.5-5.5
	41-80	2.5-15	1.9-11	4.5-5.5

Table 17.—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
16E:				
Edgehill-------------	0-17	3.6-9.5	2.7-7.1	4.5-6.0
	17-41	8.8-15	6.6-11	4.5-5.5
	41-80	2.5-15	1.9-11	4.5-5.5
17B:				
Faceville------------	0-12	1.6-6.5	1.2-4.9	4.5-5.5
	12-18	2.0-4.7	1.5-3.5	4.5-5.5
	18-72	3.5-6.6	2.6-5.0	4.5-6.0
Urban land.				
17C:				
Faceville------------	0-12	1.6-6.5	1.2-4.9	4.5-5.5
	12-18	2.0-4.7	1.5-3.5	4.5-5.5
	18-72	3.5-6.6	2.6-5.0	4.5-6.0
Urban land.				
17D:				
Faceville------------	0-12	1.6-6.5	1.2-4.9	4.5-5.5
	12-18	2.0-4.7	1.5-3.5	4.5-5.5
	18-72	3.5-6.6	2.6-5.0	4.5-6.0
18B:				
Faceville------------	0-12	1.6-6.5	1.2-4.9	4.5-5.5
	12-18	2.0-4.7	1.5-3.5	4.5-5.5
	18-72	3.5-6.6	2.6-5.0	4.5-6.0
Gritney--------------	0-9	3.6-11	2.7-8.1	3.5-6.0
	9-52	8.8-16	6.6-12	3.5-5.5
	52-85	0.5-10	0.4-7.7	3.5-5.5
Urban land.				
18C:				
Faceville------------	0-12	1.6-6.5	1.2-4.9	4.5-5.5
	12-18	2.0-4.7	1.5-3.5	4.5-5.5
	18-72	3.5-6.6	2.6-5.0	4.5-6.0
Gritney--------------	0-9	3.6-11	2.7-8.1	3.5-6.0
	9-52	8.8-16	6.6-12	3.5-5.5
	52-85	0.5-10	0.4-7.7	3.5-5.5
Urban land.				
19C:				
Grover---------------	0-12	2.1-9.0	1.6-6.8	4.5-6.5
	12-36	4.5-9.9	3.4-7.4	4.5-6.0
	36-60	1.0-7.4	0.8-5.5	4.5-6.0
Urban land.				
19D:				
Grover---------------	0-12	2.1-9.0	1.6-6.8	4.5-6.5
	12-36	4.5-9.9	3.4-7.4	4.5-6.0
	36-60	1.0-7.4	0.8-5.5	4.5-6.0

Table 17.—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
19E:				
Grover	0-12	2.1-9.0	1.6-6.8	4.5-6.5
	12-36	4.5-9.9	3.4-7.4	4.5-6.0
	36-60	1.0-7.4	0.8-5.5	4.5-6.0
20C:				
Grover	0-12	2.1-9.0	1.6-6.8	4.5-6.5
	12-36	4.5-9.9	3.4-7.4	4.5-6.0
	36-60	1.0-7.4	0.8-5.5	4.5-6.0
Wateree	0-9	2.4-8.2	1.8-6.2	4.5-6.0
	9-22	1.8-5.6	1.3-4.2	4.5-6.0
	22-80	---	---	---
Urban land.				
21A:				
Johnston	0-24	8.5-38	6.4-29	4.5-5.5
	24-30	1.6-9.8	1.2-7.3	4.5-5.5
	30-64	1.2-9.5	0.9-7.1	4.5-5.5
22B:				
Kempsville	0-19	2.4-8.2	1.8-6.2	4.5-6.0
	19-37	4.1-8.2	3.1-6.2	4.5-6.0
	37-65	4.5-9.9	3.4-7.4	4.5-6.0
	65-150	1.2-8.6	0.9-6.5	4.5-6.0
Urban land.				
23B:				
Kempsville	0-19	2.4-8.2	1.8-6.2	4.5-6.0
	19-37	4.1-8.2	3.1-6.2	4.5-6.0
	37-65	4.5-9.9	3.4-7.4	4.5-6.0
	65-150	1.2-8.6	0.9-6.5	4.5-6.0
Bourne	0-11	3.5-12	2.6-8.8	4.5-6.5
	11-22	5.0-9.9	3.8-7.4	3.6-5.5
	22-44	3.8-9.9	2.8-8.0	3.6-5.5
	44-72	5.0-16	4.0-12	3.6-6.0
Urban land.				
24B:				
Masada	0-10	4.8-14	3.6-10	4.5-5.5
	10-74	8.8-15	6.6-11	4.5-5.5
	74-80	7.5-11	5.6-8.3	4.5-5.5
Urban land.				
24C:				
Masada	0-10	4.8-14	3.6-10	4.5-5.5
	10-74	8.8-15	6.6-11	4.5-5.5
	74-80	7.5-11	5.6-8.3	4.5-5.5
Urban land.				

Table 17.—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
25B:				
Masada	0-10	2.4-9.5	1.8-7.1	4.5-5.5
	10-74	8.8-15	6.6-11	4.5-5.5
	74-80	7.5-11	5.6-8.3	4.5-5.5
Urban land.				
25C:				
Masada	0-10	2.4-9.5	1.8-7.1	4.5-5.5
	10-74	8.8-15	6.6-11	4.5-5.5
	74-80	7.5-11	5.6-8.3	4.5-5.5
Urban land.				
26A:				
Nawney	0-7	5.8-16	4.3-12	3.6-5.5
	7-41	7.4-17	5.6-13	3.6-5.5
	41-65	2.9-18	2.2-14	3.6-5.5
27B:				
Norfolk	0-11	1.6-6.3	1.2-4.7	3.6-6.0
	11-31	1.8-4.6	1.4-3.5	3.6-5.5
	31-90	2.0-5.4	1.5-4.1	3.6-5.5
	90-107	0.0-7.1	0.0-5.3	3.6-6.5
Urban land.				
28B:				
Orangeburg	0-16	1.8-6.0	1.0-4.5	4.5-6.0
	16-24	0.7-3.0	0.5-2.2	4.5-6.0
	24-43	1.8-5.0	1.4-3.5	4.5-5.5
	43-72	2.0-6.0	1.5-4.2	4.5-5.5
Faceville	0-12	1.6-6.5	1.2-4.9	4.5-5.5
	12-18	2.0-4.7	1.5-3.5	4.5-5.5
	18-72	3.5-6.6	2.6-5.0	4.5-6.0
Urban land.				
28C:				
Orangeburg	0-16	1.8-6.0	1.0-4.5	4.5-6.0
	16-24	0.7-3.0	0.5-2.2	4.5-6.0
	24-43	1.8-5.0	1.4-3.5	4.5-5.5
	43-72	2.0-6.0	1.5-4.2	4.5-5.5
Faceville	0-12	1.6-6.5	1.2-4.9	4.5-5.5
	12-18	2.0-4.7	1.5-3.5	4.5-5.5
	18-72	3.5-6.6	2.6-5.0	4.5-6.0
Urban land.				
29B:				
Pouncey	0-18	5.8-18	4.3-14	4.5-5.5
	18-25	12-22	9.2-16	4.5-5.5
	25-35	---	---	---
Urban land.				

Table 17.—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
30A:				
Riverview------------	0-5	3.6-11	2.7-8.4	4.5-6.5
	5-27	5.6-9.0	4.2-6.8	4.5-6.0
	27-79	1.6-11	1.2-8.2	4.5-6.0
31A:				
Roanoke--------------	0-6	3.6-11	2.7-8.4	3.6-5.5
	4-60	6.8-16	5.1-12	3.6-5.5
	60-70	6.8-16	5.1-12	3.6-5.5
32A:				
Roanoke--------------	0-6	3.6-11	2.7-8.4	3.6-5.5
	4-60	6.8-16	5.1-12	3.6-5.5
	60-70	6.8-16	5.1-12	3.6-5.5
Chewacla-------------	0-5	4.8-18	3.6-13	4.5-6.5
	5-13	5.6-13	4.2-9.9	4.5-6.5
	13-40	5.6-13	4.2-9.9	4.5-6.5
	40-60	0.0-16	0.5-12	3.6-6.5
33B:				
Slagle---------------	0-13	3.1-9.0	2.3-6.8	3.6-5.5
	13-40	3.0-9.9	2.2-7.4	3.6-5.5
	40-51	4.5-11	3.4-8.3	3.6-5.5
	51-65	1.2-9.1	0.9-6.8	3.6-5.5
Urban land.				
34B:				
Tetotum--------------	0-11	3.6-10	2.7-7.5	3.6-5.5
	11-54	4.5-9.9	3.4-7.4	3.6-5.5
	54-70	1.2-8.6	0.9-6.5	3.6-5.5
Urban land.				
35A:				
Toccoa---------------	0-15	2.8-8.2	2.1-6.2	5.1-6.5
	15-60	0.5-5.9	0.4-4.4	5.1-6.5
36A:				
Tomotley-------------	0-7	4.0-20	3.0-15	3.6-5.5
	7-40	7.4-14	5.6-11	3.6-5.5
	40-65	1.8-19	1.3-14	3.6-6.0
Urban land.				
37B:				
Turbeville-----------	0-11	1.9-9.0	1.4-6.8	4.5-5.5
	11-62	7.4-12	5.5-9.2	4.5-5.5
	62-70	7.5-16	5.6-12	4.5-5.5
Urban land.				
37C:				
Turbeville-----------	0-11	1.9-9.0	1.4-6.8	4.5-5.5
	11-62	7.4-12	5.5-9.2	4.5-5.5
	62-70	7.5-16	5.6-12	4.5-5.5
Urban land.				

Table 17.—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
38B:				
Turbeville-----------	0-11	3.1-9.0	2.3-6.8	4.5-5.5
	11-62	7.4-12	5.5-9.2	4.5-5.5
	62-70	7.5-16	5.6-12	4.5-5.5
Urban land.				
38C:				
Turbeville-----------	0-11	3.1-9.0	2.3-6.8	4.5-5.5
	11-62	7.4-12	5.5-9.2	4.5-5.5
	62-70	7.5-16	5.6-12	4.5-5.5
Urban land.				
39.				
Udorthents				
40.				
Udorthents-Dumps				
41.				
Urban land				
42A:				
Varina---------------	0-10	1.4-5.5	1.1-4.1	4.5-6.5
	10-50	3.5-7.1	2.6-5.3	4.5-5.5
	50-70	3.0-6.6	2.2-5.0	4.5-5.5
Urban land.				
43C:				
Wateree--------------	0-9	2.4-8.2	1.8-6.2	4.5-6.0
	9-22	1.8-5.6	1.3-4.2	4.5-6.0
	22-80	---	---	---
Urban land.				
43D:				
Wateree--------------	0-9	2.4-8.2	1.8-6.2	4.5-6.0
	9-22	1.8-5.6	1.3-4.2	4.5-6.0
	22-80	---	---	---
44E:				
Wateree--------------	0-9	2.4-8.2	1.8-6.2	4.5-6.0
	9-22	1.8-5.6	1.3-4.2	4.5-6.0
	22-80	---	---	---
Wedowee--------------	0-17	1.6-8.8	1.2-6.6	3.6-5.5
	17-33	3.5-5.6	2.6-4.2	3.6-5.5
	33-60	1.5-4.1	1.1-3.1	3.6-5.5
45F:				
Wateree--------------	0-9	2.4-8.2	1.8-6.2	4.5-6.0
	9-22	1.8-5.6	1.3-4.2	4.5-6.0
	22-80	---	---	---

Table 17.—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
45F:				
Wedowee--------------	0-17	1.6-8.8	1.2-6.6	3.6-5.5
	17-33	3.5-5.6	2.6-4.2	3.6-5.5
	33-60	1.5-4.1	1.1-3.1	3.6-5.5
Rock outcrop.				
46E:				
Wedowee--------------	0-17	1.6-8.8	1.2-6.6	3.6-5.5
	17-33	3.5-5.6	2.6-4.2	3.6-5.5
	33-60	1.5-4.1	1.1-3.1	3.6-5.5
47A:				
Worsham--------------	0-14	4.8-9.5	3.6-7.1	4.5-5.5
	14-44	7.5-15	5.6-11	4.5-5.5
	44-70	2.5-11	1.9-8.3	4.5-5.5
Urban land.				
W.				
Water				

Table 18.—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: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
1B:										
Abell	B	Medium	Jan-Mar	2.0-3.5	>6.0	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
			Dec	2.0-3.5	>6.0	---	---	None	---	None
2B:										
Appling	B	Low	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
3B:										
Appling	B	Low	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
3C:										
Appling	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
3D:										
Appling	B	Medium	Jan-Dec	---	---	---	---	None	---	None
4C:										
Appling	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Wedowee	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
4D:										
Appling	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Wedowee	B	Medium	Jan-Dec	---	---	---	---	None	---	None
5A:										
Atlee	C	Low	Jan-Mar	1.5-2.5	>6.0	---	---	None	---	None
			Apr-Oct	---	---	---	---	None	---	None
			Nov-Dec	1.5-2.5	>6.0	---	---	None	---	None
Urban land.										

Table 18.—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				
6A:										
Augusta	C	Very high	Jan-May	1.0-2.0	>6.0	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.0-2.0	>6.0	---	---	None	---	None
7B:										
Bourne	C	Low	Jan-May	1.0-2.5	1.5-3.3	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.0-2.5	1.5-3.3	---	---	None	---	None
Urban land.										
7C:										
Bourne	C	Medium	Jan-May	1.0-2.5	1.5-3.3	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.0-2.5	1.5-3.3	---	---	None	---	None
Urban land.										
8C:										
Cecil	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
8D:										
Cecil	B	Medium	Jan-Dec	---	---	---	---	None	---	None
9A:										
Chastain	D	Very high	Jan-Apr	0.0-1.0	>6.0	---	---	None	Very long	Frequent
			May	0.0-1.0	>6.0	---	---	None	---	None
			Jun-Oct	---	---	---	---	None	---	None
			Nov	0.0-1.0	>6.0	---	---	None	---	None
			Dec	0.0-1.0	>6.0	---	---	None	Very long	Frequent
10A:										
Chewacla	C	Very high	Jan-Apr	0.5-1.5	>6.0	---	---	None	Long	Frequent
			May-Oct	---	---	---	---	None	---	None
			Nov-Dec	0.5-1.5	>6.0	---	---	None	Long	Frequent
11B:										
Colfax	C	Low	Jan-Jun	0.5-1.5	1.0-3.0	---	---	None	---	None
			Jul-Oct	---	---	---	---	None	---	None
			Nov-Dec	0.5-1.5	1.0-3.0	---	---	None	---	None
Urban land.										

Table 18.—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				
12C:										
Colfax	C	Medium	Jan-Jun	0.5-1.5	1.0-3.0	---	---	None	---	None
			Jul-Oct	---	---	---	---	None	---	None
			Nov-Dec	0.5-1.5	1.0-3.0	---	---	None	---	None
Urban land.										
13A:										
Dogue	C	Low	Jan-Mar	1.5-3.0	>6.0	---	---	None	---	Rare
			Apr-Dec	---	---	---	---	None	---	Rare
14A:										
Dunbar	D	Low	Jan-May	1.0-2.5	>6.0	---	---	None	---	None
			Jun-Oct	---	---	---	---	None	---	None
			Nov-Dec	1.0-2.5	>6.0	---	---	None	---	None
15B:										
Durham	B	Low	Jan-Dec	---	---	---	---	None	---	None
Bourne	C	Low	Jan-May	1.0-2.5	1.5-3.3	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.0-2.5	1.5-3.3	---	---	None	---	None
Urban land.										
16B:										
Edgehill	C	Low	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
16C:										
Edgehill	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
16D:										
Edgehill	C	Medium	Jan-Dec	---	---	---	---	None	---	None
16E:										
Edgehill	C	High	Jan-Dec	---	---	---	---	None	---	None
17B:										
Faceville	B	Low	Jan-Dec	---	---	---	---	None	---	None
Urban land.										

Table 18.—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				
17C:										
Faceville	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
17D:										
Faceville	B	Medium	Jan-Dec	---	---	---	---	None	---	None
18B:										
Faceville	B	Low	Jan-Dec	---	---	---	---	None	---	None
Gritney	B	Very high	Jan-Apr	1.5-2.5	2.5-3.0	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
			Dec	1.5-2.5	2.5-3.0	---	---	None	---	None
Urban land.										
18C:										
Faceville	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Gritney	B	Very high	Jan-Apr	1.5-2.5	2.5-3.0	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
			Dec	1.5-2.5	2.5-3.0	---	---	None	---	None
Urban land.										
19C:										
Grover	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
19D:										
Grover	B	Medium	Jan-Dec	---	---	---	---	None	---	None
19E:										
Grover	B	High	Jan-Dec	---	---	---	---	None	---	None
20C:										
Grover	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Wateree	B	High	Jan-Dec	---	---	---	---	None	---	None
Urban land.										

Table 18.—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				
21A:										
Johnston------------------	D	Negligible	Jan-Jun	0	>6.0	0.0-1.0	Long	Frequent	Long	Frequent
			Jul	---	---	---	---	None	Long	Frequent
			Aug-Oct	---	---	---	---	None	---	None
			Nov-Dec	0	>6.0	0.0-1.0	Long	Frequent	Long	Frequent
22B:										
Kempsville----------------	B	Very low	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
23B:										
Kempsville----------------	B	Low	Jan-Dec	---	---	---	---	None	---	None
Bourne--------------------	C	Low	Jan-May	1.0-2.5	1.5-3.3	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
			Dec	1.0-2.5	1.5-3.3	---	---	None	---	None
Urban land.										
24B:										
Masada--------------------	C	Low	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
24C:										
Masada--------------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
25B:										
Masada--------------------	C	Low	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
25C:										
Masada--------------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
26A:										
Nawney--------------------	D	Very high	Jan-Dec	0.0-0.5	>6.0	---	---	None	Very long	Frequent
27B:										
Norfolk-------------------	B	Low	Jan-Mar	4.0-6.0	>6.0	---	---	None	---	None
			Apr-Dec	---	---	---	---	None	---	None
Urban land.										

Table 18.—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				
28B:										
Orangeburg	B	Low	Jan-Dec	---	---	---	---	None	---	None
Faceville	B	Low	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
28C:										
Orangeburg	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Faceville	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
29B:										
Pouncey	D	Very high	Jan-Apr	0.3-2.5	1.7-3.3	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
			Dec	0.3-2.5	1.7-3.3	---	---	None	---	None
Urban land.										
30A:										
Riverview	B	Low	Jan-Mar	4.0-6.6	>6.0	---	---	None	Brief	Frequent
			Apr-Nov	---	---	---	---	None	---	None
			Dec	4.0-6.6	>6.0	---	---	None	Brief	Frequent
31A:										
Roanoke	D	Very high	Jan-Apr	0.0-1.0	>6.0	---	---	None	---	None
			May-Dec	---	---	---	---	None	---	None
32A:										
Roanoke	D	Very high	Jan-Mar	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			Apr	0.0-1.0	>6.0	---	---	None	---	None
			May-Oct	---	---	---	---	None	---	None
			Nov-Dec	---	---	---	---	None	Brief	Frequent
Chewacla	C	Low	Jan-Apr	1.5-2.5	>6.0	---	---	None	Long	Frequent
			May-Oct	---	---	---	---	None	---	None
			Nov-Dec	1.5-2.5	>6.0	---	---	None	Long	Frequent
33B:										
Slagle	C	Low	Jan-Apr	1.5-3.0	>6.0	---	---	None	---	None
			May-Oct	---	---	---	---	None	---	None
			Nov-Dec	1.5-3.0	>6.0	---	---	None	---	None
Urban land.										

Table 18.—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				
34B:										
Tetotum-------------------	C	Low	Jan-Apr	1.5-2.5	>6.0	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
			Dec	1.5-2.5	>6.0	---	---	None	---	None
Urban land.										
35A:										
Toccoa--------------------	B	Very low	Jan-Apr	3.3-5.0	>6.0	---	---	None	Brief	Frequent
			May-Nov	---	---	---	---	None	Brief	Frequent
			Dec	3.3-5.0	>6.0	---	---	None	Brief	Frequent
36A:										
Tomotley------------------	B/D	Very high	Jan-Apr	0.0-1.0	>6.0	---	---	None	---	None
			May-Oct	---	---	---	---	None	---	None
			Nov-Dec	0.0-1.0	>6.0	---	---	None	---	None
Urban land.										
37B:										
Turbeville----------------	C	Low	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
37C:										
Turbeville----------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
38B:										
Turbeville----------------	C	Low	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
38C:										
Turbeville----------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
39.										
Udorthents										
40.										
Udorthents-Dumps										
41.										
Urban land										

Table 18.—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				
42A:										
Varina	C	Low	Jan-Apr	3.0-5.0	4.0-5.0	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
			Dec	3.0-5.0	4.0-5.0	---	---	None	---	None
Urban land.										
43C:										
Wateree	B	High	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
43D:										
Wateree	B	High	Jan-Dec	---	---	---	---	None	---	None
44E:										
Wateree	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Wedowee	B	High	Jan-Dec	---	---	---	---	None	---	None
45F:										
Wateree	B	Very high	Jan-Dec	---	---	---	---	None	---	None
Wedowee	B	High	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.										
46E:										
Wedowee	B	High	Jan-Dec	---	---	---	---	None	---	None
47A:										
Worsham	D	Very high	Jan-Apr	0.0-1.0	>6.0	---	---	None	---	None
			May-Oct	---	---	---	---	None	---	None
			Nov-Dec	0.0-1.0	>6.0	---	---	None	---	None
Urban land.										
W.										
Water										

Table 19.—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:						
Abell	---	---	---	High	Moderate	High
2B:						
Appling	---	---	---	Moderate	Moderate	Moderate
Urban land.						
3B:						
Appling	---	---	---	Moderate	Moderate	Moderate
Urban land.						
3C:						
Appling	---	---	---	Moderate	Moderate	Moderate
Urban land.						
3D:						
Appling	---	---	---	Moderate	Moderate	Moderate
4C:						
Appling	---	---	---	Moderate	Moderate	Moderate
Wedowee	---	---	---	Moderate	Moderate	High
Urban land.						
4D:						
Appling	---	---	---	Moderate	Moderate	Moderate
Wedowee	---	---	---	Moderate	Moderate	High
5A:						
Atlee	Fragipan	20-30	Very weakly cemented	High	High	High
Urban land.						
6A:						
Augusta	---	---	---	High	High	Moderate
7B:						
Bourne	Fragipan	18-35	Weakly cemented	Moderate	High	High
Urban land.						
7C:						
Bourne	Fragipan	18-35	Weakly cemented	Moderate	High	High
Urban land.						
8C:						
Cecil	---	---	---	Moderate	High	High
Urban land.						

Table 19.—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				
8D:						
Cecil	---	---	---	Moderate	High	High
9A:						
Chastain	---	---	---	High	High	High
10A:						
Chewacla	---	---	---	High	High	Moderate
11B:						
Colfax	Fragipan	16-36	Weakly cemented	High	High	High
Urban land.						
12C:						
Colfax	Fragipan	16-36	Weakly cemented	High	High	High
Urban land.						
13A:						
Dogue	---	---	---	High	High	High
14A:						
Dunbar	---	---	---	Moderate	High	High
15B:						
Durham	---	---	---	Moderate	Moderate	Moderate
Bourne	Fragipan	18-35	Weakly cemented	Moderate	High	High
Urban land.						
16B:						
Edgehill	---	---	---	Moderate	Moderate	High
Urban land.						
16C:						
Edgehill	---	---	---	Moderate	Moderate	High
Urban land.						
16D:						
Edgehill	---	---	---	Moderate	Moderate	High
16E:						
Edgehill	---	---	---	Moderate	Moderate	High
17B:						
Faceville	---	---	---	Moderate	Low	Moderate
Urban land.						
17C:						
Faceville	---	---	---	Moderate	Low	Moderate
Urban land.						
17D:						
Faceville	---	---	---	Moderate	Low	Moderate

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
18B:						
Faceville-----------	---	---	---	Moderate	Low	Moderate
Gritney-------------	---	---	---	High	High	High
Urban land.						
18C:						
Faceville-----------	---	---	---	Moderate	Low	Moderate
Gritney-------------	---	---	---	High	High	High
Urban land.						
19C:						
Grover--------------	---	---	---	Moderate	Moderate	Moderate
Urban land.						
19D:						
Grover--------------	---	---	---	Moderate	Moderate	Moderate
19E:						
Grover--------------	---	---	---	Moderate	Moderate	Moderate
20C:						
Grover--------------	---	---	---	Moderate	Moderate	Moderate
Wateree-------------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
Urban land.						
21A:						
Johnston------------	---	---	---	Moderate	High	High
22B:						
Kempsville----------	---	---	---	Moderate	Low	Moderate
Urban land.						
23B:						
Kempsville----------	---	---	---	Moderate	Low	Moderate
Bourne--------------	Fragipan	18-35	Weakly cemented	Moderate	High	High
Urban land.						
24B:						
Masada--------------	---	---	---	Moderate	High	High
Urban land.						
24C:						
Masada--------------	---	---	---	Moderate	High	High
Urban land.						

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Depth to top	Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Concrete
		In				
25B:						
Masada	---	---	---	Moderate	High	High
Urban land	---	---	---	Low	---	---
25C:						
Masada	---	---	---	Moderate	High	High
Urban land.						
26A:						
Nawney	---	---	---	High	High	High
27B:						
Norfolk	---	---	---	Moderate	Moderate	High
Urban land.						
28B:						
Orangeburg	---	---	---	Moderate	Moderate	Moderate
Faceville	---	---	---	Moderate	Low	Moderate
Urban land.						
28C:						
Orangeburg	---	---	---	Moderate	Moderate	Moderate
Faceville	---	---	---	Moderate	Low	Moderate
Urban land.						
29B:						
Pouncey	Lithic bedrock	20-40	Indurated	High	High	High
Urban land.						
30A:						
Riverview	---	---	---	Moderate	Low	Moderate
31A:						
Roanoke	---	---	---	High	High	High
32A:						
Roanoke	---	---	---	High	High	High
Chewacla	---	---	---	High	High	Moderate
33B:						
Slagle	---	---	---	High	Moderate	High
Urban land.						
34B:						
Tetotum	---	---	---	High	High	High
Urban land.						
35A:						
Toccoa	---	---	---	Moderate	Low	Moderate

Table 19.—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				
36A:						
Tomotley------------	---	---	---	High	High	High
Urban land.						
37B:						
Turbeville----------	---	---	---	Moderate	High	High
Urban land.						
37C:						
Turbeville----------	---	---	---	Moderate	High	High
Urban land.						
38B:						
Turbeville----------	---	---	---	Moderate	High	High
Urban land.						
38C:						
Turbeville----------	---	---	---	Moderate	High	High
Urban land.						
39.						
Udorthents						
40.						
Udorthents-Dumps						
41.						
Urban land						
42A:						
Varina--------------	---	---	---	Moderate	Moderate	High
Urban land.						
43C:						
Wateree-------------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
Urban land.						
43D:						
Wateree-------------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
44E:						
Wateree-------------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
Wedowee-------------	---	---	---	Moderate	Moderate	High

Table 19.—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				
45F:						
Wateree-------------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Low	High
Wedowee-------------	---	---	---	Moderate	Moderate	High
Rock outcrop.						
46E:						
Wedowee-------------	---	---	---	Moderate	Moderate	High
47A:						
Worsham-------------	---	---	---	High	High	Moderate
Urban land.						
W.						
Water						

Table 20.—Taxonomic Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for those Characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Abell	Fine-loamy, mixed, semiactive, thermic Aquic Hapludults
Appling	Fine, kaolinitic, thermic Typic Kanhapludults
Atlee	Fine-loamy, siliceous, semiactive, thermic Fragiaquic Paleudults
Augusta	Fine-loamy, mixed, semiactive, thermic Aeric Endoaquults
Bourne	Fine-loamy, mixed, semiactive, thermic Typic Fragiudults
Cecil	Fine, kaolinitic, thermic Typic Kanhapludults
Chastain	Fine, mixed, semiactive, acid, thermic Fluvaquentic Endoaquepts
Chewacla	Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts
Colfax	Fine-loamy, mixed, subactive, thermic Aquic Fragiudults
*Dogue	Fine, mixed, semiactive, thermic Aquultic Hapludalfs
Dunbar	Fine, kaolinitic, thermic Aeric Paleaquults
Durham	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults
Edgehill	Clayey-skeletal, mixed, semiactive, thermic Typic Hapludults
Faceville	Fine, kaolinitic, thermic Typic Kandiudults
Gritney	Fine, mixed, semiactive, thermic Aquic Hapludults
Grover	Fine-loamy, micaceous, thermic Typic Hapludults
Johnston	Coarse-loamy, siliceous, active, acid, thermic Cumulic Humaquepts
Kempsville	Fine-loamy, siliceous, subactive, thermic Typic Hapludults
Masada	Fine, mixed, semiactive, thermic Typic Hapludults
Nawney	Fine-loamy, mixed, active, acid, thermic Typic Fluvaquents
Norfolk	Fine-loamy, kaolinitic, thermic Typic Kandiudults
Orangeburg	Fine-loamy, kaolinitic, thermic Typic Kandiudults
Pouncey	Fine, mixed, active, thermic Typic Albaquults
Riverview	Fine-loamy, mixed, active, thermic Oxyaquic Dystrudepts
Roanoke	Fine, mixed, semiactive, thermic Typic Endoaquults
Slagle	Fine-loamy, siliceous, subactive, thermic Aquic Hapludults
Tetotum	Fine-loamy, mixed, semiactive, thermic Aquic Hapludults
Toccoa	Coarse-loamy, mixed, active, nonacid, thermic Typic Udifluvents
Tomotley	Fine-loamy, mixed, semiactive, thermic Typic Endoaquults
Turbeville	Fine, kaolinitic, thermic Typic Kandiudults
Udorthents	Udorthents
Varina	Fine, kaolinitic, thermic Plinthic Paleudults
Wateree	Coarse-loamy, mixed, semiactive, thermic Typic Dystrudepts
Wedowee	Fine, kaolinitic, thermic Typic Kanhapludults
Worsham	Fine, mixed, active, thermic Typic Endoaquults

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